Faces of Merced College

This display of portraits titled “Faces of Merced College” is the work of Merced College photography students enrolled in Photo 32 (Studio Photography) taught by Merced College photography instructor Jay Sousa. This semester long project, which was funded by the President’s Circle, is meant to showcase the wonderful diversity of students we all enjoy at Merced College.

All of the subjects photographed were students at Merced College during the fall 2009 semester. The goal of the photography students was to capture not only the personalities of their subjects but also their area of interest as students.

Accredited by Western Association of Schools and Colleges

This catalog is published for informational purposes. Although every effort has been made to ensure its accuracy, it is not to be considered an irrevocable contract between the student and Merced College. The college reserves the right to change provisions and descriptions at any time while taking precautions that such changes do not adversely affect enrolled students. Students are advised to consult the current Schedule of Classes and college counselors for supplementary information.

Cover Design by Richard Manifest, Merced College Reprographics Supervisor
Photography by Debra Blanchard; Joseph Erwin, Raymond Garavito, Silvia Gonzales, Timothy Grimes, Brittany Hemme, Wendy Her, Robert Mansfield, Lupe Martinez, Cynthia Ramos, Krystle Rhines, Jared Sousa, & Elise Torres.
Hello. I am Benjamin Duran, President of Merced College. Thank you for looking into what Merced College can do for you. As we enter our 48th year of serving Merced County residents, we hope that you find our college the path to your future. This catalogue is designed to make the path clearer and easier to follow. I wish you good luck and great success during your time with us here at Merced College.

Merced College is one of 112 community colleges serving California. Merced College boasts a highly qualified and professional faculty, a dedicated and skilled support staff and a diverse and well-prepared student body.

Our mission is:

• To deliver programs that provide the first two years of university level instruction for students wishing to transfer to the university of their choice

• To provide terminal vocational and technical training programs which prepare students to take their place in the high skill workplace of the new millennium

• To provide lifelong learning and cultural enrichment opportunities for the community

The dedication to this mission has contributed to a positive academic climate. We hope you will consider Merced College as you prepare to take that next step in life, whatever it may be.

Benjamin T. Duran, Ed.D.
Superintendent/President
## TABLE OF CONTENTS

### Calendar

5

### Campus Map

263

### Board of Trustees and Administration

6

### Directors

7

### Faculty

255

### General District Information

8

### College Policies, Regulations and Procedures

13

- Admissions & Registration ................................................................. 19
  - Matriculation Services ................................................................. 19
  - Registering for Courses .............................................................. 21
  - Changing Your Schedule ............................................................ 23
  - Tuition, Fees, and Refunds ......................................................... 23
  - Residency & Tuition .................................................................... 24
  - Attendance & Grading ................................................................. 25
  - Other Means of Obtaining College Credit ................................. 26
  - Probation & Dismissal ................................................................. 27

### Student and College Services

28

### Associate Degree Majors and Certificate Programs

36

### Preparing for Graduation

33

- Competency Requirements ............................................................ 34
- Associate Degree Breadth Requirements ........................................ 39
- AP Examinations and Placement Grid ........................................... 40
- English, Math, and ESL Sequences .............................................. 46

### Transfer Requirements

42

- CSU Transfer Breadth Requirements ............................................... 43
- Intersegmental General Education Transfer Curriculum (IGETC) ... 44
- UC TCA (University of California Transfer Course Agreement) ....... 45

### Course Numbering

19

### Course Descriptions

19

### Continuing Education (Noncredit) Courses

250

### Business and Community Programs

48

### Index

265
ACADEMIC SCHEDULE 2010-2011

SUMMER 2010

April 14 ................................................................. Summer 2010 Semester Registration Begins
June 21 ................................................................. Summer Session Begins
June 22 ................................................................. Refund Deadline for 6-week classes meeting MTWTh
June 30 ................................................................. Pass/No Pass Option Deadline for 6-week classes meeting MTWTh
June 30 ................................................................. Last Chance to Drop with No Entry on Transcript for 6-week classes meeting MTWTh
July 5 ................................................................. Independence Day Observed
July 21 ................................................................. Last Chance to Drop with a “W” for 6-week classes meeting MTWTh
July 31 ................................................................. Regular Summer Session Ends

FALL 2010

April 14 ................................................................. Fall 2010 Semester Registration Begins
August 16-17 ......................................................... Fall Flex Day (Some College Services unavailable)
August 18 ............................................................. Fall Semester Instruction Begins
August 26 ............................................................. Adds Require Instructor’s Signature
September 1 .......................................................... Refund Deadline for 18-week Classes
September 6 .......................................................... Fall Mid-session Begins
August 30 - October 22 .......................................... A.A. /A.S. and Certificate Applications Accepted
September 12 ...................................................... Last Chance to Drop With No Entry on Transcripts for 18-week Classes
September 17 ...................................................... Pass/No Pass Option Deadline
October 18 ............................................................ Veterans Day Holiday
November 11 ........................................................ Veterans Day Holiday
November 21 ...................................................... Last Chance to Drop With a “W” for 18-week Classes
November 25-26 .................................................... Thanksgiving Holiday
December 17 ........................................................ Fall Semester Ends

SPRING 2011

October 13 ............................................................. Spring 2011 Semester Registration Begins
January 13-14 ..................................................... Spring Flex Days (Some College Services Unavailable)
January 17 ........................................................ Martin Luther King’s Day Holiday
January 18 ........................................................ Spring Semester Instruction Begins
January 24 ........................................................ Adds Require Instructor’s Signature
January 30 .......................................................... Refund Deadline for 18-week Classes
January 31-March 25 ............................................ A.A. /A.S. and Certificate Applications Accepted
February 18 ...................................................... Lincoln’s Day Holiday
February 13 ...................................................... Last Chance to Drop With No Entry on Transcripts for 18-week Classes
February 21 ....................................................... Washington’s Day Holiday
February 17 ...................................................... Pass/No Pass Option Deadline
March 21 .......................................................... Spring Mid-session Begins
March 31 .......................................................... Scholarship Application Deadline
April 22 .............................................................. Good Friday – campus closed
April 18-21 ........................................................ Spring Vacation
May 1 ............................................................... Last Chance to Drop with a “W” for 18-week classes
May 30 ............................................................. Memorial Day - campus closed
May 27 ............................................................. Spring Semester Ends/Graduation

Calendar dates are subject to revision.
Consult the current Schedule of Classes for updated information.
### JULY 2010

<table>
<thead>
<tr>
<th>S</th>
<th>M</th>
<th>T</th>
<th>W</th>
<th>TH</th>
<th>F</th>
<th>S</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>11</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
<td>17</td>
</tr>
<tr>
<td>18</td>
<td>19</td>
<td>20</td>
<td>21</td>
<td>22</td>
<td>23</td>
<td>24</td>
</tr>
<tr>
<td>25</td>
<td>26</td>
<td>27</td>
<td>28</td>
<td>29</td>
<td>30</td>
<td>31</td>
</tr>
</tbody>
</table>

### JANUARY 2011

<table>
<thead>
<tr>
<th>S</th>
<th>M</th>
<th>T</th>
<th>W</th>
<th>TH</th>
<th>F</th>
<th>S</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>15</td>
</tr>
<tr>
<td>16</td>
<td>17</td>
<td>18</td>
<td>19</td>
<td>20</td>
<td>21</td>
<td>22</td>
</tr>
<tr>
<td>23</td>
<td>24</td>
<td>25</td>
<td>26</td>
<td>27</td>
<td>28</td>
<td>29</td>
</tr>
<tr>
<td>30</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### AUGUST 2010

<table>
<thead>
<tr>
<th>S</th>
<th>M</th>
<th>T</th>
<th>W</th>
<th>TH</th>
<th>F</th>
<th>S</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
<td>14</td>
</tr>
<tr>
<td>15</td>
<td>16</td>
<td>17</td>
<td>18</td>
<td>19</td>
<td>20</td>
<td>21</td>
</tr>
<tr>
<td>22</td>
<td>23</td>
<td>24</td>
<td>25</td>
<td>26</td>
<td>27</td>
<td>28</td>
</tr>
<tr>
<td>29</td>
<td>30</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### FEBRUARY 2011

<table>
<thead>
<tr>
<th>S</th>
<th>M</th>
<th>T</th>
<th>W</th>
<th>TH</th>
<th>F</th>
<th>S</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
</tr>
<tr>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
<td>17</td>
<td>18</td>
<td>19</td>
</tr>
<tr>
<td>20</td>
<td>21</td>
<td>22</td>
<td>23</td>
<td>24</td>
<td>25</td>
<td>26</td>
</tr>
<tr>
<td>27</td>
<td>28</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### SEPTEMBER 2010

<table>
<thead>
<tr>
<th>S</th>
<th>M</th>
<th>T</th>
<th>W</th>
<th>TH</th>
<th>F</th>
<th>S</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
</tr>
<tr>
<td>12</td>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
<td>17</td>
<td>18</td>
</tr>
<tr>
<td>19</td>
<td>20</td>
<td>21</td>
<td>22</td>
<td>23</td>
<td>24</td>
<td>25</td>
</tr>
<tr>
<td>26</td>
<td>27</td>
<td>28</td>
<td>29</td>
<td>30</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### MARCH 2011

<table>
<thead>
<tr>
<th>S</th>
<th>M</th>
<th>T</th>
<th>W</th>
<th>TH</th>
<th>F</th>
<th>S</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
</tr>
<tr>
<td>12</td>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
<td>17</td>
<td>18</td>
</tr>
<tr>
<td>19</td>
<td>20</td>
<td>21</td>
<td>22</td>
<td>23</td>
<td>24</td>
<td>25</td>
</tr>
<tr>
<td>26</td>
<td>27</td>
<td>28</td>
<td>29</td>
<td>30</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### OCTOBER 2010

<table>
<thead>
<tr>
<th>S</th>
<th>M</th>
<th>T</th>
<th>W</th>
<th>TH</th>
<th>F</th>
<th>S</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
</tr>
<tr>
<td>17</td>
<td>18</td>
<td>19</td>
<td>20</td>
<td>21</td>
<td>22</td>
<td>23</td>
</tr>
<tr>
<td>24</td>
<td>25</td>
<td>26</td>
<td>27</td>
<td>28</td>
<td>29</td>
<td>30</td>
</tr>
<tr>
<td>31</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### APRIL 2011

<table>
<thead>
<tr>
<th>S</th>
<th>M</th>
<th>T</th>
<th>W</th>
<th>TH</th>
<th>F</th>
<th>S</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
</tr>
<tr>
<td>17</td>
<td>18</td>
<td>19</td>
<td>20</td>
<td>21</td>
<td>22</td>
<td>23</td>
</tr>
<tr>
<td>24</td>
<td>25</td>
<td>26</td>
<td>27</td>
<td>28</td>
<td>29</td>
<td>30</td>
</tr>
</tbody>
</table>

### NOVEMBER 2010

<table>
<thead>
<tr>
<th>S</th>
<th>M</th>
<th>T</th>
<th>W</th>
<th>TH</th>
<th>F</th>
<th>S</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
</tr>
<tr>
<td>14</td>
<td>15</td>
<td>16</td>
<td>17</td>
<td>18</td>
<td>19</td>
<td>20</td>
</tr>
<tr>
<td>21</td>
<td>22</td>
<td>23</td>
<td>24</td>
<td>25</td>
<td>26</td>
<td>27</td>
</tr>
<tr>
<td>28</td>
<td>29</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### MAY 2011

<table>
<thead>
<tr>
<th>S</th>
<th>M</th>
<th>T</th>
<th>W</th>
<th>TH</th>
<th>F</th>
<th>S</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
<td>14</td>
</tr>
<tr>
<td>15</td>
<td>16</td>
<td>17</td>
<td>18</td>
<td>19</td>
<td>20</td>
<td>21</td>
</tr>
<tr>
<td>22</td>
<td>23</td>
<td>24</td>
<td>25</td>
<td>26</td>
<td>27</td>
<td>28</td>
</tr>
<tr>
<td>29</td>
<td>30</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### DECEMBER 2010

<table>
<thead>
<tr>
<th>S</th>
<th>M</th>
<th>T</th>
<th>W</th>
<th>TH</th>
<th>F</th>
<th>S</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
</tr>
<tr>
<td>12</td>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
<td>17</td>
<td>18</td>
</tr>
<tr>
<td>19</td>
<td>20</td>
<td>21</td>
<td>22</td>
<td>23</td>
<td>24</td>
<td>25</td>
</tr>
<tr>
<td>26</td>
<td>27</td>
<td>28</td>
<td>29</td>
<td>30</td>
<td>31</td>
<td></td>
</tr>
</tbody>
</table>

### JUNE 2011

<table>
<thead>
<tr>
<th>S</th>
<th>M</th>
<th>T</th>
<th>W</th>
<th>TH</th>
<th>F</th>
<th>S</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
</tr>
<tr>
<td>12</td>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
<td>17</td>
<td>18</td>
</tr>
<tr>
<td>19</td>
<td>20</td>
<td>21</td>
<td>22</td>
<td>23</td>
<td>24</td>
<td>25</td>
</tr>
<tr>
<td>26</td>
<td>27</td>
<td>28</td>
<td>29</td>
<td>30</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Summaries

- **Summer 2010 Session**
  - June 21-July 31
  - Census Day (6-week session), June 28
  - Independence Day, July 5 (Observed)

- **Flex Day, Aug 16, 17**
  - Flex Day (Convocation), Aug 17
  - Fall 2010 Instruction Begins, Aug 18

- **Labor Day, Sept 6**
  - Census Day, Sept 7

- **Mid-Session Begins, Oct 18**

- **Veterans Day, Nov 11**
  - Thanksgiving Break, Nov 25, 26

- **Finals, Dec 13-17**
  - End of Semester, Dec 17
  - Semester Break, Dec 18-Jan 14

- **Spring Break, April 18-21**
  - Good Friday, April 22

- **Mid-Session Begins, March 21**

- **Finals, May 23-27**
  - End of Semester, May 27
  - Graduation, May 27
  - Memorial Day, May 30

- **Summer 2011 Session**
  - June 20-July 29
  - Census Day (6-week session), June 27

- **New Year’s Day, Jan 1**
  - Spring Semester Begins, Jan 13
  - King’s Day, Jan 17
  - Spring 2011 Instruction Begins, Jan 18

- **New Year’s Day, Jan 1**
  - Spring Semester Begins, Jan 13
  - King’s Day, Jan 17
  - Spring 2011 Instruction Begins, Jan 18
BOARD OF TRUSTEES

EVA DE LONG  EUGENE J. VIERRA  JINET TROOST
President  Member  Member

JIM GLIDDEN  ROBERT T. HADEN  LEWIS S. BRAXTON
Vice President  Member  Member

LES MCCABE
Clerk

ADMINISTRATION

BENJAMIN T. DURAN
Superintendent/President
A.A., Merced College; B.A., California State University, Stanislaus; M.A., Chapman College; Ed. D, University of Southern California

MAZIE L. BREWINGTON
Vice President of District Administrative Services
A.A., B.A., Columbia College; M.B.A., Troy State University

MIKE CUCHNA
Vice President of Technology and Institutional Research
A.A., Diablo Valley; B.A., M.A., California State University, Chico; M.A., Chapman College

ANNE D. NEWINS
Vice President, Student Personnel
B.A., Midwestern State University, Texas; M. Ed., North Carolina State University; Ed. D., University of La Verne

MARIANNE R. TORTORICI
Vice President of Instruction
B.S., University of the Incarnate Word; M.A. & M.S., University of Nevada, Las Vegas; Ed. D., University of Houston

JAMES B. ANDERSEN II
Dean of Career and Technical Education
B.S., M.S., California Polytechnic State University, San Luis Obispo

ROBERT ANDERSON
Dean of Allied Health, Business and Public Safety
B.S., M.A., California State University, Fresno; Ed. D, University of La Verne

MARIO R. CORDOVA
Dean of Student Services-Special Programs
A.A., Bakersfield College; B.A., San Jose State University; M.S., Oregon State University; Ph. D., University of Oregon

KARYN DOWER
Dean of Economic and Workforce Development, Community Services and Noncredit
A.A., Merced College; B.A., Chapman University; M.S., Walden University

JOHN GRAULTY
Dean of Social Sciences, Humanities & Fine Arts
B.M.; The Peabody Conservatory of John Hopkins University; M.M.; New England Conservatory; M.Ed.; Ed.D; Columbia University-Teachers College

DOUGLAS KAIN
Dean of Math, Science and Engineering
M.A., Humboldt State University; B.A., PhD, University of California, Berkeley
BRENDA LATHAM  
*Dean of Los Baños Campus*  
A.A., DeAnza College; B.S., California State University, Chico; Ph.D., Syracuse University

EVERETT D. LOVELACE  
*Dean of Student Services*  
B.A. (2), Long Beach State University; M.Ed., Harvard University;  
Ed. D., University of California, Davis/California State University, Fresno

THOMAS RAY  
*Dean of English, Basic Skills & Child Development*  
B.A.; University of Minnesota; M.F.A.; Louisiana State University

RICHARD MARASHLIAN  
*Director, Disabled Student Services/Student Health Services*  
A.A., Kings River Community College; B.A., M.A., California State University, Fresno

SUSAN WALSH  
*Director, Learning Resources Center*  
A.A., Merced College; B.A., University of California, Davis; M. L. S., San Jose State University; Ed. D., California State University, Fresno/University of California, Davis

OMAR AMAVIZCA  
*Learning Resources Center Technical Manager*  
A.A., Fresno City College; B.S., California State University, Stanislaus

JEANETTE BENSON  
*Director, MC Center of International Trade Development*  
CGBP, Certified Global Business Professional  
A.A., Merced College; B.S., California State University, Stanislaus

JANET LYLE  
*Director, Continuing Education Program*  
B.A., Excelsior College

VERONICA OFORLEA  
*Director, CalWORKs*  
B.A., California State University, San Bernardino; M.S., Western University of Health Sciences

Marilyn Scoby  
*Director, Child Care Center*  
A.A., Merced College; B.A., Pacific Oaks College

VACANT  
*Director, Workplace Learning Resource Center*  

Christopher H. Vitelli  
*Director, Business, Industry & Community Services*  
B.S., University of Florida; M.A., Harvard University

Regina Coletto-Leap  
*Director, Cal-SOAP / Office of Relations with Schools*  
B.A., California State University, Chico; M.A., California State University, Stanislaus

Sharon Reinhardt  
*Director of Financial Aid, Registrar*  
B.S., University of West Florida
The History of Merced County

Prior to the finding of gold in California, the central San Joaquin was a pristine place. The wild clover grew taller than a horse's head; the streams teemed with salmon, bass, and trout; and grizzly bears and antelope roamed far and wide. The early inhabitants of the valley were the Northern Valley Yokuts, who roved the entire floor of the San Joaquin Valley and were estimated to number around 30,000. In an 1806 expedition, Ensign Gabriel wrote of finding a welcomed river to quench the expedition's thirst. He named it El Río de la Nuestra Señora de la Merced, the river of mercy. When the gold seekers overran the area on the way to the gold field, times changed.

Finally, when California became a state in 1850, Mariposa County covered much of the Central Valley, extending to a mutual boundary with San Diego and Los Angeles counties. In 1855, farmers of the lowlands decided they did not have much in common with the miners of the foothills and mountains and petitioned to have a section split off to form a new county. When the petition was granted, Merced County was formed by Governor John Bigelow on April 19, 1855. On 1857 tax assessment rolls, the new county boasted of a population of 277. The first county seat was in Snelling. Once the railroad came through the county, much of the business and the county seat moved to the new town of Merced, which incorporated in 1889.

For Merced County the growth, and the change coming with it, has continued.

District and Organization

The Merced Community College District is composed of most of Merced County; the area included the Chowchilla Union High School District in Madera County, the Dos Palos Joint Elementary School District in Fresno County, and the Los Baños Unified School District. The Governing board is made up of seven elected trustees. The main campus is located on M Street in Merced. The Los Baños Campus is located on Highway 152 in Los Baños.

The Beginnings of the College District

Merced College is a California Public Community College operated by the Merced Community College District, which was formed by a vote of the people of the Le Grand and Merced Union High School Districts on February 27, 1962. The Merced Community College District became effective for all purposes on July 1, 1963. The District, which comprised the eastern half of Merced County at that time, consisted of the areas served by these two high school districts. The Governing Board consisted of five members elected at large.

In later years the Governing Board was expanded to include two additional trustees; one to specifically represent the Dos Palos/Los Baños area and one to represent the Chowchilla area. Elections were also changed from “at large” elections to elections within each of the seven trustee areas of the District. Thus, the Governing Board now numbers seven trustees, each elected within a specific area of the District.

Philosophy

A democratic society functions best when its members are educated and active participants. To encourage this participation, Merced College provides educational opportunity for all who qualify and can benefit. This education involves having a respect for, and awareness of, all cultures, as well as the dignity and worth of all individuals.

Merced College is dedicated to the pursuit of excellence. The leadership and educational services provided by the College reflect and enhance the cultural, economic, and social life of the community and respond to its changing needs and interests. Recognizing that learning is a life-long process, the College provides preparation for a complex and changing society while maintaining high academic standards. The College also fosters individual learning and critical thinking to enhance awareness of the inter-relationship and inter-dependence of all persons.

Mission

Students are our focus and we are known by their success.

Vision Statement

Students are our focus at Merced College. We set high standards to encourage students to reach their highest potential in a supportive environment. Diversity is a strength of our institution. Merced College is a leader in instruction and cultural activities. We value and respect all members of our community. We are known by the success of our students.

Core Values and Beliefs

- Students –past, present, and future– are the focus of Merced College.
- Fostering diversity is a strength of the institution.
- Merced College establishes high standards and provides a challenging education to encourage students to reach their highest potential.
- Merced College respects and values all members of its community.
- Merced College serves the community by responding to cultural, educational, economic development, and technological needs.
- Merced College provides a supportive and fulfilling environment.

Institutional Student Learning Outcomes

(Adopted, April 3, 2007 and reviewed April 2010)
Communication: Use language and non-verbal modes of expression appropriate to the audience and purpose. (GE Breadth Areas A and C)

Examples: Students will be able to:
1. Compose coherent written communication appropriate to the audience
2. Read and analyze written communication appropriate to the subject
3. Construct and deliver oral communication appropriate to the audience
4. Comprehend, analyze, and utilize aural and visual communication in its various modes.
5. Design and deliver presentations appropriate to the audience

Computation: Use mathematical skills and various aspects of technology appropriate to the task. (GE Breadth Areas A and B)

Examples: Students will be able to:
1. Analyze and apply mathematical concepts to an appropriate task
2. Appraise various aspects of technology and apply them to an appropriate task

Cognition: Use critical thinking skills to analyze, synthesize, and evaluate ideas and information. (GE Breadth Areas A, B and C)

Examples: Students will be able to:
1. Evaluate information and incorporate it into appropriate tasks
2. Analyze information, develop an opinion, and support it
3. Examine, create, and/or evaluate materials and objects by using aesthetic criteria.
4. Analyze and solve problems using logical and creative methods
5. Assess the impact of science and technology on the world

Global and Community Consciousness and Responsibility: Demonstrate understanding of different cultures and knowledge of historical eras and importance of community involvement. (GE Breadth Areas D)

Examples: Students will be able to:
1. Distinguish and understand diverse cultures
2. Evaluate historical knowledge and relate it to current issues
3. Recognize the impact of local, national, and global involvement

Personal Development and Life-Long Learning: Demonstrate self-management, maturity, and growth through practices that promote physical, mental, and emotional well-being. (GE Breadth Area E)

Examples: Students will be able to:
1. Analyze and apply interpersonal skills
2. Demonstrate an understanding of life long learning
3. Relate a healthy lifestyle and wellness to personal choices
4. Evaluate and adhere to professional and academic ethical standards

Matriculation

Educational success is the College’s commitment to each student. Merced College strives to make students aware of our varied educational programs. The College provides many services to ensure success.

All students who enroll in credit courses “matriculate.” Matriculation is a process that brings Merced College and each student into an agreement for the purpose of realizing the student’s educational objectives.

Within the State Matriculation Plan, Merced College provides:
- An admissions process;
- An assessment of basic educational skills and career goals;
- Pre-enrollment counseling/advising and course selection;
- An orientation to college programs, services, and procedures;
- A suitable curriculum or program of courses;
- Quality instruction;
- Continuous follow-up on student progress with referral to support services when needed.

As part of the Matriculation Plan, students agree to:
- Express a broad educational intent at the time of admission;
- Declare a specific educational objective within a reasonable period of enrollment;
- Complete the assessment process;
- Confer with counselors for registration approval and discussion of educational and vocational choices;
- Meet with a counselor to develop an educational plan once 15 units of course work have been completed;
- Attend classes and complete assigned course work;
- Seek out support services as needed;
- Complete courses and maintain progress toward an educational goal.

Accreditation

Merced College is fully accredited by the Western Association of Schools and Colleges, and is approved by the State Department of Education to train veterans under provisions of the G.I. Bill of Rights, and by the United States Immigration Service. The College offers a lower division program consisting of courses paralleling those of four-year colleges and universities, the credits for which are transferable to all other accredited colleges and universities.

Statement of Informed Consent

Research, including assessment and evaluation of the teaching and learning process, will be conducted at Merced College in established or commonly accepted educational settings and will involve normal educational practices.

Information gathered related to student knowledge, skills, attitudes, and behaviors will be kept anonymous and/or confidential, and participation exposes students to no or minimal risk of harm. By enrolling and attending Merced College courses, students have volunteered as subjects, have been fully informed, and give their consent to participate in education-based research. If the research parameters change, students will be fully informed of changes. The Family Educational Rights and Privacy Act of 1974 (FERPA) is a federal law regarding the privacy of student records and the obligations of the institution, primarily in the areas of release of the records and the access provided to those records. Students are protected under both FERPA law and the Human Subjects Review process.

References:
Merced College Board Policy 5040
Merced College Administrative Procedure 5040
Merced College Foundation
The Merced College Foundation is a non-profit organization which was formed in November 1973. The mission of the Foundation is to provide support to Merced College by administering and awarding scholarships to students; accepting and acquiring gifts, bequests, endowments, and real and personal property as sources of income for the Foundation; and serving as the organization through which special projects desired by the College can be developed and administered. Call for more information at (209) 381-6470.

The Merced Campus
The Merced Campus is located one mile north of Olive Avenue in Merced, on the east side of M Street. It originally consisted of 110 acres presented as a gift to the College by the C-H-M and the Yosemite Land & Cattle Companies through the efforts of Merced City officials. Additional purchases of adjacent land increased the size of the present campus to 269 acres.

Classes began for students September 10, 1963, at a temporary campus at the Merced County Fairgrounds. The College began classes at the permanent campus in the summer of 1966 and moved completely to the new campus in spring of 1967. Dedication ceremonies for the new campus were held on April 23, 1967.

The Administration Building, the Science Building, and a temporary library facility were the first main buildings built. The Student Union was completed in November 1967, and since that time, facilities added include a gymnasium, an automotive shop, agriculture facilities, and technical labs for drafting, engineering, and vocational nursing. The Lesher Library and the Merced College Theater were completed for use in the fall of 1972.

Over the next 30 years, many facilities were completed or modified to meet current needs. The Merced College Child Development Center was completed in spring of 2002, expanding the outer perimeter of the College's educational facilities northward; eastward expansion is also expected within the next few years.

In 2002, voters passed a bond measure for the Merced Campus (Measure H) of 53.5 million dollars. The following projects have been completed: the North Loop Road, a campus-wide energy retrofit, the Learning Resources Center, the Science Building remodel, the Business Resource Center, the Lesher Building remodel, Administration Building remodel, Student Union Building remodel and the Allied Health Complex. Future planned projects include the Agriculture and Industrial Technology Project, the Vocational Building remodel, and the Theater Arts remodel.

The Los Baños Campus of Merced College
The Los Baños Campus, an educational center forty miles west of the Merced Campus, serves the people of Los Baños, Dos Palos, and the surrounding areas. It began as a full-service campus in September 1971 in rented facilities. In 1973 the Los Baños Unified School District's voters approved joining the Merced Community College District. In 1978 the Dos Palos Joint Elementary School District's voters approved moving from the West Hills Community College District to the Merced Community College District. The Los Baños Campus was formally approved by the California Community Colleges Chancellor's Office as an educational center in 1979.

In 1982, thanks to a donation of ten acres by Richard Menezes, the campus moved to a site on Mercey Springs Road with modular buildings providing educational opportunities to the residents of the Westside of Merced County and also serving as a cultural and intellectual center for the area.

Thanks to a donation of 125 acres by Larry and Georgianne Anderson and to the passage of a local bond measure, construction of a new campus began in 2005. The new campus, located on Highway 152 on the western boundary of Los Baños, opened in 2007.

The campus offers a variety of programs for day and evening classes. It provides a wide range of academic and vocational classes, enabling a student to stay in Los Baños and take all the courses necessary for an associate degree and fulfill all the breadth requirements of four-year state colleges. Students may also complete several certificate programs.

Admission and registration procedures are the same as those for the Merced Campus. For further information, contact the Los Baños Campus at 22240 Highway 152, Los Baños, 93635; (209) 826-3495.

Off-Campus Programs
In addition to extensive day and evening programs at the Merced and Los Baños Campuses, Merced College schedules classes at other community sites in the district, including Chowchilla, Delhi, Dos Palos, Livingston, and Mariposa. Consult the current Schedule of Classes for class offerings and locations. For more information contact Dean Karyn Dower, (209) 384-6067.

HECCC
The Higher Education Consortium of Central California (HECCC), established in 1981, is a partnership of two universities and four community colleges committed to the advancement of academic excellence in a distinctively diverse region. Through dynamic and evolving collaborations member institutions combine resources, share intellectual capital, facilitate innovative projects, promote professional development, and increase equitable access to higher education. The HECCC members are: California State University, Stanislaus; Merced College; San Joaquin Delta College; University of California, Merced; and the Yosemite Community College District, which includes Columbia College and Modesto Junior College.

Reciprocity:
General Education (GE) Breadth courses that have been used to satisfy a GE area at another HECCC institution for an associate degree will be accepted in lieu of, and satisfy, the specific area requirement at Merced College. This is known as the HECCC Reciprocity Agreement. Consult a counselor for more information.

In pursuit of the mission the consortium addresses the following goals and conditions:

- Flexibility to Meet the Changing Needs of Diverse Learners
Merced College is one of the member institutions of the Central Valley Higher Education Consortium (CVHEC). Members represent accredited, non-profit and private colleges and universities in the Central Valley from Bakersfield to Stockton. The goal of the consortium is to increase the number of students prepared for, enrolling in, and graduating from college.

**Honors Program**

The Merced College Honors Program is designed to meet the needs of the exceptional student by providing an enriched educational environment. Students will be challenged to reach their full intellectual potential, and to better prepare themselves for the academic demands of a four-year college or university.

**Enrollment:** Any new student with a 3.5 cumulative grade point average, or any continuing student with a 3.25 cumulative grade point average, may enroll in honors classes. Students who do not meet one of these enrollment requirements may also enroll in individual honors classes by successfully completing the challenge process. Inquiries regarding the Honors Program should be directed to Dr. Max Hallman, Honors Program Coordinator, at (209) 384-6327 or at hallman.m@mccd.edu.

**Curriculum:** The core curriculum of the Honors Program will consist of several honors-designated courses that fulfill CSU and IGETC transfer requirements. At least two of these courses will be offered each semester. In some cases, the courses offered will be taught in back-to-back time slots, and the instructors will coordinate their lectures.

In addition to the core curriculum, a two-unit honors seminar will be offered each semester, and one-unit seminars in various disciplines will be offered periodically. These seminars are intended to give the student an opportunity to do advanced reading and research under the close supervision of a Merced College faculty member or members.

**Honors Scholarships:** If funds are available, McConnell Honors Scholarships will be offered to a number of students enrolled in honors classes. These scholarships carry a $1000 stipend and they may be awarded for a maximum of two years. For more information on honors scholarships, contact Dr. Max Hallman at (209) 384-6327 or the Financial Aid Office at (209) 384-6031.
Phi Theta Kappa

Phi Theta Kappa is the largest international honor society serving colleges offering associate degree programs. Founded in 1918, it currently has more than 1200 chapters in the United States and abroad. Its main purpose is to recognize and encourage academic excellence among associate degree students, but the four hallmarks to which Phi Theta Kappa is dedicated are scholarship, leadership, service, and fellowship.

Membership: To be accepted into Phi Theta Kappa, a student must:
- Have completed at least 12 units of course work at Merced College;
- Have a cumulative grade point average of 3.45 or higher;
- Complete and submit a membership profile form;
- Pay a one-time membership fee at the time of application.

Privileges: Members of Phi Theta Kappa are entitled to:
- Wear the Phi Theta Kappa stole at graduation;
- Have the Phi Theta Kappa seal affixed to their diploma;
- Attend regional and national conventions;
- Participate in the Summer Honors Institute;
- Apply for assorted Phi Theta Kappa scholarships (there are 39 million dollars in transfer scholarships available);
- Participate in projects of the local chapter.

The principal induction is held during the spring semester, but memberships will be accepted throughout the academic year; however, graduating students must apply at least 45 days prior to graduation.
General Information

Educational Opportunities
Merced College was founded in 1962 and offers students the opportunity to obtain an associate degree, or to transfer academic credits to California State universities or the University of California. The College offers vocational certificates in various programs. Merced College serves all students who live in the college district.

Admission to Merced College
Each candidate should have a high school diploma or equivalent, or should be a minimum of 18 years old, and should be able to take advantage of the instruction offered.

Registration at Merced College
The Office of Admissions and Records has the responsibility to admit and register all eligible students. You may obtain an application, complete it, and return it to any of our centers. Make an appointment to attend one of the orientations with our staff. Call one of the following numbers:
Merced............................................................ (209) 384-6000
Los Baños............................................................. (209) 826-3495

Student Services
We have counseling services available to assist students in the selection of appropriate courses and provide other course-related assistance and referral. There is financial aid available for all eligible students. There are many grants/scholarship programs to help pay for your educational expenses. For more information, call the Financial Aid Office in Merced at (209) 384-6031.

Information in Hmong
Kab Ke Ntawm Txoj Kev Kawm
Merced College tau pi bá bxeeb txawm rau xyoo 1962 thiab muaj txoj kev kawm rau cov tajb ntxhais kawm ntawv kom kawm tau ib daim Associate in Arts (AA) los yog yuav tsum muaj 18 xyoo rov saud thiab yuav tsum muaj kev txoj kev cobb nhb nh laab.

Sau Npe Kawm Ntawv nyob Merced College
Qhov chaw ua hauj lwm Office of Admissions and Records (A&R) muaj txoj hauj lwm los tsaias nkag thiab sau npe kawm ntawv pub rau cov tajb ntxhais kawm ntawv uas npaj tau bkhij tuaj lawd. Teem caij tuaj koom lub rooj qhia txog lub tsev kawm ntawv (orientation) nrog cov neeg khiaf deejnum raws li cov xov tooj ram no:
Merced............................................................ (209) 384-6000
Los Baños............................................................. (209) 826-3495

Kev Pab Tub Ntxhais Kawm Ntawv
Peb muaj kev tuaw xam pab cov tajb ntxhais kawm ntawv los xaiv txhua yam laww xav kawm rong kev tshawb nqa thiab xa mus rau lwm qhov chaw pab. Muaj kev pab niyaj ua nqii kawm ntawv rau cov tajb ntxhais kawm ntawv kws tums txog thiab muaj rau hom niyaj rau tshab haauv tuaj naab luag txhawb nqa. Yog xav tau xov ntxiv, nej hu tuaj rau lub lookam pab niyaj hauv Merced tau ntawm (209) 384-6031.

Información en español
Oportunidades Educativas
Merced College fue fundado en 1962 y ofrece a los estudiantes la oportunidad de obtener el título de Asociado en Artes (AA), de transferir créditos académicos a las Universidades de California (UC) o a las Universidades Estatales de California (CSU), y también a cualquier otra universidad. El “college” ofrece certificados vocacionales en varios programas. Merced College está dispuesto a servir a todos los habitantes que viven en el distrito del “college.”

Admisión a Merced College
Cada candidato debe tener un diploma de la escuela secundaria o el equivalente, o debe tener al menos 18 años de edad y ser capaz de sacar provecho de la instrucción que se le ofrezca.

Inscripción a Merced College
La oficina de admisión (Admissions and Records) tiene la responsabilidad de admitir e inscribir a todos los estudiantes elegibles. Obtenga una solicitud, llénela, y devuélvala en cualquiera de nuestros centros. Haga una cita para asistir a una de nuestras orientaciones con nuestro personal. Llame a cualesquiera de los siguientes números:

Merced............................................................ (209) 384-6000
Los Baños............................................................. (209) 826-3495

Servicios Estudiantiles
Tenemos servicios de consejeros disponibles para dar consejos y ayuda tocante a las clases necesarias para todo tipo de estudio. Hay ayuda financiera disponible para todos los estudiantes elegibles. Hay muchos programas y becas para pagar sus gastos educativos. Para más información, comuníquese con la oficina de ayuda financiera en Merced College y llame al (209) 384-6031.

Academic Freedom
Since the vitality of a society is energized and sustained by ideas, and since the nature of a college involves the examination and discussion of those ideas, a policy of academic freedom protecting such free examination and expression historically has been deemed necessary.
The Merced Community college District is committed to free discussion and open inquiry. We recognize that the freedom to think, to read, to speak, and to question is necessary for the development of an informed citizenry.

This freedom shall be integral to the philosophy of this district and is guaranteed to students, faculty, administration, and staff. This freedom is both a right and a responsibility. As a right, it assures unimpeded research, study, and inquiry. It also assures the right to free expression in both public and private settings, including the right to disagree.

As a responsibility, it obligates members of the college community to present, discuss, and interpret ideas, knowledgeably, fairly, and objectively, with openness to the ideas of others, with the intention to stimulate independent thinking, and with a sensitivity to the special situations of students.

To ensure these principles of intellectual freedom, the administration and the Board of Trustees will demonstrate their support by actively working to foster this freedom.

Academic Honesty
Academic dishonesty is a violation of the Standards of Student Conduct. The College has the responsibility to ensure that grades assigned are indicative of the knowledge and skill level of each student and acts of academic dishonesty make it impossible to fulfill this responsibility.

Academic dishonesty includes, but is not limited to, cheating, plagiarism, collusion, and misuse of College computers and software. Disciplinary actions may include an oral reprimand; a failing grade on all or part of a particular paper, project, or examination; or the assignment of an “F” grade in cases where the dishonesty is more serious, premeditated, or a repeat offense. Serious or repeated offenses may also result in suspension from the College.

The Academic Honesty procedure was developed by the Merced College Faculty Senate and is administered by the Office of the Vice President of Student Personnel. Copies are available from the Office of Student Personnel.

Conduct
The Merced College Standards of Student Conduct, as approved by the Board of Trustees, is available in the Student Activities Office, and is published in the current Merced College Student Calendar/Handbook. Merced College students are expected to conduct themselves in an exemplary manner. Students are prohibited from using or possessing drugs or alcoholic beverages on the campus or at any school function held on or off campus.

The Student Code of Conduct (Board Policy 5500) also may be found on the Merced College web site under the link for Board of Trustees.

Copyrighted Materials, Including Music, Video and Printed Materials
The Merced Community college District (MCCD), supports the

Higher Education Opportunity Act and Digital Millennium Copyright Act, which outline efforts to eliminate the illegal distribution of copyrighted material. Under the law, college administrators may be obligated to provide copyright holders with information about users of the MCCD information network who have violated the law. Accordingly, MCCD students are prohibited from using the MCCD information network to illegally download and/or share music, video and all other copyrighted intellectual property. Be aware that illegal forms of downloading and file sharing as well as the unauthorized distribution of copyrighted materials are violations of the law and may subject you to academic sanctions from the college as well as criminal and civil penalties, including a lawsuit against you by the Recording Industry Association of America (RIAA). In addition to being illegal, file sharing drains the MCCD network’s bandwidth, which slows computer connections for students and employees who are using the network for legitimate academic purposes and ultimately costs the College money. MCCD have developed policies and consequences to ensure that students properly use the MCCD information network and respect music and other forms of intellectual property as well as conduct responsible use of the Internet. These policies are available from the President’s Office or the Learning Resource Center.

Crime Awareness and Campus Security
In compliance with the Federal Campus Security Act, Merced College makes an annual and three-year security report available upon request. This report contains procedures for students and others to report criminal actions or other emergencies occurring on campus; the institution’s policy in responding to such reports; a statement of policy on security and access to campus facilities; and the enforcement authority of security personnel. The security report also contains policies which encourage accurate and prompt reporting of all crimes to campus security and appropriate police agencies; information on programs which inform students and employees about security procedures and practices and which encourage them to be responsible for their own security and that of others; a description of programs to inform students and employees about crime prevention; and statistics on the on-campus occurrence of reported criminal offenses. Also included in the report are policy statements on the possession, use, and sale of alcohol and of illegal drugs; information on enforcement of state underage drinking laws and federal and state drug laws; and descriptions of available drug or alcohol abuse programs. Copies of pertinent data, program information, and procedures are available from the Campus Security Office.

Dress
There is no dress code at Merced College, but it is expected that a student’s dress will follow community standards.

Drug and Alcohol Free Campus
Merced College is an alcohol and drug free educational institution. In addition to being a violation of state and federal laws, Merced College Board Policies and Administrative Procedures #3550, Drug-free Environment and Drug Prevention Program, and #5500, Standards of Conduct, make the distribution, possession, use, or being under the influence of alcohol or illegal controlled substances, or offering, arranging or negotiating the sale of any
drug paraphernalia [as defined in California Health and Safety Code Section 11014.5], forbidden on campus, at off-campus centers, or at campus sponsored events or activities [except as noted in Board Policy and Administrative Procedure #3560].

The following information is provided to you to make you aware of the disciplinary and/or criminal actions that can result from violations as stipulated in Board Policies and Administrative Procedures #3550 and #5500. It is also to familiarize you with support resources available.

If you or a fellow student has a drug or alcohol related problem, you are encouraged to meet with the Student Health Nurse, (209) 384-6045 or a Personal Counselor, (209) 384-6045 so that we may assist you in locating the appropriate resources.

As an educational institution, we recognize the importance of providing all members of the college community with information on the effects of alcohol and drug use. Students may obtain such information through the Student Health Center. Students are asked to review the “Standards of Student Conduct” section in the College catalog for details regarding legal and disciplinary sanctions for violations of these policies.

If there are any questions regarding these regulations, please see the Vice-President of Student Personnel Services, located in the Administration Building.

Health Risks
Substance abuse on college campuses is not new, but it is taking on more extreme and dangerous forms. Higher rates of binge drinking and prescription drug abuse, in addition to the abuse of other substances, is resulting in more negative consequences for students, including arrests and risky sexual behavior. Twenty-three percent of college students meet the medical criteria for substance abuse or dependence. This is about triple the proportion of the general population (Associated Press, 2007, http://www.casacolumbia.org).

Alcohol and drugs can make you sick, damage your body and brain, or kill you. Health risks from excessive use of alcohol and/or controlled substances may include poor vision, loss of coordination, memory loss, loss of sensation, mental and physical disturbances (DT’s), brain damage, liver failure, digestive problems, heart disease, and malnutrition. When alcohol is used with other drugs, there is a greater risk of serious illness or death.

Using drugs or alcohol can make it difficult for you to learn and remember things. When using drugs, you often lose your coordination and can’t think clearly. Alcohol or drug use may cause or increase feelings of anxiety, depression, and unhappiness, and may even trigger psychosis (loss of reality). More than half of all teenage suicides are drug related.

Drug and/or alcohol abuse have significant consequences for the health and well-being of those who use, as well as those around them.

Disciplinary Actions
Disciplinary action for violation of the Merced College Drug and Alcohol Policies:

In addition to the penalties stated in the Merced College Board Policies and Administrative Procedures #3550 and #5500, the Merced College Police Department will be notified of the offenses and may initiate criminal action with the Merced County District Attorney’s Office.

Non-discrimination
The Merced Community College District prohibits discrimination on the basis of race, color, sex, religion, national origin, ethnic group identification, ancestry, age, physical or mental disability, medical condition, military service, sexual orientation, marital status, pregnancy, or any other basis prohibited by law.

The District operates in compliance with all applicable laws, regulations, and requirements related to its status as a public educational entity and the receipt of Federal and/or State funds, including but not limited to Title VI of the Civil Rights Act of 1964 and its amendments, Title IX of the Education Amendments of 1972, , Section 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act of 1990, the Age Discrimination Act of 1975, the Age Discrimination in Employment Act, and the California Fair Employment and Housing Act. In so doing, the District is committed to providing equal opportunities for all individuals in employment and in all programs and activities which it conducts. Therefore, no student enrolled in or employee employed by the Merced Community College District or applicant for enrollment in or employment with the Merced Community College District; or others who might receive the benefits of college activities, programs, and services shall be excluded from participation in, denied benefits of, or be subject to discrimination in any process, position, program, service, or activity, on any basis prohibited by law.

Individuals who feel they have been subjected to discrimination or harassment may initiate a complaint pursuant to the District’s Board Policy No. 3430, titled “Complaints of Unlawful Discrimination.” Board Policy No. 3430 describes the District’s rules and procedures relating to unlawful discrimination, including instructions on how to initiate a complaint, how an individual’s complaint is processed, and a description of how an individual is notified of the outcome of his or her complaint, including enforcement of corrective action, if necessary.

Individuals who seek information and/or wish to initiate a complaint for alleged acts of discrimination or harassment are directed to contact the Vice President of Administrative Services for Merced College, at (209) 384-6108. A copy of Board Policy No. 3430, as well as assistance with initiating a complaint for alleged acts of discrimination or harassment, may also be obtained by contacting the office of the Vice President of Administrative Services for Merced College. The District maintains the confidentiality of all complaints of unlawful discrimination except where disclosure is required by law.

A copy of Board Policy No. 3430, complaint forms and other materials are available online at the college web site located at www.mccd.edu

Open Enrollment Policy
It is District policy that, unless specifically exempted by statute, every course, section, or class, the average daily attendance of which is to be reported for state aid, wherever offered and maintained by the District, shall be fully open to enrollment and participation by any person who has been admitted to the College
Sexual harassment is defined as unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct or communications constituting sexual harassment.

Purpose
It is the intent of the governing Board to deem as unacceptable any form of sexual harassment. Such conduct undermines the integrity of the classroom and/or the employment relationship or work/academic environment. Conduct constituting sexual harassment will not be tolerated in the District. It is understood that this Policy is not intended to infringe upon Academic Freedom except to the extent provided by law.

Description
The Policy applies to all aspects of employment and the academic environment, including but not limited to classroom conditions, grades, academic standing, employment opportunities, scholarships, recommendations, disciplinary actions, and participation in any community college activity.

All District employees who violate this policy may be subject to disciplinary action up to and including termination in accordance with applicable College Procedures, Education Code sections, and/or collective bargaining agreements. Students who violate this Policy may be subject to disciplinary measures up to and including expulsion in accordance with Board Policies and College Procedures. Non-employees, such as sales representatives or service vendors are also covered by this Policy and may be subject to corrective measures.

The District is concerned about the rights of the accused as well as the accuser and shall afford due process rights accordingly.

Definition
Sexual harassment is defined as unwelcome sexual advances, requests for sexual favors, and other verbal, visual, or physical conduct of a sexual nature, made by someone from or in the work or educational setting under any of the following conditions:

1. Submission to, or rejection of, the conduct by the individual is used as a basis of employment or academic decisions affecting the individual;
2. The conduct has the purpose or effect of having a negative impact on the individual’s work or academic performance, or of creating an intimidating, hostile, or offensive work or educational environment; or
3. Submission to, or rejection of, the conduct by the individual is used as the basis for any decision affecting the individual regarding benefits and services, honors, programs, or activities available at or through the educational institution.

This definition encompasses two kinds of sexual harassment:

1. Quid pro quo sexual harassment occurs when a person in a position of authority makes educational or employment benefits conditional upon an individual’s willingness to engage in or tolerate unwanted sexual conduct.
2. “Hostile environment” sexual harassment occurs when unwelcome conduct based on sex is sufficiently severe or pervasive so as to alter the conditions of an individual’s learning or work environment, unreasonably interferes with an individual’s academic performance, or creates an intimidating, hostile, or abusive environment. The victim must subjectively perceive the environment as hostile, and the harassment must be such that a reasonable person of the same gender would perceive the environment as hostile.

Sexual harassment can consist of virtually any form or combination of verbal, physical, visual or environmental conduct. It need not be explicit, or even specifically directed at the victim. Sexually harassing conduct can occur between people of the same or different genders. The standard for determining whether conduct constitutes sexual harassment is whether a reasonable person of the same gender as the victim would perceive the conduct as harassment based on sex. The determination of whether an environment is hostile is based on the totality of the circumstances, including such factors as the frequency of the conduct, the severity of the conduct, whether the conduct is intimidating or physically threatening, and whether the conduct unreasonably interferes with an individual’s learning or work.

Environmental
Environmental sexual harassment is an academic or work environment that is permeated with sexually-oriented talk, innuendo, insults, or abuse not relevant to the subject matter of the class. A hostile environment can arise from an unwarranted focus on sexual topics or sexually suggestive statements in the classroom. An environment may be hostile if unwelcome sexual behavior is directed specifically at an individual or if the individual merely witnesses unlawful harassment in his or her immediate surroundings.

Implementation
This policy assigns ultimate responsibility for implementing the sexual harassment policy to the District Equal Employment Opportunity Officer. He/she shall also be responsible for insuring
that other policies and procedures developed related to sexual harassment support this policy.

Retaliation
It is unlawful to retaliate against an employee or student who makes a complaint of sexual harassment, who communicates with or contacts District Compliance Officer(s) or regulatory agencies, or who is a potential witness or participates in any manner in a sexual harassment investigation, hearing, or proceeding.

Smoking
Smoking is permitted in all outdoor areas under the following conditions:

- All smoking materials and matches are deposited into a receptacle designated for disposal of smoking materials.
- A "no smoking" sign is not posted in the area and it is not within 20 feet of covered corridors, doors, elevators, stairways, stairwells and open windows.
- A safety and/or fire threat is not created by smoking.
- Smoking is not done in college vehicles. (A "no smoking" statement will be included on vehicle request forms and a "no smoking" sign will be installed in all District vehicles.)
- Smoke will not enter any District or District rented building. (Language will be included in rental agreements stating that smoking is not permitted indoors or near any entrances.)

Student Equity
Merced College complies with California Community College Board of Governors’ regulations related to equity and historically under-represented groups of students. Student equity activities include research and evaluation of programs for under-represented students; establishing goals and schedules for implementing these programs; and identifying funding sources for these services. Copies of pertinent reports are available upon request from the Vice President, Student Personnel.

Student Right-To-Know Disclosure
Student Right-to-Know Rates for fall 2005 cohort
Completion Rate: 18.06%
Transfer Rate: 16.05%

In compliance with the Student-Right-to-Know and Campus Security Act of 1990 (Public Law 101-542), it is the policy of our college district to make available its completion and transfer rates to all current and prospective students. Beginning in Fall 2005, a cohort of all certificate-, degree-, and transfer-seeking first-time, full-time students were tracked over a three-year period. Their completion and transfer rates are listed above. These rates do not represent the success rates of the entire student population at the College nor do they account for student outcomes occurring after this three-year tracking period.

Based upon the cohort defined above, a Completer is a student who attained a certificate or degree or became "transfer prepared" during a three year period, from Fall 2005 to Spring 2008. Students who have completed 60 transferable units with a GPA of 2.0 or better are considered “transfer-prepared.” Students who transferred to another post-secondary institution prior to attaining a degree, certificate, or becoming “transfer-prepared” during a five semester period, from Spring 2006 to Spring 2008, are transfer students.

More information about Student Right-To-Know Rates and how they should be interpreted can be found at the California Community Colleges “Student Right-To-Know Information Clearinghouse Website” located at http://srtk.cccco.edu/index.asp.

Title IX, 504 and the Americans with Disabilities Act
In compliance with Title VI of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, Section 504 of the Rehabilitation Act of 1973, the American with Disabilities Act, and the Age Discrimination Act of 1975, Merced College does not discriminate on the basis of race, color, national origin, sex, handicap, or age with respect to admission, participation, or employment in any of its educational programs and activities or in the provision of benefits and services to its students.

The College’s Title IX Coordinator is the Human Resources Supervisor, (209) 384-6102. Inquiries concerning the application of Title IX, which prohibits sex discrimination, may be referred to the Title IX Coordinator, or to the Office for Civil Rights, U.S. Department of Education, 221 Main Street, San Francisco, CA 95105, (800) 872-5327 (voice) or (415) 437-7786 (TDD).

The College’s Section 504 and ADA Coordinator is Robert Lenz, (209) 386-6643. For information concerning Section 504, which prohibits discrimination on the basis of handicap, you may contact the 504 Coordinator for the Office for Civil Rights at the above address.

The procedures for filing a complaint may be obtained from persons listed above.

Informacion Sobre Derechos Civiles 504 y el Título IX
En acuerdo con el Título VI del Acto de Derechos Civiles de 1964, el Título IX de las Reformas Educacionales de 1972, la Sección 504 del Acto de Rehabilitación de 1973, el Acto de Americanos Incapacitados, y el Acto de Discriminación por Edad de 1975, Merced College no discrimina en base a raza, color, origen nacional, sexo, edad o incapacidad, para otorgar admisión, participación o empleo a cualquiera de sus programas o actividades educacionales o en la provisión de beneficios y servicios a sus estudiantes.

La coordinadora del Título IX del colegio es la Sra. Human Resources Supervisor, teléfono (209) 384-6102. Preguntas tocante a la aplicación Título IX, que prohíbe la discriminación en base al sexo, pueden ser referidas a la coordinadora del Título IX o a la Oficina de Derechos Civiles, Departamento de Educación de los EE. UU., 221 Main Street, San Francisco, CA 94105, teléfonos (415) 556-4275 (voz) ó (415) 437-7786 (TDD).

El coordinador de la Sección 504 del ADA del colegio es el Sr. Robert Lenz, teléfonos (209) 386-6643. Para información referente a la sección 504, la cual prohíbe la discriminación basada en la incapacidad física, puede ponerse en contacto con el coordinador de la Sección 504 o con la Oficina de Derechos Civiles en San
Lub Luag Title IX, 504 Thiab Cov Neeg

Amelikas Nrog Cov Cai Hais Txog Kev Puas Cev


Tshooj 504 ntawm Lub Tsev Kawm Ntaivv thiab tus ADA Coordinator yog Robert Lenz, (209) 386-6643. Yog xav paub bxog cov ntaub ntawm Tshooj 504, uas bxwv tsis pub caij cov neeg maaj kev puas cev, nej qhia rau tus Ceev Tshooj 504 nyob hauv lub Hoobkas ntawm Pejxeem Cov Cai nyob rau qhov chaw saum toj no.
California State University Breadth areas and Intersegmental general Education Transfer Curriculum (IGETC) areas are noted in Parentheses ( ).

Course Descriptions
Courses are listed alphabetically at the end of the discipline information. Each course is listed by number with the course title, the number of units, and the number of hours of lecture and laboratory instruction. Preceding each description are the prerequisites and/or corequisites of the course.

All credit courses listed in this catalog are graded courses and meet the definition of "college credit courses" as stated by Section 55002, Part VI of Title 5 of the California Code of Regulations.

It is the policy of the Merced Community College District that, unless specifically exempted by statute, every course, course section or class, the average daily attendance of which is to be reported for state aid, whenever offered and maintained by the District, shall be fully open to enrollment in and participation by any person who has been admitted to the College and who meets the prerequisites as may be established pursuant to Chapter 11, Division 2, Part VI, Title 5 of the California Administrative code, commencing with Section 58108.

Application
New or former students applying to Merced College must complete an application in order to enroll in classes. Former students are students who have had a lapse of at least one semester between enrollment periods. You may submit applications thru CCCAPPLY, our online application, or in person at the Admissions and Records Office in the Lesher Student Services Center on the Merced Campus, or in the Admission and Registration area of The Los Baños Campus. If you are a new student, you should bring a copy of your prior transcripts, whether from high school or from another college you attended.

Matriculation Services
State of California-mandated matriculation services include an orientation, assessment, admission, counseling and advisement, and follow-up and referral. Since the intent of the services is to increase your opportunity for success in your academic pursuits, you are expected to become a matriculated student unless you are exempted.

Matriculated Student Defined
You are a matriculated student if you have fewer than 15 units at Merced, have completed the matriculation orientation, assessment process, and have met with a counselor; or you have completed an Educational/Study Plan.

How to Become a Matriculated Student
To become a matriculated student, you must complete the following three matriculation services. To begin this process, call (209) 384-
Goals of the assessment process are:
- To assist in determining which student and instructional services you may need to support your admission and ongoing enrollment in the College;
- To assist in determining your level of proficiency in the areas of reading, writing, and mathematics so that you can be placed into course work that is appropriate to your goals;
- And to assist in determining your career goals so that you will be provided realistic and purposeful educational planning, and, if you are undecided, the opportunity to participate in course work whose focus is career decision-making.

Except in rare circumstances when approved by a counselor, you are not allowed to retake assessment tests until your subsequent semester of enrollment. Once you have begun a math or English course, you may not retake the assessment tests.

Alternate assessment processes are provided to students with limited English proficiency or disabling conditions which may require accommodation. Contact the Assessment Technician, (209) 384-6089 for information.

**Transfer Students**
If you are transferring from another college, you must submit a transcript for evaluation. Transcripts submitted to Merced College become the property of Merced College and cannot be returned to you or be forwarded to another institution.

**Counseling & Course Advisement**
If you want to register in college course work with a prerequisite you have not completed at this college, you must meet with a Merced College counselor or advisor for approval. The counselor can help you determine your preparedness for courses you wish to enter, determine whether you have met prerequisites, and, when appropriate, assist you with the preparation of a “prerequisite challenge” (see below).

These sessions can also provide you with information regarding College resources and support services helpful to you and allow counselors to make recommendations regarding the number of units you should consider taking, given your other work/life obligations. Counselors can also advise you on other personal, social, educational, and career-related issues which may interfere with your course of study.

**Are You Eligible for a Course? Prerequisites and Corequisites**
In both the College Catalog and the Schedule of Classes, skills are listed in the form of prerequisites, two types of corequisites, limitations on enrollment, and advisories. These skills are normally given in the form of a course, the successful completion of which will provide you with the necessary skill(s). A definition of each of these terms is listed below:

### Prerequisite
This represents a set of skills or a body of knowledge that you must possess prior to enrolling in a course. Without these skills you will be unlikely to receive a satisfactory grade in the course or succeed in the program. You will not be permitted to enroll in these courses and programs without the prerequisite.

### One-way Corequisite
This represents a course whose content is dependent on a main course, but the contents of the main course can stand alone. These courses do not necessarily need to be taken during the same semester.
Two-way Corequisite
These are paired courses that are part of the same sequence. These courses must be taken during the same semester.

(For example, ENGL-81 Basic Reading Tactics II has a two-way corequisite of ENGL-81L Reading Tactics Laboratory. The material in each of these courses is dependent on the material in the other. These courses must be taken during the same semester.)

Limitation on Enrollment
This is an audition or try-out requirement associated with public performance or intercollegiate competition, honors courses, or blocks of courses intended for a cohort or group of students (such as a nursing program).

Advisory
This is a course, skill, or status which is strongly recommended but not required. If you have the advised skill, you will probably have a better understanding of the course material.

The most common way of satisfying a required or advised skill is by completing the prerequisite course with a grade of “C” or better. If you wish to enroll in a course with a prerequisite, and you have not completed the prerequisite course with a grade of “C” or better, refer to the challenge process below.

Request for Review of an Upper Division Course to Meet a Lower Division requirement
Students wishing to have an upper division course be given credit as meeting a requirement for any of the following:

- A major
- A competency
- General education breadth

must apply to Merced College for approval.

Students must submit to the evaluator, located in Lesher Student Services Center, the following items:

- A transcript from the college
- A catalog description of the course

Applications are due during the application for graduation window the semester prior to anticipated graduation or needed certification.

For Major: Course substitution: Paperwork will be submitted to the discipline faculty for approval. Approval requires the signature of two faculty members in the discipline and the division dean.

For Competency: General Petition: Paperwork will be submitted to the Academic Exceptions Committee (AEC) for approval. Approval requires the signature of a discipline faculty member for the competency requested and the chair of the AEC committee as well as the Dean of Student Services.

General Education Breadth: General Petition: Paperwork will be submitted to the Academic Exceptions Committee (AEC) for review. Approval requires the signature of the chair of the AEC committee as well as the Dean of Student Services.

The decision of the faculty is final; no appeal is available.

Challenging a Prerequisite
If you feel that you can meet the requirements, or if one of the conditions below exists, then you can challenge a prerequisite. A challenge petition can be obtained from the Counseling Office. The form will explain what you must do. Criteria for challenging a course are:

1. You believe you have the knowledge or ability to succeed in the course but have not completed the pre- or corequisite.
2. You believe that, although you haven’t met the health or safety pre- or corequisite, you feel you don’t pose a threat to yourself or others.
3. You believe you will be subject to undue delay in reaching the goal of your educational plan because the pre- or corequisite course has not been made reasonably available, or the course has been limited to a special group of students and there are no other courses which would fulfill the requirement. You must attach a copy of your “Student Educational Plan” to be eligible to file a challenge based on this condition.
4. You believe that the pre- or corequisite was established in violation of Title 5 regulations or in violation of district-approved policies.
5. You believe it is unlawfully discriminatory or is being applied in an unlawfully discriminatory manner.

Supporting documentation MUST be attached to all challenges submitted. Challenges may be filed at anytime during the registration period. Once you have completed the challenge procedure, your challenge will be reviewed and you will be advised of the determination within five working days. For more detailed information on the challenge process, call the Guidance Division at (209) 384-6314.

Registering for Courses
You may register for classes in person at either the Merced Campus or Los Baños Campus and receive immediate confirmation of your classes.

Priority in registration is given to continuing matriculated students. Registration for new and former students usually begins in May for the fall semester and in October for the spring semester. New and former students must complete an admissions application and have an identification card prepared before processing their registration forms, and prior to attending the assessment appointment.

The current Schedule of Classes provides information on dates and times for registration, counseling, and other services.

Registering Late
During the late registration period, the first week of the semester or summer session, you may register in any unrestricted class which still has openings. You must obtain the signature of the instructor for any class which is closed.

English and Math Requirements
If you are pursuing an associate degree, you will have English and math requirements. You should begin to fulfill these requirements as early in your college career as possible. (See also Computer and Information Literacy under Competency Requirements.)

Some Courses Have Laboratory Requirements
Some courses, such as anatomy, biology, chemistry, and child
You must register in both the lecture and the lab section for these courses at the time of registration.

Some Programs Are Restricted (Limitations on Enrollment)

There are some programs for which additional criteria for enrollment are required: Certified Nursing Assistant, Home Health Care Aide, Licensed Vocational Nursing, Radiologic Technology, and Registered Nursing.

You are encouraged to speak with an Allied Health counselor in the Guidance Center (209-384-6478) or contact the Allied Health Division Office (209-384-6371) for details.

Safety in Allied Health Programs

Programs offered by the Allied Health Division which result in certification or licensure in health occupations include required courses of clinical training conducted at clinics, hospitals, and other patient care treatment centers. Students enrolled in clinical training settings are expected to maintain standards of practice that ensure the safety of clients and personnel in the clinical agencies. Safety is defined as meeting the objectives of a course by the times designated for each objective and to the degree of mastery designated.

A student will be dismissed from clinical training courses for unsafe behavior related to the objectives for the course in which currently enrolled, or to the objectives of previously completed clinical laboratory courses.

Requirements for Athletics Courses

Merced College is a member of a conference as authorized by the Commission on Athletics (COA) of the Central Valley Conference (CVC). Other Conference schools are: College of the Sequoias, Columbia College, Fresno City College, Reedley College, Porterville College, Taft College, and West Hills College. The COA also establishes rules of student eligibility and assigns “host” conferences when necessary. Eligibility to compete must be confirmed prior to participation by a student athlete.

Merced College offers competition in the following sports: men’s football, basketball, baseball, water polo, swimming, and track; and women’s basketball, volleyball, softball, swimming, track, and water polo.

If you are participating in varsity competition you must follow the Conference rules for athletic eligibility. These eligibility rules require that you:

1. Have begun regular attendance no later than one month after the beginning of the semester.
2. Be enrolled and attending at least 12 units of work.
3. After the first semester of participation, have passed at least 24 units with a minimum 2.0 average before competing again.

Regulations are subject to change by Conference officials and by the California Association of Community Colleges.

Minimum and Maximum Unit Load

You should plan to enroll in 15 units of course work each semester to earn your degree or certificate in a timely manner.

If you wish to enroll for more than 24 units in a semester or 8 units in a summer session, you must have completed a college term of at least 15 units with a minimum grade point average (GPA) of 3.5. Your request for excess units must be approved by the Dean of Student Services.

To qualify for one of the categories listed below, you must carry a minimum course load in a fall or spring semester as follows:

- Full-time Student: 12 units per semester.
- International Student: 12 units per semester.
- Work-Study Student: 12 units per semester.
- Social Security, California State Disability, and P.L. 674 Students: 12 units per semester.
- Military Benefits: Full-time - 12 units per semester; 3/4 time - nine units; 1/2 time - six units.
- Student Body Officer: 12 units per semester.
- Varsity Athlete: 12 units, and P.E. if required.
- Cooperative Education: Total of seven units per semester.

There is a Limit on Nondegree-Applicable Basic Skills Courses

You are limited to a total of 30 units in non degree-applicable basic skills courses (i.e., courses that are not college-level). If you have completed a total of 26 units of non degree-applicable basic skills course work, excluding ESL courses, you must apply for a waiver of the 30-unit limitation to continue in remedial course work. Petitions and procedures are available at the Office of Admissions and Records.

Student Progress Monitoring

Merced College monitors the academic progress of its students and communicates this information to enrolled students. Additionally, each term students failing to make satisfactory progress (2.0 GPA) are placed on probation, as are students who have withdrawn from more than 50% of the courses in which they have enrolled. Students on probation have additional restrictions placed on them.

Auditing a Course

You can audit a course only if there is space available in the class and you receive the instructor’s permission. You also must meet any prerequisites established for the course.

You can register to audit a fall or spring full-term course after the first week of instruction, or for a short-term or summer session course after the second class meeting. The per-unit fee for auditing is charged unless you are enrolled in at least ten units at the time you apply to audit a class. If you are already enrolled in at least ten units, you may audit up to three units free of charge. The audit fee is non-refundable.

Once you have enrolled as an auditor of a course, you may not enroll in that course for credit during the same semester, and you may audit a course only once. An audited course will not be posted on your permanent academic record; however, as an auditor, you will be expected to attend regularly and you may participate in class activities, take examinations, and write papers with the instructor’s consent.

If you are enrolled only as an audit student, you will have restricted use of some College facilities and services. Although you can use the library, you may not check out library materials, have access
Changing Your Schedule

Adding a Fall or Spring Class
To add a class, obtain a Schedule Request form in the Office of Admissions and Records. Fill in the Course Registration/Adds section. A counselor’s signature will only be required if you are on probation or you are trying to register in a course which has a prerequisite and you either are not currently enrolled in the prerequisite or you have not successfully completed the prerequisite at Merced College.

You can add a class through the first week of the semester without instructor approval provided the class has not closed. After the first week, you must obtain the instructor’s signature on the add form. Since the College can lose the funding for your education when you register late, beginning with the fourth week of instruction, you must also obtain the approval of a Dean of Instruction.

Dropping a Fall or Spring Class
It is your responsibility to drop any class that you do not intend to complete. Classes may be dropped at any time you are eligible for registering.

If you drop a class within the first three weeks of an 18-week course, it will not appear on your permanent record. You will receive a grade of “W” on your permanent record for classes you drop after the third week and before the end of the fourteenth week of a regular semester. (See “withdrawal” in the section on grading.) If you drop a class after the fourteenth week, you will receive a letter grade of “FW.”

Instructors may initiate class drops for you if you have not attended class or if your attendance has dropped below standard (see Attendance Policy). If you are dropped by the instructor, you will receive a permanent record entry based on the above time periods.

Adding and Dropping Summer Classes
Adding a Class: You can add a class during the first week without instructor approval provided the class has not closed. From the beginning of the second until the end of the third week, you can add a class with the approval of the instructor and the Dean of Instructional Services. No class adds are allowed after the third week.

Dropping a Class: You may drop a class during the first week of classes and it will not be shown on your permanent record. For the second through the fifth week, a “W” - withdrawal -will be recorded on your permanent record. After the fifth week, you will receive a grade of “FW.”

If You Withdraw from the College
Total withdrawal from the College is your responsibility and can be accomplished by completing the Course Drops section of the Schedule Request form in the Office of Admissions and Records for all of your classes. You must pay all outstanding debts owed to the College and must return all books or other materials on loan from the College.

Tuition, Fees, and Refunds
A California State enrollment fee is charged per unit for all students. This enrollment fee is subject to change by the State Legislature. Enrollment fees are due at the time of registration.

If you are classified as a non-resident student, you must pay this enrollment fee in addition to the non-resident tuition fee. (See Residency and Tuition below.)

The cost of textbooks and supplies needed for courses is dependent upon the courses you select, and may vary widely. Textbook lists and estimated prices are posted at the Bookstore prior to any registration period.

IT IS YOUR RESPONSIBILITY TO REQUEST A REFUND. REFUND APPLICATIONS ARE AVAILABLE FROM THE STUDENT FEES OFFICE.

Listed below are the various student fees, charges, and the refund policy for each. Fees may be charged or changed without notice.

- **California State Enrollment Fee:** $26.00 per unit
- **Non-resident Tuition:** $208.00 per unit ($208.00 for summer), plus enrollment fee. Tuition charges are subject to change beginning with the summer session each year.
- **Health Fee:** $17.00 per semester ($14.00 for summer) to cover accident and injury insurance and referral and health counseling services.
- **Student Body Fee:** $10.00 per semester (no fee for summer).
- **International Student Insurance:** Approximately $600.00 per year is required; other insurance plans may be acceptable. Refund Policy: Refunds are in accordance with the insurance company’s policies.
- **Transcript Fee:** The first two transcripts are free; additional copies are $5.00 each. Please allow 10 working days from the receipt of your request. Next business day service may be available for pick-up or mailing for an additional charge of $10.00, but certain restrictions apply. Call (209) 384-6193 for more information. Refund Policy: No refund available.
- **Parking Fee:** $20.00 per auto ($10.00 for summer) per semester or $1.00 per day.
- **Child Care:** As arranged per child by semester contract. Refund Policy: If services are cancelled with a two-week notice, a refund may be obtained for the remainder of the contract.
- **Auditing Fee:** The per-unit fee for auditing is charged unless you are enrolled in at least ten units at the time you apply to audit a class. If you are already enrolled in at least ten units, you may audit up to three units free of charge. The audit fee is non-refundable.
- **Return Check/Stop Payment Fee:** $30.00 per returned item. Refund Policy: No refund available.
Residency & Tuition

Establishing California Residency
To avoid paying non-resident tuition, you must have resided in California for at least one year and one day prior to the opening date of the semester or summer session in which you are enrolling. You must also have satisfied at least two acts of intent prior to the one year and one day waiting period. These acts may include, but are not limited to, obtaining a California driver’s license, registering a motor vehicle in California, registering to vote in California, owning California property, or having one’s belongings in California. You must also show evidence that California income taxes have been or are being paid (unless you are on public support). Information regarding California residency may be obtained in the Office of Admissions and Records.

If you do not qualify for California residency, you must pay non-resident tuition.

To Be Reclassified as a Resident
If you have completed the one year and one day requirement, and were previously classified as a non-resident, you may obtain the forms from the Office of Admissions and Records for reclassification as a California resident. Reclassification has the additional requirement of financial independence from your parents if they are non-California residents.

Military Waiver of Non-resident Tuition
If you are a member of the U.S. armed forces on active duty in the State of California (and have not been assigned to California for educational purposes), you are exempt from non-resident tuition. There is no requirement for you to establish California residency; however, you must be on active duty at the time that you are admitted to the College to qualify for this waiver. If you become separated from the military, you will be required to provide evidence of your intent to establish residency in California at least one year prior to the date you are admitted.

If you are a non-resident military member, your dependents are entitled to an exemption from non-resident tuition until they have established residency as stated in “Establishing California Residency” above.

Residency Status for Refugees and Undocumented Aliens
New arrivals from countries approved for refugee status must reside in California one year and must hold an I-181 or an “Alien Registration Card” (green card) before applying for residency status.

If you are a refugee, but do not meet the above requirements, you will be considered a nonresident and must pay nonresident tuition. Eligible California high school graduates may qualify to pay resident tuition under the California Nonresident Tuition Exemption law (AB 540).

The California Community College Chancellor’s Office has ruled that undocumented aliens are to be classified as non-residents.

International Students
It is the philosophy of Merced College to encourage the attendance of international students to enrich and broaden the educational experiences of all students. With this philosophy as a basis, the Merced College International Student Policies encompass the following guidelines:

- A maximum number of international students equal to 5% of the previous year’s full-time equivalent enrollment may be admitted to Merced College.
- Discretion is used in selecting applicants to ensure that there is a balance of international students from various countries of the world.
- International student eligibility is based on meeting the application requirements and English language proficiency (TOEFL 450) by the semester deadline.
- Upon acceptance to the International Student Program, a student is issued an I-20 immigration form that enables the student to apply for his/her student visa.

To apply for admission under the International Student Program, you should address a letter to the Program Assistant requesting an application (there is an application fee). If you are admitted to Merced College as an international student, you must pay non-resident tuition plus state enrollment fees. Financial aid is NOT available to international students. By the census date of each class fees are due in full or a payment plan must be set up. Fees must be paid in U.S. currency.
Attendance & Grading

Attendance Policy
Regular attendance and consistent study are the two factors which contribute most to success in college work. As a college student you are expected to attend all sessions of the classes in which you enroll. Failure to attend class can result in a lower grade or in your being dismissed from a class.

Your priority in a class is established at the time you register for the class. If you register for a class and fail to attend the first class meeting, you will forfeit any priority in that class and may be dropped from the roll in order to accommodate another student wishing to register in the class.

If, in the opinion of the instructor, your absences in a specific class would prevent the successful completion of the course requirements, you may be dropped from the class. In the event of extenuating circumstances such as a verified illness, accident or conditions beyond your control, the instructor may allow you to continue under special arrangement.

Grade Scale
If you are enrolled in a course of instruction for which grades are awarded, the instructor of the course will determine the grade assigned using the following grade scale:

<table>
<thead>
<tr>
<th>Symbol Definition</th>
<th>Grade Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A  Excellent</td>
<td>4</td>
</tr>
<tr>
<td>B  Good</td>
<td>3</td>
</tr>
<tr>
<td>C  Satisfactory</td>
<td>2</td>
</tr>
<tr>
<td>D  Passing, less than satisfactory</td>
<td>1</td>
</tr>
<tr>
<td>F  Failing</td>
<td>0</td>
</tr>
<tr>
<td>FW Failing, stopped attending</td>
<td>0</td>
</tr>
<tr>
<td>P  Pass - performance equivalent to a grade of “C” or better</td>
<td>N/A</td>
</tr>
<tr>
<td>NP No Pass - performance equivalent to a grade of “D” or “F”</td>
<td>N/A</td>
</tr>
<tr>
<td>I  Incomplete academic work for justifiable reasons at the end of a term</td>
<td>N/A</td>
</tr>
<tr>
<td>W  Withdrawal from the class and/or College</td>
<td>N/A</td>
</tr>
<tr>
<td>IP In Progress - a class was extended beyond the normal end of the academic term and assignment of a substantive grade must await completion of the class</td>
<td>N/A</td>
</tr>
<tr>
<td>RD Report Delayed - a temporary notation recorded when there is a delay in reporting a grade</td>
<td>N/A</td>
</tr>
</tbody>
</table>

The non-evaluative grading symbols above (marked as “N/A” - not applicable) are not used in the calculation of GPA (grade point average).

Assigning and Removing a Grade of Incomplete
A written record containing the conditions for removal of the “I” is to be completed by the instructor at the time that grades are submitted to the Office of Admissions and Records. The grade to be assigned if the conditions for removal are not completed after one semester must be part of this record. A copy of the written record will be given to you, and one will be filed at Office of Admissions and Records.

If you meet the conditions within the one semester allowed, the required work will be evaluated and a final grade will be assigned. You may petition for a time extension due to unusual circumstances.

Taking Courses on a Pass/No-Pass Basis
You are allowed to earn a maximum of 12 units attempted on a pass/no-pass basis. There are certain courses in which all students are evaluated on a pass/no pass basis only. These courses are specified in the course description in this catalog. All courses other than those included in the category above are available for the pass/no-pass option; however, courses specifically required for your degree or certificate should not be taken with this option.

Units you earn on a “P/NP” basis are not used in the calculation of your GPA; however, if you receive an “NP,” the units for that course will be counted as units attempted and considered in probation and dismissal procedures. You may repeat a course in which you received “NP.” (The repeated course will not be counted as units attempted.)

If you select the pass/no-pass option and later wish to receive the letter grade which was filed with the Registrar, you must submit the grade request form no later than one regular semester following the semester you received the “P.” Course units converted from pass/no-pass to a letter grade will not be counted in your 12 allowable pass/no-pass units, but will be used in the calculation of your GPA.

Grade Changes
The instructor of the course shall determine the grade to be awarded to each student. The determination of the student’s grade by the instructor is final in the absence of mistake, fraud, bad faith, or incompetence. The removal of an incorrect grade from a student’s record shall only be done upon authorization by the instructor of the course, with the following two exceptions: 1) If the instructor is no longer employed by the District and compelling evidence is available that there was a simple error in the grade submitted, the Vice-President of Student Personnel OR Vice-President of Instruction may change the grade, 2) If mistake, fraud, bad faith, or incompetence are present, the final determination concerning removal or change of grade will be made by the Board of Trustees based on the recommendation of the Superintendent/President.

Students who believe that a grade is incorrect should obtain a “General Petition” form from the Admissions and Records Office. All requests for a grade change, for both evaluative (A,B,C,D,F,FW) and non-evaluative grades (W), must be made in writing within two years of the last day of the semester in which the grade in question was earned.

Repeating a Course
You may take a course once and then repeat it as many times as is stated in the course description in the catalog. This repetition may take place during one or more terms.

Other courses are not repeatable except under the following circumstances:
1. You may repeat a course two times in an effort to alleviate substandard academic work. A sub-standard grade is "D", "F", "NP" or "NC". You may repeat a course a third time if the College finds there are extenuating circumstances which justify a third repetition. Extenuating are verified cases of accidents, illness, or other circumstances beyond the control of the student. (See also Academic Renewal below.)

2. The Academic Exceptions Committee approves a petition to repeat which indicates a significant length of time has elapsed since you took the course (five or more years), or for other substantial reasons.

3. Repetition shall be permitted in such instances when such repetition is necessary for a student to meet a legally mandated training requirement as a condition of continued paid or volunteer employment.

After you have repeated a course the following changes will appear:

If the grade received in the original course was a “D" or an “F," an “R" will appear in the Notes column to the right of the original course. That grade will not be used in computing your GPA. The grade received in the approved repeated course will be used for GPA purposes.

Otherwise, the course and grade received in the repeated course will be posted to the transcript. The original course will continue to be used for purposes of GPA calculation. (State regulations do not allow “W” grades to be removed or lined-out.)

Repeated courses will not be counted as units attempted in the alleviation of substandard grades.

Withdrawal
Withdrawal from a course or courses shall be authorized through the last day of the fourteenth week of instruction (or 75% of a term, whichever is less). The academic record of a student who remains in a course beyond the time allowed by district policy must reflect a symbol as authorized other than a “W".
No notation (“W" or other) shall be made on the academic record of the student who withdraws during the first four weeks or 30% of a term, whichever is less.

A student may withdraw and receive a “W” symbol on his or her record for enrollment in the same course a maximum of four times.

A student has the right to file a petition if he or she believes they either should or should not receive a “W” or wishes to enroll in a course where they have exceeded the maximum number of “W”s due to extenuating circumstances.

Academic Renewal
If you receive a sub-standard grade (“D" or “F") for a course which would not be beneficial for you to repeat, you can petition to disregard this course for purposes of calculating GPA.

Students may petition to have their academic record reviewed for academic renewal of substandard academic performance under the following conditions:
- Students must have achieved a grade point average of 2.0 in all courses included in their GPA calculation since the term in which the substandard grade(s) to be removed was/were earned. The courses used in this GPA calculation must total at least 12 units; and
- At least one regular semester must have elapsed from the time the course work to be removed was completed.

Up to 12 units of course work may be eliminated from consideration in the cumulative grade point average.

The Academic Exceptions Committee must approve the Academic Renewal Petition.

Other Means of Obtaining College Credit

Advanced Placement (AP)
Advanced Placement (General Examination) Merced College participates in the Advanced Placement (AP) Program offered by the College Entrance Examination Board. A score of 3, 4, or 5, is required, depending upon the specific exam. Not all AP examinations are identified for credit.

Information about the awarding of credit by the specific AP exam and the application for Merced College Associate Degree Breadth, CSU General Education - Breadth, and IGETC is provided in the section entitled AP EXAMINATIONS.

C.L.E.P.
Merced College may award credit under the College Level Examination Program (C.L.E.P.). Credit for Subject Matter exams is based on the scores recommended by the American Council on Education (ACE). The number of units of credit granted varies. See your counselor for additional information.

Credit by Examination
If you are a student registered at the college and in good standing you are eligible to apply for credit by examination.

No credit by examination will be offered if a student has previously taken the class and received any grade other than a “W.” You may have the number of courses available for credit by examination limited by the discipline faculty. Information about course availability may be obtained in the Guidance Area or with the Area Dean for the program each semester. Although the University of California and Academic renewal actions are irreversible the California State University and Colleges accept, with certain limitations, appropriate credits obtained by examination, there is no guarantee by Merced College that other institutions will do so. Students may be asked to supply a high school and other college transcripts when applying for a credit by examination. The grade obtained through credit by examination will be recorded on the transcript with a descriptor CE (credit by exam). Students will pay a credit by exam fee equal to the enrollment fee required if registering for the course.

Credit for Military Experience
After earning 12 units of credit in residence at Merced College, military veterans will be awarded up to 12 units of credit for military training and experience. These units will be recorded on the student’s Merced College transcript. This award will be based upon the American Council of Education's (ACE) recommendations found on the individual’s ACE Registry Transcript. The bases for awarding credit for military training and/or experience are as follows:

- Students must have achieved a grade point average of 2.0 in all courses included in their GPA calculation since the term in which the substandard grade(s) to be removed was/were earned. The courses used in this GPA calculation must total at least 12 units; and
- At least one regular semester must have elapsed from the time the course work to be removed was completed.

Up to 12 units of course work may be eliminated from consideration in the cumulative grade point average.

The Academic Exceptions Committee must approve the Academic Renewal Petition.
Basic Training
The student will receive two units of credit in Physical Education.

Other Military Training/Experience
Merced College will grant a maximum of 10 units of general elective credit.

Transcripts from other accredited institutions of higher education will be evaluated and credit will be granted according to standard college procedures. (NOTE: Community College of the Air Force [CCAF] transcripts of Air Force veterans will be evaluated in this manner and will not be subject to the above unit limitations and residency requirements.)

Students seeking credit for specific Merced College courses based upon military training and/or experience must apply for credit by examination. See Credit by Examination for additional information.

Students seeking to use military training and/or experience in lieu of stated prerequisites must challenge the prerequisite using the standard college process. See Challenging a Prerequisite for additional information.

Probation & Dismissal

Academic Probation
If you have attempted at least 12 units, and earned a grade point average (GPA) below 2.0 based on all units recorded on your permanent record, you will be notified that you have been placed on academic probation. Your probation status is not affected by a break in attendance.

You will be removed from academic probation when your cumulative GPA is 2.0 or higher.

If you are on academic probation you will be subject to dismissal from the College if you earn a cumulative grade point average of less than 1.75 in all units attempted in each of three consecutive semesters.

Although units accumulated during a summer session are used in the calculation of your GPA, your probation status changes only at the end of a regular semester when grades are recorded.

For specific information regarding the impact of academic probation see Administrative Procedures AP 4250 and AP 4255.

Progress Probation
If you have enrolled in at least 12 units and the entries on your permanent record of “W,” “I,” and/or “NC” reach 50% of your cumulative units or more, you will be placed on progress probation. Your probation status is not affected by a break in attendance.

You will be removed from progress probation when the percentage of your units graded as “W,” “I,” and “NC” drops below 50% in this category.

If you have been placed on progress probation, you will be subject to dismissal from the College if the entries on your permanent record of “W,” “I,” and/or “NC” reach 50% of your cumulative units or more for three consecutive semesters.

Although units accumulated during a summer session are used in the calculation of your GPA, your probation status changes only at the end of a regular semester when grades are recorded.

For specific information regarding the impact of progress probation see Administrative Procedures AP 4250 and AP 4255.

Dismissal Notification
Students who have been dismissed from the college will be notified in writing.

Probation and Dismissal Appeal
You may appeal probation or dismissal provided that unusual and verifiable circumstances occurred that were strongly instrumental in leading to your probationary or dismissal status. Reasons for appeal might include: (a) your health; (b) an emergency in your family; or (c) an extreme change in financial situation which did not allow you to continue your education. Other reasons not listed above may also be considered.

Your Right to Grieve
Merced College supports your right to grieve or appeal any official action or incident which, in your judgment, is unfair or prevents you from obtaining equal educational opportunities. Board Policy and administrative procedure AP 5530 provides information about conditions under which students may grieve and the process to be followed.

In cases of action, such as your dismissal from a class, program, or the College, you can initiate an appeal according to a specific appeal channel. If you wish to exercise your right to appeal an action taken against you by a College official, you should contact the Vice President of Student Personnel regarding the proper procedure to be followed.

In cases of incidents such as alleged discrimination or harassment, you can initiate a grievance. If you want to exercise your right to grieve such an incident, you should contact the College’s Equal Employment Officer regarding the proper procedure to be followed.

Student Right to Appeal Petitions
When a students petition is denied by the Academic Exceptions Committee the student has the right to appeal to the Dean of Student Services. An appointment is required by calling (209) 384-6077.
Air Force Reserve Officer Training (AFROTC)

Students may take AFROTC courses for academic credit with no commitment to the Air Force. For academic credit, a student may take the courses as electives to learn more about national defense, airpower strategy, the Air Force lifestyle, and Core Values. If a student wants to take the courses as a lead-in to a leadership job as an Air Force officer, he or she must eventually join the cadet corps to prepare for a tour of duty as a Second Lieutenant. Merced College students who wish to take courses as cadets and not just as students must be accepted to Fresno State by their junior year in order to pursue the commissioning path. In either case, a student or cadet can use the theory and skills learned in Aerospace Studies as leadership experience that will be invaluable for either an Air Force or civilian career. Books and supplies are provided at no cost to the student; if you opt to take the courses as a cadet, uniforms will also be furnished at no costs.

Air Force ROTC scholarships are available to qualified applicants. Each scholarship provides full tuition, laboratory and incidental fees (up to $1,500 per semester), and a $900 a year allowance for textbooks. In addition, scholarship cadets receive a nontaxable $300-$500 subsistence each month during the school year. Scholarships are nominated by CSUF AFROTC commander and approved by HQ AFROTC. Cadets who meet minimum requirements are eligible and do not compete for a scholarship against other AFROTC students.

Students who complete 16 upper-division units (of which 6 must be in residence) and a 2.0 GPA earn a Minor in Aerospace Studies.

For more information, contact California State University-Fresno, AFROTC at (559) 278-2593 or visit www.csufresno.edu/afrotc.

Art Gallery

The Art Gallery, located in the Theater Building, presents high-quality art exhibits in a wide variety of media throughout the school year for your enjoyment and enrichment. Exhibitions are often scheduled in conjunction with theater events.

Associated Students

The Associated Students of Merced College elects an Executive Board of nine members to represent the interests and needs of students at Merced College. Under the guidance of the ASMC Advisor, the Association serves as the communication channel among the students, the college administration, and the Board of Trustees. If you are a member of ASMC, you are eligible to participate in shared governance as a representative of the student body on major college committees. In order to be an ASMC member, you must be officially registered, be attending classes, and must have paid the ASMC dues.

ASMC sponsors the following activities: Homecoming, Spring Carnival, and Project Christmas.

As an ASMC member you receive the following benefits and privileges:

- Discount admission to MC athletic and theater events, and all ASMC sponsored activities.
- Check cashing privileges in the Bookstore.
- Eligibility to apply for ASMC scholarships.
- Membership in campus student organizations.
- Right to seek election to student government.
- Student-to-student book exchange/sale.
- Access to the Merced School Employees Federal Credit Union.

Associated Student Fees

The Associated Student membership fee is $10.00 each semester, payable at the time of registration. A $10.00 replacement fee will be charged for a lost ASMC sticker.

Student Activities

Student Activities is guided by the belief that college learning extends beyond the classroom. Curricular events and activities provide a “laboratory” for learning within a collaborative environment.

The Student Activities Program (SAP), in conjunction with the ASMC, offers bright, enthusiastic and concerned students with an opportunity for leadership development and experience in the following activities and also provides the following services.

Services:

- On-campus posting and approval and All Events Calendar
- Book Registry program (Sell your books using book cards, and set your own price)
- Emergency Food Pantry (currently enrolled students and staff)
- Free emergency phone and faxing privileges in our office.
- Free Legal Aid program (currently enrolled students and staff)
- Debt Reduction program
- Student housing information
- Emergency short term loans (Subject to available funds)
- Soda and snack machine reimbursements
- Athletic event schedules
- Event and activity planning and coordination
- Leadership Development and Skills Program
- Community/Campus awareness and resources
- Parliamentary Procedures information
- Student Clubs and Organizations information and paperwork

Activities

- Student blood drives in fall and spring semesters
- Monster Bash (Halloween Dance – fall semester)
- “Blue Devil Days” (Homecoming – fall semester)
- Guest speakers
- Student club activities information
- Multicultural World Music and Dance Festival (spring semester)
You are encouraged to come in and inquire about our services available to new and continuing students. The Student Activities Office is located in the Student Union building, down the hallway from the cafeteria, or you may call our office at (209) 384-6118, or the office coordinator at (209) 381-6402.

Bookstore
The Merced College Bookstore is located in the Student Union Building. We offer new and used textbooks, paperbacks, study aids, art materials, nursing supplies, stationery, collegiate apparel and other supplies. Special orders and custom orders are welcomed. Regular bookstore hours are from 07:45a to 03:00p Monday through Friday, and from 05:45p to 07:15p Monday through Thursday. During the beginning of each semester we offer extended business hours. Shop online at www.mercedcollegebookstore.com

Los Baños students please call (209) 381-6424 for information at the Los Baños Campus.

Cafeteria
You will find complete meals, soups, sandwiches, pizza and snacks at competitive prices in our attractive cafeteria located in the Student Union building. We also provide on-site affordable customized catering for small to large luncheons and BBQ. See our catering menu on our web site @ www.mccd.edu and click on services. Or call (209) 381-6549.

Career/Transfer Center
The Career/Transfer Center provides services to assist individuals in making occupational and educational decisions. Included in these services are:

- Career search software with information on hundreds of occupations and training programs.
- A resource center for career information material.
- Career interest testing to help students determine occupational and educational goals.
- Counseling services and current information on transfer programs which include Transfer Admission Agreements and articulation agreements on various majors and general education requirements.
- Contact with four-year colleges and universities including scheduled on-campus visits by representatives, college fairs, and transfer workshops.
- A library of college catalogs including the UC and CSU systems, California Community Colleges, and many independent institutions.
- Assistance completing UC and CSU applications.
- Test booklets, bulletins, scholarship information, and applications (e.g., CBEST, CSET, SAT, TOEFL).

The Career/Transfer Center is your career and college information and resource center. If you plan to transfer, you are encouraged to visit the Center as early as possible. The Career/Transfer Center is open during the fall and spring semesters from 08:00a to 04:30p. Monday through Friday, and Wednesday evenings until 07:00p. Summer hours will vary. Come in or call (209) 384-6243 for Career Services or (209) 384-6239 for Transfer Services.

Child Development Center
Child Development Center services are available on campus for the children of students, staff, and community members. The program is an infant/preschool educational program, and serves as a laboratory for students majoring in Child Development. A charge is levied for this service; however, if you qualify, financial aid is available. Applications are available at the Child Development Center.

College Clubs
The active student club program at Merced College is designed to increase the opportunities for students to engage in activities which contribute to educational and/or social growth outside the classroom.

Contact the Associated Student Office at (209) 384-6114 for current information on clubs and club activities.

Counseling and Guidance
The Guidance Center is staffed by professional counselors with training and expertise in the areas of personal, educational, and vocational/career development. In addition to services provided by the professional counseling staff, the Center is also staffed by teaching faculty who can provide you with academic advisement in their areas of concentration or major. Counselors and advisors will assist you in making satisfactory progress in your program of study, and will confirm that you are taking appropriate prerequisite course work necessary for your success in higher level courses which may be required for your major.

Counselors are also assigned to other support services and programs: Extended Opportunity Programs and Services, Disabled Student Services, International Student Services, the Career/Transfer Center, Veterans Services, V.T.E.A., CalWORKS, Non-credit Matriculation, Student Athlete Support.

You may meet with counselors and advisors either on an appointment or walk-in basis. The Guidance Center is open Monday through Friday from 08:00a-04:30p, and is open Wednesday evening until 07:00p.

Disabled Student Services
Disabled Student Services (DSS) provides support services and educational accommodations to students with disabilities allowing them to benefit from the college experience equally with non-disabled students. Examples of services include: course planning and registration assistance, diagnostic assessment for learning disabilities, access to assistive computer technologies, alternate print material such as Braille or e-text, books on tape or CD, testing accommodations, adaptive physical education, interpreters for the deaf, and classroom note takers.

The DSS staff provides a supportive and individualized approach to the provision of services. Students are encouraged to stop by DSS on the Merced or Los Baños campus to see if they qualify for services. Call (209) 384-6155 or (209) 384-6311 (TDD) in Merced, or (209) 826-3495 in Los Baños for more information.
Extended Opportunity Programs and Services (EOPS) and CARE Programs

The EOPS program provides academic & personal counseling, book service, book loans, emergency loans, EOPS grants for eligible students. Other services available to EOPS eligible students include priority registration, tutoring, computer/typewriter usage, typing services, etc.

The CARE program is an additional service provided through the EOPS program to assist the single parent in completing their college education. The additional services to CARE eligible students include CARE orientation and workshops, CARE grants, meal vouchers, gas card/bus passes.

To determine your eligibility for EOPS/CARE contact the Merced College EOPS office at (209) 381-6596 or Los Baños EOPS Office at (209) 826-3495 for more information.

Facilities Usage

College facilities are available for use by public agencies and community organizations to serve the educational, economic, and artistic interests of the citizens of the community. Hundreds of events per year are scheduled on the Merced campus. A comprehensive master calendar is maintained in the Facilities Office. Both indoor and outdoor facilities are available, subject to priority of instructional programs. Reservations for meetings and/or banquets should be made well ahead of time at the Facilities Office. Call (209) 381-6593 for more information.

Financial Aid

While Merced College subscribes to and supports the philosophy that primary responsibility for funding college expenses rests with the students and families, the College recognizes that you and/or your family may have limited financial resources and are unable to meet all of the expenses associated with higher education without supplemental assistance.

To help accommodate you with supplemental needs, the College provides a variety of financial assistance methods through the Financial Aid Office on the main campus and at the Los Baños campus.

Available programs include: 1) the Federal Pell Grant; 2) the Academic Competitiveness Grant; 3) the Federal Supplemental Educational Opportunity Grant (SEOG); 4) the Federal Work Study program; 5) State of California Cal Grant programs; 6) State of California Board of Governors Fee Waiver (BOG); and 7) Merced College Foundation Scholarships.

Application

Financial aid funds come from appropriations made by the Federal and State governments and through scholarship awards made by individuals and other public and private agencies and organizations. Hence, each of these funds MUST be administered according to different sets of policies, regulations, and/or specific requirements. To make the process of receiving aid as simple as possible for you, the Free Application for Federal Student Aid (FAFSA) determines your eligibility for most state and federal assistance programs. You also are required to file a Grade Point Average Verification Form with the California Student Aid Commission for a Cal Grant. Separate applications forms for specialized grants (the Child Development Grant and the Chafee Grant for Foster Youth) are also required. Separate scholarship applications for a number of locally administered scholarships are available in the Financial Aid offices on both campuses.

Student Eligibility

Policies relating to the College’s general admission and academic progress standards are described elsewhere in this catalog. Following are the requirements for most financial aid administered by Merced College:

- You must be a U.S. citizen or eligible non-citizen
- You must have a valid Social Security number;
- You must be working toward a degree or certificate;
- You must be making satisfactory academic progress;
- You must not owe a refund on a Federal grant or be in default on a Federal educational loan;
- You must have a “financial need” as determined by submitting the FAFSA;
- You must have a high school diploma, or GED, or pass the California High School Proficiency Examination or Merced College’s Ability-To-Benefit Test.

To be eligible for California grants, you MUST also:

- Be a resident of California, and have “financial need” based on the criteria for the BOG or Cal Grant Program.

Additional information about financial aid is available in the Financial Aid Office, or call (209) 384-6031.

Merced College Standards of Satisfactory Academic Progress for Financial Aid Eligibility

This policy has been developed for students receiving Financial Aid. Federal laws require you to move toward the completion of a degree or certificate when receiving financial aid. These laws state that Academic Progress Standards MUST include a review of periods of enrollment in which you did not receive aid as well as the periods you did receive aid. For the purpose of financial aid eligibility, you MUST meet the following minimum standards:

- You must maintain a grade point average of at least 2.0 in all units attempted. This includes a cumulative GPA as well as a 2.0 for your last two semesters.
- Your transcript history must reflect at least a 67% successful completion of all enrolled units.
- You will be expected to complete a degree or certificate program within 90 attempted units (150% of the published unit requirement). Exception to this maximum may be made with appropriate documentation on a case-by-case basis.

You may appeal a denial of aid based on the maximum time limits by submitting a petition form and an educational plan, which has been reviewed and signed by a counselor, and which shows the revised goal and specific additional unit requirements. You may also appeal a denial based on poor grades. You can obtain the petition or appeal forms in the Financial Aid Office. Each appeal will be reviewed on a case-by-case basis. You will be notified in writing of a probationary status or denial of financial aid when academic progress has not been met.
Financial Aid Repayment Policy
If you withdraw on or after the first day of class and have received Title IV funds (Federal Financial Aid) for non-institutional charges, the institution MUST determine whether you owe a repayment of any portion of the funds received.

If the institution determines that your non-institutional educational expenses incurred up to the time of withdrawal exceed the amount of cash disbursed, you have not been overpaid and may be entitled to a post-withdrawal disbursement. If the cash disbursed to you exceeds non-institutional costs, the excess amount is an overpayment and you must repay these funds. All non-institutional living expenses are prorated based on the number of weeks you have completed during the semester.

Return to Title IV Funds calculations are based on: 1) your Federal financial aid award; 2) your enrollment status (full, three-quarter, half, or less than half time) at the time of final withdrawal; and 3) the portion of the term completed.

Deadlines/Priority Dates
To be considered for California State Cal Grant A, B, and/or C programs, the FAFSA application and the GPA Verification form for Cal Grants must be filed by March 2nd of each year. It is recommended that you obtain a proof of mailing from the Postmaster to document your filing on or before the March 2nd deadline. Please read the GPA Verification form instructions carefully, because changes are made every year.

September 2nd is the deadline for a second chance opportunity for Cal Grants that is available to community college students only.

The Merced College Admissions & Records Office automatically verifies electronically GPAs for all continuing students who have completed a sufficient number of degree applicable units prior to the deadlines. You can check with A&R to determine if your GPA has been submitted electronically to the California Student Aid Commission. Merced College Scholarship applications are due March 31st of each year. The window of opportunity for scholarship applications is March 1st to March 31st. If March 31st falls on a weekend, then the due date is the last working day before the weekend. Notice will be posted each year. You can obtain a scholarship application in the Financial Aid Scholarship Office.

Housing Services
If you are seeking housing, advisement is available in the Associated Students Office, although the College does not officially authorize any housing. For further information, contact ASMC at (209) 384-6114.

Job Opportunity Services
Job Opportunity Services offers employment referral assistance for part-time, temporary, and full-time jobs for students attending Merced College and for up to two years after graduation. Other services provided are resume writing, interviewing techniques, job search assistance, and information regarding employment trends. The center also provides listings from summer camp programs locally and country wide.

Students who already have jobs may sign up for Cooperative Education, earning college credit while they work and providing an opportunity for skill development and career exploration. Office hours are Monday through Friday, 8:00a to 4:30p.

Library
The Library opened in a new facility in February 2007 and is located on University Avenue on the north side of campus. The library purchases materials and media and provides services in support of Merced College’s student learning outcomes and provides the following:
- Information and reference help for students and faculty;
- Information competency and library instruction;
- Print materials, media, and technology for students and faculty;
- Access to online and electronic resources;
- Spaces for reading, media viewing, studying, collaborative projects, and meetings

Current Merced College students, faculty, and staff have access to over 40,000 books and 200 print newspaper and periodical subscriptions in the library. In addition, they can use student information stations to access the electronic book collection, several online databases, and full text journal subscriptions through the Merced College Portal. The library also has an index to and extensive holdings of the New York Times on microfilm. A variety of other materials is available including pamphlets, CD, DVD, books on tape, and videos. There is technology available for students to listen to and view media in the library.

Faculty Librarians assist students and faculty with information and reference needs and provide class-based information literacy instruction and library orientations. Students are encouraged to approach reference librarians for assistance in locating information and materials. Interlibrary loan is available through the reference librarians.

Most library materials may be checked out. Students may borrow books and media for specified periods of time ranging from two weeks to overnight. Some reserve and media items are for in library use only.

Only current students, faculty, and staff of Merced College can check out materials, use reserve materials, or use computer stations.

Puente Project
Puente students...
- Succeed academically
- Are recognized as leaders and scholars
- Graduate from four-year colleges and universities
- Belong to a statewide network of leaders and professionals

Puente was founded in 1981 by Codirector Felix Galaviz and Patricia McGrath at Chabot College in Hayward. The program mission was to increase the number of Mexican American/Latino students transferring to four-year colleges and universities. Since then, Puente has expanded to 38 community colleges throughout the state. Puente is open to all students who wish to transfer to a 4-year university.

Many components work together to prepare Puente students to transfer to four-year colleges and universities:
English and Guidance Instruction: Puente students take two consecutive writing classes, ENGL-A/ENGL-AL and ENGL-01A and additional English/Education courses as scheduled by the project instructors. These classes provide a supportive and stimulating environment for Puente students to build confidence in their writing skills through an exploration of the Mexican American/ Latino experience. All Puente students are also required to enroll in the scheduled guidance course each semester.

Counseling: Puente students work closely with their Puente counselor until they graduate, exploring career options, developing an academic educational plan, and identifying lifetime goals. Students visit University of California, California State University and private college campuses and attend an annual Puente student transfer conference.

Mentors: Business or professional mentors share with students their personal, academic, and career experiences, and provide a window into “real-life” work environments. The network of trained Puente mentors provides many resources for the Puente students, their families, their colleges, and the community.

Call the Guidance Division at (209) 381-6456 for more information.

Servicemember’s Opportunity College

Merced College has been designated as an institutional member of the armed forces in developing an educational plan and providing opportunities for individuals to complete requirements at Merced College or at other cooperating educational institutions throughout the world. The Merced College Servicemember’s Opportunity Counselor assists servicemembers while they are attending Merced College, and continues to guide their educational planning in the event that a transfer to another institution is required.

This program’s services include counseling at the Merced College campus, and credit for education obtained through "non-traditional" modes such as military schools and credit by examination. Upon completion of the servicemember’s educational goal, Merced College will award an appropriate associate degree or certificate of achievement. Contact the Dean of Student Services for further information.

Student Health Services

All Currently enrolled Merced College students are eligible for Student Health Services. These services are coordinated through the Student Health Services Office located in the Student Union building. Services provided include:

- Health education for students regarding medical conditions, nutrition, family planning, adjustment problems, sexually-transmitted disease information, drug and alcohol recovery resources, and short term personal counseling.
- Assistance with locating various health care providers within the community.
- Skin testing for TB (tuberculosis).
- Over-the-counter medication samples.
- Secondary accident insurance coverage for all students while on campus or involved in College-sponsored activities off-campus. (An accident report must be completed.)
- First aid services.
- Pregnancy testing.
- Condoms.

For more information, call (209) 384-6045.

Veterans Services

Merced College welcomes veterans wishing to further their education and encourages them to seek assistance through the Merced College Veterans Desk located in the Admissions and Registration area on the second floor of the Lesher Student Services Center. Staff are available to provide the paperwork and information necessary to establish eligibility. Veterans are also supplied with information about other campus resources and local agencies services. Department of Veterans Affairs encourages all new and returning veterans to contact them directly at www.gibill.gov or (888) 442-4551 for questions about veteran’s benefits and payments.

Academic counselors specializing in Veterans services are available to provide educational and career planning. Counseling services are provided on the second floor of the Lesher Student Services Center, next to Admissions. Class registration information can be found in the “Schedule of Classes” booklet printed each semester or on the Merced College website http://www.mccd.edu/academics/resources/schedule.html.

Veterans with disabilities can receive assistance from the College’s Disabled Student Services program. Call (209) 384-6155 for more information about available services.

Personal Counseling is available through the Merced College Student Health Services Office. Call (209) 384-6045 for more information about personal counseling services.

Additional information may be found at http://www.mccd.edu/services/guidance/veterans.html or by calling (209) 384-6113.

CalWORKs Program

Education that WORKS!

California Work Opportunity and Responsibility to Kids (CalWORKs) is a state funded welfare-to-work program designed to help individuals on public assistance (TANF). TANF stands for Temporary Assistance for Needy Families, a cash aid program (welfare) for parents who meet income guidelines and have a child at home under the age of 18.

The CalWORKs program serves as a liaison between the student and the Human Services Agency (H.S.A.), The Department of Workforce Investment (DWI), and the Merced County Office of Education EMPower program by providing educational and career opportunities combined with an array of high-quality support services that enable students to complete their educational goals, find meaningful employment and successfully transition into the workforce.

The CalWORKs staff provides customized support services during the student's educational and employment journey toward self-sufficiency, as the primary goal. For more information: Merced College (209) 381-6515 or Los Baños Campus (209) 381-6428. We are on the web: www.mccd.edu/programs.
Catalog Rights
An undergraduate student remaining in attendance in regular sessions at any California community college, or any combination of California community colleges and campuses of the California State University may for purposes of meeting graduation requirements elect to meet the requirements in effect at the campus from which the student will graduate either

1. at the time the student began such attendance or
2. at the time of entrance to the campus, or
3. at the time of graduation.

Campus authorities may authorize or require substitutions for discontinued courses. A campus may require a student changing his or her major or any minor field of study to complete the major or minor requirements in effect at the time of the change.

For purposes of this section “attendance” means attendance in at least one semester or two quarters each calendar year. Absence due to an approved educational leave or for attendance at another accredited institution of higher learning shall not be considered an interruption in attendance, if the absence does not exceed two years.

Applying for Graduation
You must complete an application for graduation in order to be eligible for graduation in your major or to receive a Certificate of Achievement in your area of study. Graduation applications are available through the Guidance Division at the beginning of the third week of each regular semester for an eight-week period. You may apply for graduation one semester before you intend to complete your requirements.

When your application is received, your transcript record will be evaluated and you will be notified of your eligibility or of any deficiencies that would prevent the successful completion of your degree requirements at Merced College.

Superintendent’s Honors
If you are a graduating student, have completed at least 36 units at Merced College, and have maintained a GPA of 4.0 in courses at Merced College and in all course work attempted at any other colleges, you will receive recognition from the Superintendent. Your work in progress from the spring semester will not be used in this computation; the computation will be based on completed grades recorded on your official Merced College transcript.

The GPA calculated for the purposes of Superintendent’s honors and graduation with honors excludes physical education activity courses, more than eight units in Cooperative Education, all remedial-level courses, and “P/NP” grades in any courses.

Graduation Requirements
Requirements for graduation with an Associate in Arts or an Associate in Science degree are prescribed by the Board of Governors of the California Community Colleges and the Board of Trustees of the Merced Community College District. These are as follows:

- You must complete at least 60 degree-applicable units.
- Effective for all students admitted to a community college in Fall 2009 and thereafter, all courses that count toward the associate degree major or area of emphasis must be “satisfactorily completed” with grades of A, B, C or P (pass). All degree requirements, including general education, must be completed with an overall grade point average of 2.0 or better.
- You must complete at least 12 units at Merced College.
- You must complete associate breadth requirements consisting of 23-27 units.
- You must complete the major requirements for either an Associate in Arts or Science degree (see below and listings under “Programs, Associate Degree, Certificate, and Transfer”). Courses taken to satisfy either the associate breadth requirement or the associate major requirement may be double-counted.
- You may choose electives from the courses numbered 1-79 and the independent letters A, B, C, etc.
- The Associate in Science degree is awarded for completing 30 or more units in engineering, math, science, or technical programs. The Associate in Arts degree is awarded for all other majors (the major must contain a minimum of 18 units).
- Meet competencies as described in the following section.

Note: You may be awarded more than one associate degree if you complete all applicable requirements; however, you must meet the requirements in effect at the time the new degree is declared.

Graduation with Honors
If you are a graduating student, have completed at least 45 units at Merced College, and have maintained a GPA of 3.5 in courses at Merced College* and in all course work attempted at any other colleges, you will be graduated with honors. Your work in progress from the spring semester will not be used in this computation; the computation will be based on completed grades recorded on your official Merced College transcript.
Competency Requirements
You must achieve competency in the areas of reading, writing, mathematics, and computer and information literacy through the following:

Reading Competency
You must receive a grade of “C” or better in ENGL-01A or the equivalent.

Writing Competency
You must receive a grade of “C” or better in ENGL-01A, or the equivalent.

Math Competency
You must receive a grade of “C” or better in MATH-C or MATH-D or MATH-E or a grade of “C” or better in any course which has the prerequisite of Math C, or the equivalent.

Computer and Information Literacy
Merced College instituted a competency in Computer and Information Literacy in fall 2000. To meet the competency required in Computer and Information Literacy, you must receive a grade of “C” or better in courses which meet each of the competency requirements A through G listed below.

A. Name and describe the typical digital computer components and their functions;
B. Describe common computer applications and related social and ethical problems/impact;
C. Learn fundamental operation and concepts of word processing, spreadsheet, and/or database software applications;
D. Understand the difference between information and knowledge;
E. Understand the links among information centers and the access points available through technology and reference sources;
F. Understand the basic structure of electronic databases and the strategies used to access them;
G. Recognize the different levels, types, and formats of information including but not limited to primary vs. secondary, and popular vs. scholarly.

The courses and programs listed in the following grid show the areas of competency they covered in a given catalog year. The catalog year in which the course or program is completed determines if a particular competency is met. Competencies met by a specific course or program may change on a yearly basis.

Students should check their completed course work against the competency grid and consult a counselor to identify any specific competency still required.

Computer and Information Literacy competencies catalog rights are determined by the grid listed in the current catalog. Courses are determined to meet the competencies based upon the catalog year in which the student completes the target course, not upon the catalog when the student began attending Merced College.
# COMPUTER AND INFORMATION LITERACY

Following are the areas of Computer and Information Literacy that various Merced College courses fulfil.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>LVN Program</td>
<td>A B C D E F G</td>
<td>A B C D E F G</td>
<td>A B C D E F G</td>
<td>A B C D E F G</td>
<td>A B C D E F G</td>
</tr>
<tr>
<td>REGN Program</td>
<td>A B C D E F G</td>
<td>A B C D E F G</td>
<td>A B C D E F G</td>
<td>A B C D E F G</td>
<td>A B C D E F G</td>
</tr>
<tr>
<td>RADC Program</td>
<td>A B C D E F G</td>
<td>A B C D E F G</td>
<td>A B C D E F G</td>
<td>A B C D E F G</td>
<td>A B C D E F G</td>
</tr>
<tr>
<td>AGBS-18</td>
<td>A B C D E F G</td>
<td>A B C D E F G</td>
<td>A B C D E F G</td>
<td>A B C D E F G</td>
<td>A B C D E F G</td>
</tr>
<tr>
<td>CPSC-01</td>
<td>A B C D E F G</td>
<td>A B C D E F G</td>
<td>A B C D E F G</td>
<td>A B C D E F G</td>
<td>A B C D E F G</td>
</tr>
<tr>
<td>CPSC-24</td>
<td>A B C D E F G</td>
<td>A B C D E F G</td>
<td>A B C D E F G</td>
<td>A B C D E F G</td>
<td>A B C D E F G</td>
</tr>
<tr>
<td>CPSC-30</td>
<td>A B C D E F G</td>
<td>A B C D E F G</td>
<td>A B C D E F G</td>
<td>A B C D E F G</td>
<td>A B C D E F G</td>
</tr>
<tr>
<td>INDT-38</td>
<td>A B C D E F G</td>
<td>A B C D E F G</td>
<td>A B C D E F G</td>
<td>A B C D E F G</td>
<td>A B C D E F G</td>
</tr>
<tr>
<td>LRNR-30</td>
<td>A B C D E F G</td>
<td>A B C D E F G</td>
<td>A B C D E F G</td>
<td>A B C D E F G</td>
<td>A B C D E F G</td>
</tr>
<tr>
<td>OTHER COURSES</td>
<td>A B C D E F G</td>
<td>A B C D E F G</td>
<td>A B C D E F G</td>
<td>A B C D E F G</td>
<td>A B C D E F G</td>
</tr>
<tr>
<td>ART-40A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>BIOL-31</td>
<td>C</td>
<td>F</td>
<td>C</td>
<td>C</td>
<td>F</td>
</tr>
<tr>
<td>COMM-30</td>
<td>D</td>
<td>G</td>
<td>D</td>
<td>D</td>
<td>D</td>
</tr>
<tr>
<td>CPSC-02</td>
<td>B</td>
<td>C</td>
<td>B</td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td>CPSC-31</td>
<td>A B C D</td>
<td>A B C D</td>
<td>A B C D</td>
<td>A B C D</td>
<td>A B C D</td>
</tr>
<tr>
<td>CPSC-31A</td>
<td>A B C D</td>
<td>A B C D</td>
<td>A B C D</td>
<td>A B C D</td>
<td>A B C D</td>
</tr>
<tr>
<td>CPSC-32</td>
<td>B C</td>
<td>B C</td>
<td>B C</td>
<td>B C</td>
<td>B C</td>
</tr>
<tr>
<td>CPSC-32A</td>
<td>B C</td>
<td>B C</td>
<td>B C</td>
<td>B C</td>
<td>B C</td>
</tr>
<tr>
<td>CPSC-33</td>
<td>B C D E F</td>
<td>B C D E F</td>
<td>B C D E F</td>
<td>B C D E F</td>
<td>B C D E F</td>
</tr>
<tr>
<td>CPSC-33A</td>
<td>B C D E F</td>
<td>B C D E F</td>
<td>B C D E F</td>
<td>B C D E F</td>
<td>B C D E F</td>
</tr>
<tr>
<td>CPSC-40C,40D</td>
<td>C E F</td>
<td>C E F</td>
<td>C E F</td>
<td>C E F</td>
<td>C E F</td>
</tr>
<tr>
<td>CRIM-37</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
</tr>
<tr>
<td>CRIM-42A BCD</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
</tr>
<tr>
<td>ELCT-40C, 40D</td>
<td>C E F</td>
<td>C E F</td>
<td>C E F</td>
<td>C E F</td>
<td>C E F</td>
</tr>
<tr>
<td>ELCT-51B</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>ENGL-A</td>
<td>G</td>
<td>G</td>
<td>G</td>
<td>G</td>
<td>G</td>
</tr>
<tr>
<td>ENGL-01A</td>
<td>G</td>
<td>G</td>
<td>G</td>
<td>G</td>
<td>G</td>
</tr>
<tr>
<td>ENGL-13, 13H</td>
<td>G</td>
<td>G</td>
<td>G</td>
<td>G</td>
<td>G</td>
</tr>
<tr>
<td>INDT-20</td>
<td>A B</td>
<td>A B</td>
<td>A B</td>
<td>A B</td>
<td>A B</td>
</tr>
<tr>
<td>INDT-38</td>
<td>A B C D E F</td>
<td>A B C D E F</td>
<td>A B C D E F</td>
<td>A B C D E F</td>
<td>A B C D E F</td>
</tr>
<tr>
<td>PLGL-51</td>
<td>G</td>
<td>G</td>
<td>G</td>
<td>G</td>
<td>G</td>
</tr>
<tr>
<td>PHIL-10</td>
<td>G</td>
<td>G</td>
<td>G</td>
<td>G</td>
<td>G</td>
</tr>
<tr>
<td>PHIL-13, 13H</td>
<td>G</td>
<td>G</td>
<td>G</td>
<td>G</td>
<td>G</td>
</tr>
<tr>
<td>Most SONO COURSES</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td>Sono-41</td>
<td>A B C D E F</td>
<td>A B C D E F</td>
<td>A B C D E F</td>
<td>A B C D E F</td>
<td>A B C D E F</td>
</tr>
</tbody>
</table>
### ASSOCIATE DEGREE MAJORS AND CERTIFICATE PROGRAMS

**Associate Degrees:**
Since learning is a continual process of self-discovery, you are encouraged to keep an open mind about your potential and options. California Community Colleges have unique relationships with the UC and California State University systems, so you can move easily from a two-year to a four-year college. With proper planning, you can earn an associate degree while fulfilling the lower division requirements of a four-year school. As you choose courses at Merced College, you are encouraged to keep your options open for transfer.

**Certificates of Achievement:**
If you are interested in taking only the occupational major area classes, you will be eligible to receive a Certificate of Achievement from Merced College upon the successful completion of the final occupational major area course. A grade point of at least 2.0 or better is required in the area of concentration, and a minimum of 12 units must be taken at Merced College. Merced College awards Associate Degrees or Certificates in the following areas:

<table>
<thead>
<tr>
<th>Program</th>
<th>Code</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business</td>
<td>05100.AA</td>
<td>Business Administration (AA)</td>
</tr>
<tr>
<td></td>
<td>05150.AA</td>
<td>General Business (AA)</td>
</tr>
<tr>
<td></td>
<td>05150.CT</td>
<td>General Business (CT)</td>
</tr>
<tr>
<td></td>
<td>19100.AS</td>
<td>Chemistry (AS)</td>
</tr>
<tr>
<td></td>
<td>19150.AS</td>
<td>Chemistry, Pre-Professional (AS)</td>
</tr>
<tr>
<td>Child Development</td>
<td>13010.AA</td>
<td>Child Development (AA)</td>
</tr>
<tr>
<td></td>
<td>13015.CT</td>
<td>Child Development: Early Intervention Assistant Specialization (CT)</td>
</tr>
<tr>
<td></td>
<td>13020.CT</td>
<td>Child Development: Families In Crisis Specialization (CT)</td>
</tr>
<tr>
<td></td>
<td>13025.CT</td>
<td>Child Development: Infant/Toddler Care Specialization (CT)</td>
</tr>
<tr>
<td></td>
<td>13030.CT</td>
<td>Child Development: School Age Care Specialization (CT)</td>
</tr>
<tr>
<td>Computer Studies</td>
<td>07200.AS</td>
<td>Computer Science (AS)</td>
</tr>
<tr>
<td></td>
<td>07300.AS</td>
<td>Management Information Systems (AS)</td>
</tr>
<tr>
<td></td>
<td>21100.AA</td>
<td>Corrections (AA)</td>
</tr>
<tr>
<td></td>
<td>21100.CT</td>
<td>Corrections (CT)</td>
</tr>
<tr>
<td></td>
<td>21150.AA</td>
<td>Criminal Justice (AA)</td>
</tr>
<tr>
<td></td>
<td>21150.CT</td>
<td>Criminal Justice (CT)</td>
</tr>
<tr>
<td></td>
<td>01150.AA</td>
<td>Crop Science (AA)</td>
</tr>
<tr>
<td></td>
<td>01150.AS</td>
<td>Crop Science (AS)</td>
</tr>
<tr>
<td></td>
<td>01150.CT</td>
<td>Crop Science (CT)</td>
</tr>
<tr>
<td></td>
<td>49100.CT</td>
<td>CSU General Education Breadth (CT)</td>
</tr>
<tr>
<td></td>
<td>01200.AA</td>
<td>Diesel Equipment Technology (AA)</td>
</tr>
<tr>
<td></td>
<td>01200.AS</td>
<td>Diesel Equipment Technology (AS)</td>
</tr>
<tr>
<td></td>
<td>01200.CT</td>
<td>Diesel Equipment Technology (CT)</td>
</tr>
<tr>
<td>Drafting Technology</td>
<td>09101.AA</td>
<td>Computer Aided Drafting – Architectural Level II Option (AA)</td>
</tr>
<tr>
<td></td>
<td>09102.AA</td>
<td>Computer Aided Drafting - Mechanical Level II Option (AA)</td>
</tr>
<tr>
<td></td>
<td>09101.CL</td>
<td>Computer-Aided Drafting – Architectural Level II (CL)</td>
</tr>
<tr>
<td></td>
<td>09103.CL</td>
<td>Computer-Aided Drafting - Mechanical Level I (CL)</td>
</tr>
<tr>
<td></td>
<td>09102.CL</td>
<td>Computer-Aided Drafting - Mechanical Level II (CL)</td>
</tr>
<tr>
<td>Automotive Technology</td>
<td>09000.AA</td>
<td>Automotive Technology (AA)</td>
</tr>
<tr>
<td></td>
<td>09750.AA</td>
<td>Toyota-approved Auto Technology (AA)</td>
</tr>
<tr>
<td></td>
<td>09001.CL</td>
<td>Body and Fender (CL)</td>
</tr>
<tr>
<td></td>
<td>09002.CL</td>
<td>Engine Performance (CL)</td>
</tr>
<tr>
<td></td>
<td>09004.CL</td>
<td>Suspension and Brakes (CL)</td>
</tr>
<tr>
<td></td>
<td>09006.CL</td>
<td>Transmissions (CL)</td>
</tr>
<tr>
<td></td>
<td>09005.CL</td>
<td>Toyota-approved Auto Technology (CT)</td>
</tr>
<tr>
<td></td>
<td>04100.AS</td>
<td>Biological Science (AS)</td>
</tr>
<tr>
<td></td>
<td>04130.AS</td>
<td>Biotechnology (AS)</td>
</tr>
<tr>
<td></td>
<td>04130.CL</td>
<td>Biotechnology (CL)</td>
</tr>
</tbody>
</table>

**Notes:**
- AA = Associate in Arts (A.A.) degree
- AS = Associate in Science (A.S.) degree
- CE = Certificate requiring 6 to fewer than 18 semester units (Not approved by Chancellor’s Office)
- CB = Certificate requiring 12 to fewer than 18 semester units (Approved by Chancellor’s Office)
- CL = Certificate requiring 18 to fewer than 30 semester units
- CT = Certificate requiring 30 to fewer than 60 semester units
- CF = Certificate requiring 60 or more semester units
- CO = Other credit Award, under 6 semester units
Electronics/Electrical and Computer Technologies
09040.AA Computer & Networking Technology (AA)
09200.AA Electrical Technology (AA)
09250.AA Electronics Technician (AA)
09500.AA Industrial Electronics Technology (AA)
09650.AA Instrumentation and Process Control Technology (AA)
09040.CT Computer & Networking Technology (CT)
09200.CT Electrical Technology (CT)
09250.CT Electronics Technician (CT)
09500.CT Industrial Electronics Technology (CT)
09650.CT Instrumentation and Process Control Technology (CT)
09300.AA Engineering (AA)
09300.AS Engineering (AS)
09350.AS Engineering Technology (AS)
15200.AA English (AA)
03301.AS Environmental Technologies (AS)
03301.CT Environmental Technologies (CT)
21400.AA Fire Technology (AA)
21400.CT Fire Technology (CT)
Foods and Nutrition
13160.AA Foods and Nutrition (AA)
13160.CL Foods and Nutrition (CL)
11200.AA French (AA)
19400.AS Geology (AS)
11400.AA German (AA)
12300.AA Health Sciences (AA)
Heating, Ventilation, Air Conditioning, and Refrigeration Technology
09401.AA Commercial Refrigeration Technician (AA)
09400.AA HVAC Technician (AA)
09401.CT Commercial Refrigeration Technician (CT)
09400.CT HVAC Technician (CT)
22300.AA History (AA)
01250.AA Horse Management (AA)
01250.AS Horse Management (AS)
01250.CT Horse Management (CT)
21500.AA Human Services (AA)
21500.CT Human Services (CT)
49300.AA Humanities (AA)
49200.CT IGETC (CT)
09550.AA Industrial Maintenance Technology (AA)
09550.CT Industrial Maintenance Technology (CT)
22700.AA International Studies (AA)
06500.AA Journalism (AA)
09700.AS Laboratory Technology (AS)
01350.AA Landscape Horticulture (AA)
01350.AS Landscape Horticulture (AS)
01350.CT Landscape Horticulture (CT)
49501.AA Liberal Studies (Teaching Preparation) (AA)
04300.AA Life Science (AA)
Management
05450.AA Management/Supervisory Training (AA)
05400.AA Small Business Management (AA)
05450.CT Management/Supervisory Training (CT)
05400.CT Small Business Management (CT)
17400.AA Mathematics (AA)
Mechanized Agriculture
01450.AA Mechanized Agricultural Technology/Heavy Equipment Mechanics (AA)
01450.AS Mechanized Agriculture Technology/Heavy Equipment Mechanics (AS)
01450.CT Mechanized Agriculture Technology/Heavy Equipment Mechanics (CT)
01453.CL Compact Power Equipment (CL)
05350.AA Merchandising Management (AA)
05350.CT Merchandising Management (CT)
10410.AA Music: Guitar (AA)
10420.AA Music: Instrumental (AA)
10430.AA Music: Music History (AA)
10440.AA Music: Piano (AA)
10450.AA Music: Vocal (AA)
49820.AA Natural Sciences (AA)
12500.AS Nursing, Registered (AS)
12550.AA Nursing, Vocational (AA)
12550.CT Nursing, Vocational (CT)
15400.AA Philosophy (AA)
10500.AA Photography (AA)
10500.CL Photography (CL)
08500.AA Physical Education (AA)
19600.AA Physical Science (AA)
19700.AS Physics (AS)
20500.AA Psychology (AA)
Radiologic Technology
12700.AS Diagnostic Radiologic Technology (AS)
12700.CF Diagnostic Radiologic Technology (CF)
05600.AA Real Estate (AA)
05600.CL Real Estate (CL)
22600.AA Social and Behavioral Sciences (AA)
Sonography
12800.CT Diagnostic Medical Sonography (CT)
12801.CT Diagnostic Medical Sonography: Cardiac Track (CT)

11600.AA Spanish (AA)
10700.AA Visual Arts (AA)
09800.AA Welding Technology (AA)
09800.CL Welding Technology (CL)

Continuing Education (Noncredit)
49165.NC Basic Skills
21078.NC Court Interpreter
49194.NC ESL
10100.NC Medical Assistant
07744.NC Technical Office Occupations

Certificates Not Transcripted
05200.CO Customer Service Academy Certificate (CO)
13180.CE Dietetic Services Supervisor (CE)
12100.CO Emergency Medical Technician (CO)
13200.CO Foster Care Education Certificate of Specialization (CO)
01302.CO Horseshoeing - Advanced Certificate (CO)
01301.CO Horseshoeing - Beginning Certificate (CO)
12150.CO Nursing Assistant (CO)
Breadth requirements are designed to introduce students to the variety of means through which people comprehend the modern world. Those who receive associate degrees must possess in common certain basic principles, concepts and methodologies unique to and shared by the various fields of study. College-educated persons must be able to use this knowledge when evaluating and appreciating the physical environment, the culture, and the society in which they live. Most importantly, this education should lead to a better self understanding.

A student may use the same course to fulfill an AA/AS major requirement and associate degree breadth requirement.

To complete the associate breadth requirement, students must select courses that fulfill the unit requirements of the following areas:

### Area A - Language and Rationality

Courses in language and rationality are those which develop for the student the principles and applications of language toward logical thought, clear and precise expression and critical evaluation of communication in whatever symbol system the student uses. (Select one course from each area.)

(A1) English Composition .............................................. (3 units)
ENGL-01A

(A2) Communication and Analytical Thinking .................. (3 units)
ACTG-04A
COMM-01, 01H, 02, 04, 05, 30
ENGL-13, 13H
MATH-C, D, E, 02, 04A, 04B, 04C, 05A, 05B, 06, 08, 10, 15, 17,
20A, 20B, 21, 25, 26
PHIL-10, 12, 13, 13H
PSYC-05

### Area B - Natural Sciences

Courses in the natural sciences are those which examine the physical universe, its life forms, and its natural phenomena. (For an A.A. degree, select one course from either area B1 or B2; for an A.S. Degree, select one course from each area.)

(B1) Physical Science .................................................... (3 units)
ARCH-01
ASTR-01, 01L
CHEM-02A, 02B, 04A, 04B
ELCT-30
GEOG-01
GEOL-01
PHSC-01, 01L
PHYS-02A, 04A, 10
SOIL-10

(B2) Life Science .......................................................... (3 units)
ANSC-10
ANTH-01
BIOL-01, 02, 06, 08, 09, 12, 13, 16, 18, 20, 25
ENTC-30
PLSC-10

### Area C – Humanities

Courses in the humanities are those which concentrate on the study of cultural activities and artistic expressions of human beings.

ART-01, 02, 06, 12A, 15, 24A
DRAM-01, 02, 02L, 03, 04, 04L
ENGL-01B, 03, 04A, 04B, 05, 06A, 06B, 07, 08, 10, 11, 14, 18
FREN-01, 02, 03, 04
GERM-01, 02, 03, 04
HMNG-01, 02
HUM-01, 01H, 02, 02H, 15*, 18, 21
JPNS-01A, 01B, 02
MUS-01, 11, 12, 13, 14
PHIL-01, 01H, 03, 04, 05, 15
SPAN-01, 02, 03, 04, 10, 11

### Area D - Social and Behavioral Sciences

Courses in the social and behavioral sciences are those which focus on people as members of society. (Select one course from area D1 and one course from area D2.)

(D1) .............................................................................. (3 units)
Includes introductory or integrative survey courses in cultural anthropology, cultural geography, economics, psychology, sociology and related disciplines.

AGBS-11
AGRI-10
ANTH-02, 10*
CRIM-01
ECON-01A, 01B
GEOG-02
PSYC-01A, 01AH, 15, 20, 25, 51
SOC-01, 02

(D2) .............................................................................. (3 units)
Includes introductory or integrative survey courses in history and political science.

22*, 23, 24*, 29, 39ABC (as a unit),
POSC-01, 02
SCSC-01

### Area E - Lifelong Understanding and Self-Development

Courses in lifelong understanding and self-development are those which equip human beings for lifelong learning by providing them with the skills necessary to function as independent adults in contemporary society and foster an understanding of themselves as integrated physiological and psychological entities. (Select one course from each area.)

(E1) Integrated Organism .............................................. (3 units)
AUTO-04
BUS-34, 35
CLDV-02, 09
CPSC-01
GUID-30, 48, 52
HLTH-10, 16
LAND-11
NUTR-10
PSYC-09, 22, 23, 35, 36

(E2) Activity ................................................................. (2 units)
DNCE-14
PHED-01, 02, 03, 10, 11, 12, 13, 14, 15

*Designates ethnic studies courses which expose students to, develop an understanding of, and examine cultures that are different from the dominant culture of the United States. In addition, these courses teach an appreciation and knowledge of ethnic contributions to the society of the United States.
AP Credit for Merced College Associate Degree Breadth

You will be granted three to six units of credit if you complete the Advanced Placement (AP) examination with a score of 3, 4, or 5, depending upon the specific exam listed below. Not all AP exams are identified for credit. You will not receive a letter grade.

AP credit can not be counted toward the degree major. AP credit can be counted toward the associate degree general education requirements.

AP Credit for CSU GE

For the fall 1997 term and beyond, all institutions participating in the CSU General Education-Breadth certification may treat the AP examinations listed below as though they were incorporated in the institutions’ own General Education-Breadth certification list.

- Students must have scored 3, 4, or 5 on the AP examination to receive the credit indicated. All CSU campuses will accept the minimum units shown below toward fulfillment of the designated General Education–Breadth area if the examination is included in a full or subject-area certification.
- Individual CSU campuses may choose to accept more units than those specified below towards completion of General Education-Breadth requirements. The CSU campus to which the student is transferring determines the total number of units awarded for successful completion of an AP examination and the applicability of the examination to other graduation requirements.
- Not all AP examinations are approved systemwide for fulfillment of General Education-Breadth requirements, nor can all General Education-Breadth areas be completed by AP examination. No AP examination is accepted for fulfillment of the Area A3 (critical thinking) requirement.

AP Credit for IGETC (UC Campuses only)

A score of 3, 4, or 5 is required to grant credit for IGETC certification. An acceptable score for IGETC equates to either 3-semester or 4-quarter units for certification purposes. Each AP exam listed below may be applied to one IGETC area as satisfying one course requirement, with the exception of Language other Than English (LOTE). Students who have earned credit from an AP exam should not take a comparable college course because transfer credit will not be granted for both. If two areas are identified for an AP exam, either area may be used to regardless of where the certifying CCC’s discipline is located.

- Students earning scores of 3, 4, or 5 in the physical and biological science AP examinations earn credit toward IGETC Area 5 and meet the IGETC laboratory activity requirement. AP exams in Biology, Chemistry or Physics B allow CCC campuses to apply 4 semester or 5 quarter units to IGETC certification. For Environmental Science, Physics C: Mechanics and Physics C: Electricity/Magnetism, 3 semester or 4 quarter units are applied for IGETC certification. Therefore, students who complete these exams will be required to complete at least 4 semester or 5 quarter units to satisfy the minimum required units for Area 5.
- There is no equivalent AP exam for Area 1B- Critical Thinking/Composition requirement and Area 1C – Oral Communication (CSU requirement only).
- Actual AP transfer credit awarded for admission, major or baccalaureate degree requirements is determined by the individual CSU and UC campus. Students should check with the transfer campus of their choice for its policies on awarding unit credit for AP exams.
<table>
<thead>
<tr>
<th>ENGLISH</th>
<th>CSU-GE Area(s) &amp; Unit Credit</th>
<th>IGETC Area(s) &amp; Unit Credit (UC Only)</th>
<th>MC Associate Degree Breadth Area(s) &amp; Unit Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Language &amp; Composition</td>
<td>A2 (3)</td>
<td>1A (3)</td>
<td>A2 (3)</td>
</tr>
<tr>
<td>Literature &amp; Composition</td>
<td>A2 (3) + C2 (3)</td>
<td>1A (3) or 3B (3)</td>
<td>A2 (3) + C2 (3)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FOREIGN LANGUAGE</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>French Language</td>
<td>C2 (6)</td>
<td>3B (3) &amp; 6A</td>
<td>C (6)</td>
</tr>
<tr>
<td>French Literature</td>
<td>C2 (6)</td>
<td>3B (3) &amp; 6A</td>
<td>C (6)</td>
</tr>
<tr>
<td>German Language</td>
<td>C2 (6)</td>
<td>3B (3) &amp; 6A</td>
<td>C (6)</td>
</tr>
<tr>
<td>Spanish Language</td>
<td>C2 (6)</td>
<td>3B (3) &amp; 6A</td>
<td>C (6)</td>
</tr>
<tr>
<td>Spanish Literature</td>
<td>C2 (6)</td>
<td>3B (3) &amp; 6A</td>
<td>C (6)</td>
</tr>
<tr>
<td>Chinese Language &amp; Culture</td>
<td>3B (3) &amp; 6A</td>
<td></td>
<td>C (6)</td>
</tr>
<tr>
<td>Italian Language &amp; Culture</td>
<td>3B (3) &amp; 6A</td>
<td></td>
<td>C (6)</td>
</tr>
<tr>
<td>Japanese Language &amp; Culture</td>
<td>3B (3) &amp; 6A</td>
<td></td>
<td>C (6)</td>
</tr>
<tr>
<td>Latin Literature</td>
<td>C2 (3)</td>
<td>3B (3) &amp; 6A</td>
<td>C2 (3)</td>
</tr>
<tr>
<td>Latin: Vergil</td>
<td>C2 (3)</td>
<td>3B (3) &amp; 6A</td>
<td>C2 (3)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ARTS &amp; HUMANITIES</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Art History</td>
<td>C1 (3)</td>
<td>3A (3) or 3B (3)</td>
<td>C (3)</td>
</tr>
<tr>
<td>Music Theory</td>
<td>C1 (3)</td>
<td>3A (3)</td>
<td>C (3)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MATH</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Calculus AB</td>
<td>B4 (3)</td>
<td>2A (3)</td>
<td>A2 (3)</td>
</tr>
<tr>
<td>Calculus BC</td>
<td>B4 (3)</td>
<td>2A (3)</td>
<td>A2 (3)</td>
</tr>
<tr>
<td>Statistics</td>
<td>B4 (3)</td>
<td>2A (3)</td>
<td>A2 (3)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NATURAL SCIENCE</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology</td>
<td>B2 (3)</td>
<td>5B with lab (4)</td>
<td>B2 (3)</td>
</tr>
<tr>
<td>Chemistry</td>
<td>B1 (6)</td>
<td>5A with lab (4)</td>
<td>B1 (6)</td>
</tr>
<tr>
<td>Environmental Science</td>
<td>5A (3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physics B</td>
<td>B1 (6)</td>
<td>5A with lab (4)</td>
<td>B1 (6)</td>
</tr>
<tr>
<td>Physics C: Electrical &amp; Magnetism</td>
<td>B1 (3)</td>
<td>5A (3)</td>
<td>B1 (3)</td>
</tr>
<tr>
<td>Physics C: Mechanics</td>
<td>B1 (3)</td>
<td>5A (3)</td>
<td>B1 (3)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>BUSINESS, BEHAVIORAL &amp; SOCIAL SCIENCES</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Human Geography</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Government &amp; Politics (Comparative)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Government &amp; Politics (US)*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>US History*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>European History</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Macroeconomics</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Microeconomics</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychology</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>World History</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Does not fulfill the California State and Local Government content for the CSU American Institutions requirement.
General Information
Merced College provides the first two years of a four-year college or university program. The requirements for transfer vary considerably among the four-year institutions in California. As a result, entering students are encouraged to meet with a counselor at the College as soon as possible to plan his/her course of study.

The four-year institutions in California fall generally into three categories:

1. The California State University System (CSU): CSU Bakersfield, CSU Channel Islands, CSU Chico, CSU Dominguez Hills, CSU Fresno, CSU Fullerton, CSU East Bay, Humboldt State University, CSU Long Beach, CSU Los Angeles, CSU Maritime Academy, CSU Monterey Bay, CSU Northridge, California State Polytechnic University, Pomona, CSU Sacramento, CSU San Bernardino, CSU San Marcos, San Diego State University, San Francisco State University, San Jose State University, California Polytechnic State University, San Luis Obispo, Sonoma State University, and CSU Stanislaus. Each CSU campus accepts certification of breadth requirements completed at Merced College.

2. The University of California (UC): UC Berkeley, UC Davis, UC Irvine, UC Los Angeles, UC Merced, UC Riverside, UC San Diego, UC Santa Cruz. UC campuses support a "transfer core curriculum"; however, each UC campus may list particular breadth and major requirements.

3. The Independent or Private Colleges and Universities: Some examples of the over 100 in California include Brandman University, Stanford University, University of the Pacific, Fresno Pacific, and the University of Southern California. Each private college or university has its own unique requirements.

California State University (CSU)
Basic Information
Merced College courses numbered 1 - 49 have been designated baccalaureate level courses transferable to the CSU system. These courses will be accepted by any campus of the California State University system for credit toward its baccalaureate degrees.

In preparing for transfer to a CSU campus, you should follow two concurrent pathways to complete required course work:

1. the CSU General Education Breadth courses listed on the following page; and
2. articulated lower division major preparation courses as designated by the particular CSU campus to which you plan to transfer. A Merced College counselor can assist you with course selection.

CSU Transfer Admission Requirements
You can qualify for admission to the CSU system as a transfer student if you have a grade point average of 2.0 ("C") or better in all transferable units attempted, are in good standing at the last college or university attended, and meet one of the following standards:

- you were eligible as a freshman except for the college preparatory subjects in English and mathematics and have satisfied the subject deficiencies, or you were not eligible as a freshman and have completed at least 60 transferable semester units and have satisfied any deficiencies in college preparatory English and mathematics. If you are a non-resident, you must have a 2.4 grade point average or better.

CSU Transfer Breadth Curriculum
Merced College will certify completion of the General Education Breadth requirements in part, or in their entirety, if you are transferring to one of the 23 campuses of the California State University System.

Merced College will give full certification upon the satisfactory completion of 39 designated units. In addition, a minimum of nine upper division units must be taken as designated by the state university conferring the B.A./B.S. Degree. If the CSU campus requires more than 48 General Education/Breadth units, you will take the additional units after transfer.

To complete the CSU transfer breadth requirements, you must select courses that fulfill the unit requirements of specific areas. (Courses listed in these areas may change, depending upon CSU Chancellor’s Office approval.) The CSU transfer breadth requirements appear on the following page.

University of California System (UC)
The ten University of California campuses welcome community college transfer students. UC campuses support a “transfer core curriculum”; however, each of the ten campuses and the individual majors has unique requirements. Students planning to transfer to a UC campus should see a Merced College counselor as soon as possible in order to plan an appropriate program of study and work closely with the UC representative in the Career/Transfer Center.

Private Colleges and Universities
There are approximately 112 independent or private schools in the State of California not supported by state tax revenues. They vary greatly in programs offered, size, and number of transfer students. Each school acts autonomously, evaluating course work on an individual basis. To obtain specific transfer information, contact the admissions office at the school to which you wish to transfer. A Merced College counselor can help you plan your transfer program.
AREA A: English Language Communication and Critical Thinking
A minimum of 9 semester or 12-15 quarter units are required with one course from each of the following three areas:

A1 Oral Communication
COMM-01*, 01H*, 04, 05

A2 Written Communication
ENGL-01A

A3 Critical Thinking
ENGL/PHIL-13*, ENGL/PHIL-13H*, PHIL-10, 12, PHIL/ENGL-13*, PHIL/ENGL-13H*

AREA B: Scientific Inquiry and Quantitative Reasoning
A minimum of 9 semester or 12-15 quarter units are required with one course each from areas B1, B2, and B4. At least one of the courses must be a lab course from either area B1 or B2. (Lab courses are underlined):

B1 Physical Science
ARCH-01
ASTR-01, 01L
CHEM-02A, 02B, 04A, 04B
GEOG-01, 01L
GEOL-01, 2
PHSC-01, 01L
PHYS-02A, 02B, 04A, 04B, 04C, 10
SOIL-10

B2 Life Science
ANTH-01
BIOL-01*, 04*, 04H*, 06, 08, 09, 12, 13, 16, 18, 20, 25
PLSC-10

B3 Laboratory Activity
A minimum of one lab course (underlined) from area B1 or B2

B4 Mathematics/Quantitative Reasoning
MATH-02*, 04A, 04B, 04C, 05A, 05B, 06, 08, 10, 15, 17, 20A, 20B, 21, 25, 26*
PSYC-05

AREA C: Arts and Humanities
A minimum of 9 semester or 12-15 quarter units are required with at least one course from each area:

C1 Arts (Art, Dance, Music, Theater)
ART-01, 02, 06, 12A, 15, 24A
DRAM-01, DRAM/ENGL-03*
ENGL/DRAM-03*, ENGL-14
MUS-01, 11, 12, 13, 14

C2 Humanities (Literature, Philosophy, and Foreign Language)
DRAM-01
ENGL-01B, 04A, 04B, 05, 06A, 06B, 07, 10, 11
ENGL/HUM-18*
FREN-01, 02, 03, 04+
GERM-01, 02, 03, 04+
HIST-04A, 04B, 08A, 08B, 09A, 09B, HIST-17A*, HIST-17AH*, HIST-17BH*, HIST-17BH*
HMNG-01, 02
HUM-01*, 01H*, 02*, 02H*, 15, 21, HUM/ENGL-18*
JPNS-01A, 01B, 02
PHIL-01*, 01H*, 03, 04, 05, 15
SPAN-01*, 02*, 03, 04+, 10*, 11*

AREA D: Social Sciences
A minimum of 9 semester or 12-15 quarter units are required from at least three disciplines:

D0 Sociology and Criminology
CRIM-01
SOC-01

D1 Anthropology and Archaeology
ANTH-02, 10

D2 Economics
AGBS-11
ECON-01A, 01B

D3 Ethnic Studies
HIST-08A, 21, 22, 23, 24
HUM-15

D5 Geography
GEOG-02

D6 History
HIST-04A, 04B, 08A, 08B, 17A*, 17AH*, 17BH*, 17BH*
HIST-17A, 21, 22, 23, 24

D7 Interdisciplinary Social or Behavioral Science
AGRI-10
COMM-30
SCSC-01

D8 Political Science, Government, and Legal Institutions
POSC-01, 02

D9 Psychology
PSYC-01A*, 01AH*, 15, 20, 22, 23, 25, 35, 36

AREA E: Lifelong Understanding and Self-Development
A minimum of 3 semester or 4-5 quarter units are required from the following:

CLDV-02, CLDV/PSYC-09*
GUID-30
HLTH-10, 16
NUTR-10
PSYC/CLDV-09*, PSYC-22, 23, 35

AREA F: Merced College Courses Designated to Meet CSU History and Government Requirements
All state universities have a U.S. History and a Federal, State, and Local Government requirement. Six units may be counted toward Area D or C2, in addition to Area F. See your counselor. Major requirements at the CSU campus of your choice may affect the ability to double count. You may complete either sequence A or B to meet the CSU History and Government (F1 and F2) requirements:

Sequence A:
HIST-17A or HIST-17AH
AND
HIST-17B or HIST-17BH

Sequence B:
HIST-17A or HIST-17AH or HIST-17B or HIST-17BH or HIST-22
AND
POSC-01

*Transfer credit may be limited – see a counselor.

Note: The Merced College Area D requirement is three disciplines, not two.

May 28, 2008
Completion of the IGETC permits a student to transfer to Merced College to a campus in either the California State University or the University of California system without the need after transfer to take additional, lower division, general education courses to satisfy the campus GE requirements. IGETC is not recommended for majors that require extensive lower division preparation. Consult with your counselor. Students may also fulfill the general education requirements by completing the specific lower division breadth and general education requirements of the school or college of the campus to which the student intends to transfer. Students intending to transfer to the California State University System may also complete the requirement by fulfilling the CSU’s general education requirement.

Both the California State University and the University of California have a specific American Institutions requirement that is separate from their general education requirements. Completion of the IGETC will not satisfy the American Institutions requirement. Courses used to satisfy the American Institutions requirement may not be counted to satisfy either a Humanities or a Social and Behavioral Science requirement.

AREA 1: English Communication
(CSU - Three courses, one each from Groups A, B, & C)
(UC - Two courses, one each from Groups A and B)

Group A: English Composition
(One course: three semester units)
ENGL-01A

Group B: Critical Thinking
(One course: three semester units)
ENGL/PHIL-13*
ENGL/PHIL-13H*
PHIL/ENGL-13*
PHIL/ENGL-13H*

Group C: Oral Communication (CSU ONLY)
(One course;, three semester units)
COMM-01*, 01H*, 04

AREA 2: Mathematical Concepts and Quantitative Reasoning
(One course: three semester units)
MATH-02, 04A*, 04B*, 04C*, 05A*, 05B*, 06, 08, 10, 15, 26
PSYC 05

AREA 3: Arts & Humanities
(Three courses: nine semester units, with at least one course each from Group 3A and 3B)

3A. Arts
ART-01, 02,
DRAM/ENGL-03*
ENGL/DRAM-03*
ENGL-14
HUM-21
MUS-01, 11, 12, 13, 14

3B. Humanities
DRAM-01
ENGL-01B, 04A, 04B, 05, 06A, 06B, 07, 10, 11, ENGL/HUM-18*
FREN-03, 04
GERM-02, 03, 04
HIST-04A, 04B, 08A, 08B, 09A, 09B, 17A*, 17AH*, 17B*, 17BH*,
HUM-01*, 01H*, 02*, 02H*, 15, HUM/ENGL 18*
PHIL-01*, 01H*, 03, 04, 05, 15
SPAN-02, 03, 04, 10*, 11*

AREA 4: Social & Behavioral Sciences
(Three courses: nine semester units, with courses from at least two disciplines or an interdisciplinary sequence.)

4A. Anthropology and Archaeology
ANTH-02, 10

4B. Economics
AGBS-11
ECON-01A*, 01B*

4C. Ethnic Studies
HIST-08A, 21*, 22*, 23*, 24*
HUM-15

4E. Geography
GEOG-02

4F. History
HIST-8B, 17A*, 17AH*, 17B*, 17BH*, 21*, 22*, 23*, 24*

4G. Interdisciplinary, Social & Behavioral Sciences
COMM-30
SCSC-01*

4H. Political Science & Government & Legal Institutions
POSC-01, 02

4I. Psychology
PSYC-01A*, 01AH*, 15, 20, 22, 23, 25, 35, 36

4J. Sociology & Criminology
SOC-01

AREA 5: Physical & Biological Sciences
(Two courses required, 7-9 semester units, one each from Group 5A and 5B; at least one must include a lab.)

5A. Physical Science
Underlined courses have a laboratory component.
ARCH-01
ASTR-01, 0L^ CHEM-02A*, 02B*, 04A* 04B* GEOG-01, 01L^ 
GEOL-01*, 02
PHSC-01*, 01L^ PHYS-02A*, 02B*, 04A*, 04B*, 04C*, 10* SOIL-10

5B. Biological Science
Underlined courses have a laboratory component.
ANTH-01
BIOL-01*, 04*, 04H*, 06, 08, 09, 12, 13, 16, 18, 20, 25
PLSC-10

AREA 6: Language Other Than English (UC ONLY)
Proficiency equivalent to two years of high school study in the same language. The following course(s) at this institution fulfill the requirement. Courses above proficiency level (# sign) may also be used to meet this requirement.

FREN-02 (03#, 04#) GERM-01 (02#, 03#, 04#) HMNG-01 (02#) JPNS-01B (02#) SPAN-01*, 10* (02#*, 03#, 04#, 11#*)

^Credit for lab courses only if lecture course is completed.
*Transfer Credit may be limited by UC or CSU or both. Please consult a counselor.

Revised April 29, 2009
This agreement lists courses transferable for unit credit at all UC campuses for 2009-10. UC Transferable Course Agreements identify the general transferability of community college courses to the University of California. Annually, the UC Office of the President reviews and determines the courses approved for the TCA. The following 2009-10 list is valid until the 2010-11 update. Check ASSIST (www.assist.org) for the UC TCA 2010-11 update after September 2010. Meet with your counselor to determine more specific transfer credit information.

ACTG-04A   ASLG-03   DRAM-02   GERM-04   MATH-14   PHIL-13   PHED-20
ACTG-04B   ASTR-01   DRAM-03   GERM-39   MATH-15   PHIL-13H   PHED-31
AGBS-11    ASTR-01L  DRAM-04   GUID-30   MATH-17   PHIL-15   PHED-32
AGBS-18    BIOL-01   DRAM-09   HLTH-10   MATH-20A  PHOT-10A  PHED-36A
AGRI-10    BIOL-02   DRAM-10   HLTH-11   MATH-20B  PHOT-10B  PHED-36B
ANSC-10    BIOL-04   DRAM-11   HIST-04A  MATH-21   PHED-01A  PHED-36C
ANSC-12    BIOL-04H  DRAM-15   HIST-04B  MATH-26   PHED-01B  PHED-36D
ANSC-15    BIOL-05   DRAM-16   HIST-05   MUS-01    PHED-01C  PHED-36E
ANSC-16    BIOL-08   DRAM-23   HIST-08A  MUS-02    PHED-01D  PHSC-01L
ANSC-17    BIOL-09   ECON-01A  HIST-08B  MUS-04A  PHSIC-01G  PHYS-02A
ANSC-18    BIOL-12   ECON-01B  HIST-09A  MUS-04B  PHSIC-01H  PHYS-02B
ANSC-19    BIOL-13   ENGR-10   HIST-09B  MUS-04C  PHSIC-01J  PHYS-04A
ANTH-01    BIOL-16   ENGR-12   HIST-17A  MUS-04D  PHSIC-01K  PHYS-04B
ANTH-02    BIOL-18   ENGR-14   HIST-17AH  MUS-11    PHSIC-01L  PHYS-04C
ANTH-03    BIOL-20   ENGR-15   HIST-17B  MUS-12    PHSIC-02  PHYS-10
ANTH-30    BIOL-25   ENGR-18   HIST-17BH  MUS-13    PHSIC-03  PLSC-10
ANTH-32    BUS-10    ENGR-25   HIST-21   MUS-14    PHSIC-10  PLSC-13
ARCH-01    BUS-18A   ENGR-30   HIST-22   MUS-24A  PHSIC-10B  POSC-01
ART-01     CHEM-02A  ENGL-01A  HIST-23   MUS-24B  PHSIC-10C  POSC-02
ART-02     CHEM-02B  ENGL-01B  HIST-24   MUS-24C  PHSIC-10D  PSYC-1A
ART-06     CHEM-04A  ENGL-02   HIST-29   MUS-24D  PHSIC-10E  PSYC-1AH
ART-12A    CHEM-04B  ENGL-03   HMG-01   MUS-27A  PHSIC-10F  PSYC-1B
ART-12B    CHEM-12A  ENGL-04A  HMG-02   MUS-27B  PHSIC-10G  PSYC-5
ART-12C    CHEM-12B  ENGL-04B  HUM-01    MUS-27C  PHSIC-10H  PSYC-09
ART-15     CLDV-01   ENGL-05   HUM-01H  MUS-27D  PHSIC-11A  PSYC-15
ART-17A    CLDV-09   ENGL-06A  HUM-02    MUS-28   PHSIC-11B  PSYC-20
ART-17B    COMM-01   ENGL-06B  HUM-02H   MUS-36A  PHSIC-11C  PSYC-22
ART-17C    COMM-01H  ENGL-07   HUM-15    MUS-36B  PHSIC-11D  PSYC-23
ART-20A    COMM-02   ENGL-08   HUM-18    MUS-36C  PHSIC-11E  PSYC-25
ART-20B    COMM-04   ENGL-10   HUM-21    MUS-40   PHSIC-11F  PSYC-3
ART-20C    COMM-30   ENGL-11   JPNS-01A  MUS-41A  PHSIC-12B  PSYC-36
ART-20D    CPSC-01   ENGL-12   JPNS-01B  MUS-41B  PHSIC-12C  SCSC-01
ART-24A    CPSC-05A  ENGL-13   JPNS-02   MUS-41C  PHSIC-12D  SOC-01
ART-24B    CPSC-05B  ENGL-13H  JOUR-01   MUS-41D  PHSIC-12E  SOC-02
ART-24C    CPSC-06   ENGL-14   JOUR-08   MUS-42A  PHSIC-12F  SOIL-10
ART-25A    CPSC-12   ENGL-18   LAND-10A  MUS-42B  PHSIC-12G  SPAN-01
ART-25B    CPSC-24   ENGL-22   LAND-10B  MUS-42C  PHSIC-12H  SPAN-02
ART-25C    CPSC-30   ENGL-31   LAND-12   MUS-42D  PHSIC-13A  SPAN-03
ART-25D    CPSC-39   FORS-10   LAND-16   MUS-43A  PHSIC-13B  SPAN-04
ART-26A    CRIM-02   FREN-01   LRNR-30   MUS-43B  PHSIC-13C  SPAN-10
ART-26B    CRIM-04   FREN-02   LBST-10   MUS-44   PHSIC-13D  SPAN-11
ART-26C    CRIM-05   FREN-03   LBST-20   MUS-45   PHSIC-13E  SPAN-39
ART-28A    DAIR-10   FREN-04   MATH-02   MUS-46   PHSIC-13F  SPMD-42
ART-28B    DAIR-11   FREN-04   MATH-04A  MUS-47   PHSIC-13G  SPMD-43
ART-28C    DNCE-14A  GEOG-01   MATH-04B  NUTR-10  PHSIC-13H
ART-28D    DNCE-14B  GEOG-02   MATH-04C  PHIL-01   PHSIC-14A
ART-29A    DNCE-14C  GEOG-30   MATH-05A   PHIL-01H  PHSIC-14B
ART-29B    DNCE-14D1 GEOG-01   MATH-05B   PHIL-03   PHSIC-14C
ART-29C    DNCE-14D2 GEOG-02   MATH-06   PHIL-04   PHSIC-14D1
ART-29D    DNCE-14D3 GERM-01   MATH-08   PHIL-05   PHSIC-14D2
ASLG-01    RFCM-02   GERM-02   MATH-10   PHIL-10   PHSIC-14D3
ASLG-02    DRAM-01   GERM-03   MATH-12   PHIL-12   PHSIC-14D4

Variable Topics Courses
These courses are also called "Independent Studies", "Special Studies", "Special Topics", "Internships", etc. Credit for variable topics courses is given only after a review of the scope and content of the course by the enrolling UC campus. This usually occurs after transfer and may require recommendations from faculty. UC does not grant credit for variable topics courses in Journalism, Photography, Health, Business Administration, Architecture, Administration of Justice (Criminology) or Library Departments because of credit restrictions in these areas.

Physical Education Activity Courses
UC grants a maximum of four semester units of credit for appropriate Physical Education Activity courses (also called "Athletics", "Human Resources", "Adaptive P.E.", etc.). These courses are not listed on the TCA. Physical Education Theory courses or courses that do not fit either the Theory or Activity category are not included in the four semester credit limit prescribed for P.E. activity courses and continue to be listed on the TCA if deemed transferable. P.E. Courses that are primarily vocational in nature, such as Aerobic Instructor Training or Fire Academy Protection Preparation, are not transferable.
ENGLISH AS A SECOND LANGUAGE AND PRE-COLLEGE ENGLISH SEQUENCE

- ENGL-01A (4 units)
  College Composition and Reading
- ENGL-A (4 units)
  Foundations in Academic Literacy
  - ENGL-AL (1 unit)
    Academic Literacy Lab
- ENGL-81 (3 units)
  Basic Reading Tactics II
  - ENGL-81L (1 unit)
    Lab II
- ENGL-80 (3 units)
  Basic Reading Tactics I
  - ENGL-80L (1 unit)
    Lab I
- ENGL-84 (5 units)
  Basic Writing Skills II – Paragraph to Essay
- ENGL-83 (5 units)
  Basic Writing Skills I – Sentence to Paragraph
- ESL-92B (5 units)
  ESL Reading and Writing 2
- ESL-92A (5 units)
  ESL Reading and Writing 1
- ESL-96 (3 units)
  High-Intermediate ESL Grammar I
- ESL-95 (3 units)
  Intermediate ESL Grammar
- ESL-98 (3 units)
  ESL Pronunciation and Speaking
- ESL-90 (4 units)
  Basic Language and Learning Skills

NON-CREDIT ESL

- Degree applicable courses
  - Transferable
  - Meets the English Competency requirements
- Degree applicable basic skills courses
  - Non Transferable
  - Does not meet the English Competency requirements
- Non degree applicable basic skills courses
  - Non Transferable
  - Does not meet the English Competency requirements

● Non degree applicable basic skills courses
● Non Transferable
● Does not meet the English Competency requirements
● Degree applicable courses
● Transferable
● Meets the English Competency requirements

MERCED COLLEGE
209.384.6000
MATHEMATICS SEQUENCE

- MATH-08 Linear Algebra
- MATH-05B Applied Calculus
- MATH-05A Applied Calculus
- MATH-06 Differential Equations
- MATH-04C Calculus
- MATH-04B Calculus
- MATH-04A Calculus I
- MATH-25 Trigonometry
- MATH-20A Basic Structure of Math I
- MATH-20B Basic Structure of Math II
- MATH-17 Precalculus Technical Math
- MATH-26 College Algebra
- MATH-15 Finite Math
- MATH-21 Intro to Mathematical Reasoning
- MATH-08 Linear Algebra
- MATH-05B Applied Calculus
- MATH-05A Applied Calculus
- MATH-06 Differential Equations
- MATH-04C Calculus
- MATH-04B Calculus
- MATH-04A Calculus I
- MATH-25 Trigonometry
- MATH-20A Basic Structure of Math I
- MATH-20B Basic Structure of Math II
- MATH-17 Precalculus Technical Math
- MATH-26 College Algebra
- MATH-15 Finite Math
- MATH-21 Intro to Mathematical Reasoning

- MATH-C Intermediate Algebra
- MATH-D Technical Math
- MATH-A Beginning Algebra
- MATH-B Applied Algebra
- MATH-80 Prealgebra
- MATH-83 Math for Trades
- MATH-91 Decimals & Fractions
- MATH-90 Arithmetic
- MATH-E Geometry
COMMUNITY SERVICES
The Community Services program at Merced College has been an integral part of the College’s commitment to provide education, enrichment, and adventure to the community. The Community Services Program offers the community an alternative that does not exist in the regular instructional program. To receive more information, call (209) 384-6224 and/or visit www.mccd.edu/community.

Classes
Community Service fee-based classes are offered by Merced College to district residents interested in studying specific interests and enrichment areas. Online (Internet) classes are offered throughout the year.

Special Programs for Children and Young Adults
The Community Services Office maintains a variety of programs during the traditional summer session and throughout the year including College for Kids classes, sports camps and workshops, swimming programs, and summer theater.

Performing Arts
Community Services, from time to time, contracts with artists for theater performances including special assemblies for local schools. Additionally, the program sponsors a cooperative of dance instructors to provide public performances to benefit local scholarship programs.

Workshops and Seminars
These programs deal with community problems and topics of current interest. They are conducted in cooperation with special interest groups and other community organizations.

Trips & Tours
Bus tours to museums, historic sites, sporting events, and to dramatic and musical performances in other areas of California are planned throughout the year. Nominal fees are charged to offset the cost of the performances and transportation. Escorted tours to locations throughout the world are also offered each year.

Traffic Safety School
Merced College is licensed by the Department of Motor Vehicles to provide this course for adults and juveniles. With permission from the court of jurisdiction, taking this course will prevent your citation from appearing on your record. Traffic School Online, in English and in Spanish, is also available.

EMPLOYER-FOCUSED TRAINING CENTER (ETC)
The Employer-Focused Training Center also known as the Career Advancement Academy is dedicated to meeting the needs of employees and job seekers interested in short term vocational training. Courses available include the Technical Office Occupations program and the Medical Assistant program. Both of these programs are located at the Merced College Business Resource Center in downtown Merced. For more information about ETC and the Career Advancement Academy call (209) 386-6738.

CENTER FOR INTERNATIONAL TRADE DEVELOPMENT (CITD)
The Center for International Trade Development (CITD) is one of 5 centers located in the state to provide small to medium sized businesses with one-on-one export and import counseling, technical assistance, training, and market research.

The CITDs enhance the competitive strength of California businesses in the international trade marketplace and support international trade development in their local and regional communities. The network has existing working relationships with local, industry, federal and international partners, and has contractual relationships with the U.S. Department of Commerce, International Trade Administration, the Western United States Agricultural Trade Association, US Agency for International Development, and the U.S. Department of Education, Business and International Education Programs. We serve over 2000 California businesses each year and offer the following value-added services:

- Individualized assistance to help existing companies and new ventures strategically evaluate and pursue international business opportunities
- International business conferences, workshops and seminars designed to provide information and tools to help enterprises, and organizations capitalize on global business
- Reference and referral services for specific customs, regulatory, and operational challenges
- International matchmaking services to include introducing California companies to potential trading partners through overseas trade missions, hosting of inbound delegations and trade leads distribution
- Assist community colleges in internationalizing their curricula and developing specialized programs and courses in international trade to help prepare California's workforce to compete and contribute in the global economy.

To learn more, phone (209) 384-5892.

WORKPLACE LEARNING RESOURCE CENTER
Since its inception in 1994, the WpLRC has increased Merced Community College's capacity to deliver training and non-training services to regional businesses and industries through research, in-service training, and the development and implementation of innovative training methodologies. The WpLRC supports essential elements of the California Community College Mission and Goals, which is to advance California’s economic growth and global competitiveness through education, training, and services that contribute to continuous work force improvement. The Center conducts needs assessments and develops on-site programs to retrain employees or upgrade employees' skills in a wide variety of subjects. Call (209) 386-6732 for information or visit www.mercedworkplacecenter.org
DEGREE
A.A. - Accounting

CERTIFICATE
Accounting

Program Description
Making good decisions is critical for success in any business enterprise. Accounting plays a vital role in providing information needed to make knowledgeable financial decisions. The information supplied by accounting is in the form of quantitative data, primarily financial in nature, and relates to specific economic entities. An economic entity may be an individual, a business enterprise, or a nonprofit organization. Every entity, regardless of its size or purpose, must have a way to keep track of its economic activities and to measure how well it is accomplishing its goals. Accounting provides the means for tracking activities and measuring results.

Without accounting information, many important financial decisions would be made blindly. Investors, for example, would have no way to distinguish between a profitable company and one that is on the verge of failure; bankers could not evaluate the riskiness of potential loans; managers would have no basis for controlling costs, setting prices, or controlling the company’s resources; and government would have no basis for taxing income.

Thus, accounting is a service activity designed to accumulate, measure, and communicate financial information to various decision makers, such as investors, creditors, and managers.

Career Opportunities
Many career opportunities are available in accounting requiring varying amounts of education and experience. Listed below are some of the common accounting positions:

- Accounting Clerk
- General Bookkeeper
- Junior Accountant
- Accountant
- Public Accountant
- Private Accountant
- Not-for-profit Accountant
- Auditor

Highlights
Great Job Opportunities
Better understanding of business

DEGREE (10/07)
A.A. - Accounting (05000.AA)

An Associate in Arts Degree in Accounting is available in preparation for employment in the field of bookkeeping or accounting as a full-charge bookkeeper or junior accountant. For the A.A. Degree, students must meet the graduation requirements and complete the following courses.

Program Student Learning Outcomes

A. Read, analyze, evaluate, and communicate, both orally and in written form, an appropriate financial interpretation of accounting documents, including proper maintenance of accounting records using the basics of bookkeeping.

B. Analyze an accounting problem and/or scenario and apply appropriate mathematical and accounting concepts to develop and verify a solution.

C. Analyze and apply critical/creative thinking to an accounting problem or scenario in order to formulate a set of alternatives, then recommend the best course of action.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACTG-04A</td>
<td>Financial Accounting</td>
<td>4</td>
</tr>
<tr>
<td>ACTG-04B</td>
<td>Managerial Accounting</td>
<td>4</td>
</tr>
<tr>
<td>ACTG-31</td>
<td>Computerized Accounting</td>
<td>2</td>
</tr>
<tr>
<td>ACTG-51</td>
<td>Applied Accounting</td>
<td>3</td>
</tr>
<tr>
<td>BUS-10</td>
<td>Introduction to Business</td>
<td>3</td>
</tr>
<tr>
<td>BUS-18A</td>
<td>Business Law</td>
<td>4</td>
</tr>
<tr>
<td>CPSC-30</td>
<td>Computer Applications</td>
<td>3</td>
</tr>
<tr>
<td>ACTG-70A-ZZ</td>
<td>Special Topics in Accounting</td>
<td>½ - 3</td>
</tr>
</tbody>
</table>

Plus six units from the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACTG-52</td>
<td>Payroll Records and Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ACTG-53</td>
<td>Fundamentals of Income Tax Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ACTG-54</td>
<td>Cost Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ACTG-56</td>
<td>Governmental and Not-For-Profit Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ACTG-70A-ZZ</td>
<td>Special Topics in Accounting</td>
<td></td>
</tr>
</tbody>
</table>

Suggested electives include:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS-43</td>
<td>Business Communication</td>
<td>3</td>
</tr>
<tr>
<td>CPSC-01</td>
<td>Introduction to Management Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>ECON-01A</td>
<td>Introduction to Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td>ECON-01B</td>
<td>Introduction to Microeconomics</td>
<td>3</td>
</tr>
<tr>
<td>MATH-10</td>
<td>Elementary Statistics</td>
<td>3</td>
</tr>
<tr>
<td>MATH-15</td>
<td>Finite Mathematics</td>
<td>3</td>
</tr>
</tbody>
</table>

CERTIFICATE
Accounting (05000.CT)

A Certificate of Achievement will be awarded upon the satisfactory completion of 30 units of course work in this area of study which includes the core courses indicated for the A.A. Degree in Accounting.

Program Student Learning Outcomes

A. Read, analyze, evaluate, and communicate, both orally and in written form, an appropriate financial interpretation of the material, including proper maintenance of accounting records using the basics of bookkeeping.

B. Analyze, make computations and solve a variety of complex accounting problems and scenarios.

C. Apply analytical and critical thinking skills to contemplate a given accounting scenario and propose a solution after contemplating a
### ACCOUNTING (ACTG)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACTG-04A</td>
<td>Financial Accounting</td>
<td>4</td>
</tr>
<tr>
<td>ACTG-04B</td>
<td>Managerial Accounting</td>
<td>4</td>
</tr>
<tr>
<td>ACTG-31</td>
<td>Computerized Accounting</td>
<td>2</td>
</tr>
<tr>
<td>ACTG-51</td>
<td>Applied Accounting</td>
<td>4</td>
</tr>
<tr>
<td>BUS-10</td>
<td>Introduction to Business</td>
<td>3</td>
</tr>
<tr>
<td>BUS-18A</td>
<td>Business Law</td>
<td>4</td>
</tr>
<tr>
<td>CPS-30</td>
<td>Computer Applications</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Plus six units from the following:</td>
<td></td>
</tr>
<tr>
<td>ACTG-52</td>
<td>Payroll Records and Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ACTG-53</td>
<td>Fundamentals of Income Tax Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ACTG-54</td>
<td>Cost Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ACTG-56</td>
<td>Governmental and Not-For-Profit Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ACTG-70A-ZZ</td>
<td>Special Topics in Accounting</td>
<td>½ - 3</td>
</tr>
</tbody>
</table>

Recommended Sequence: A.A - accounting (05000.AA)

<table>
<thead>
<tr>
<th>Semester</th>
<th>Courses</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall 1</td>
<td>ACTG-51 Applied Accounting</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>BUS-10 Introduction to Business</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>CPS-30 Computer Applications</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Spring 1 Financial Accounting</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>ACTG-31 Computerized Accounting</td>
<td>2</td>
</tr>
<tr>
<td>Fall 2</td>
<td>ACTG-04B Managerial Accounting</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Plus six units from the following:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ACTG-52 Payroll Records and Accounting</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>ACTG-53 Fundamentals of Income Tax Accounting</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>ACTG-54 Cost Accounting</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>ACTG-56 Governmental and Not-For-Profit Accounting</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>ACTG-70A-ZZ Special Topics in Accounting</td>
<td>½ - 3</td>
</tr>
<tr>
<td>Spring 2</td>
<td>BUS-18A Business Law</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Plus six units from the following:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ACTG-52 Payroll Records and Accounting</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>ACTG-53 Fundamentals of Income Tax Accounting</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>ACTG-54 Cost Accounting</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>ACTG-56 Governmental and Not-For-Profit Accounting</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>ACTG-70A-ZZ Special Topics in Accounting</td>
<td>½ - 3</td>
</tr>
</tbody>
</table>

### ACTG-04A FINANCIAL ACCOUNTING

4 units: 4 hours lecture.
Prerequisite: ACTG-04A or ACTG-51. Advisories: ENGL-A; MATH-80. This course provides instruction in computer-assisted accounting. Topics include general ledger setup, accounts receivable setup, accounts payable setup, transactions and reports, financial statement analysis, depreciation, and payroll. (12/06)

### ACTG-04B MANAGERIAL ACCOUNTING

4 units: 4 hours lecture.
One-way corequisite: ACTG-04A or ACTG-51. Advisory: MATH-A or MATH-B. This course provides students with instruction in managerial accounting. Topics include job-order and process costing, cost-volume-profit relationships, the contribution approach to costing, budgeting, standard costing, capital budgeting and investment decisions, and relevant costs for decision making. (12/06)

### ACTG-31 COMPUTERIZED ACCOUNTING

2 units: 1 hour lecture, 3 hours lab.

### ACTG-51 APPLIED ACCOUNTING

4 units: 4 hours lecture.
Prerequisite: ACTG-04A or ACTG-51. Advisories: ENGL-A; MATH-80. This course provides instruction in computer-assisted accounting. Topics include general ledger setup, accounts receivable setup, accounts payable setup, transactions and reports, financial statement analysis, depreciation, and payroll. (12/06)

### ACTG-52 PAYROLL RECORDS AND ACCOUNTING

3 units: 3 hours lecture.
One-way corequisite: ACTG-04A or ACTG-51. Advisories: ENGL-A; MATH-80. This course acquaints the student with various phases of the Fair Labor Standards Act (FLSA), Social Security Act, and other laws relating to the payment of wages and salaries. Basic payroll accounting systems and procedures as well as the timekeeping methods used to record time worked are described. Computerized accounting systems and pertinent tax forms are also explored. (02/07)

### ACTG-53 FUNDAMENTALS OF INCOME TAX ACCOUNTING

3 units: 3 hours lecture.
Prerequisite: ACTG-04A or ACTG-51. Advisories: ENGL-A; MATH-91. This course provides the student with the knowledge of tax laws, accounting procedures, and preparation of required returns for federal and California income taxes. An introduction to partnership and corporate taxation, as well as a brief overview of tax administration, will supplement the course material. (9/07)

### ACTG-54 COST ACCOUNTING

3 units: 3 hours lecture.
One-way corequisite: ACTG-04A or ACTG-51. Advisories: ENGL-A; MATH-80. This course provides a thorough understanding of cost concepts, cost behavior, and cost accounting techniques as applied to manufacturing and service businesses. Students will learn how to accurately determine product and service costs using various costing methods. The student will also become aware of how the cost techniques used can affect the performance of both workers and management. Managerial control through budgeting is also addressed. (12/06)

### ACTG-56 GOVERNMENTAL AND NOT-FOR-PROFIT ACCOUNTING

3 units: 3 hours lecture.
Prerequisite: ACTG-04A or ACTG-51. Advisories: ENGL-A; MATH-80. Accounting theory and practice are applied to governmental and not-for-profit accounting. Topics include practical understanding of budgeting, accounting, and financial reporting as it applies to governmental and not-for-profit organizations. (2/07)

### ACTG-70A-ZZ SPECIAL TOPICS IN ACCOUNTING

0.5 - 3 units: 0.5 - 3 hours lecture, 0 - 3 hour lab.
Prerequisite: ACTG-04A or ACTG-51. This course is designed to address special topics in accounting to meet the current needs of students. It will provide accounting students with access to instruction that will assist them in acquiring the up-to-date information and skills necessary to meet their career goals in a rapidly changing business environment. (1/05)
Addiction Studies
Allied Health, Business, and Public Safety

DEGREE
A.A. - Addiction Studies

CERTIFICATE
Addiction Studies

Program Description
The Addiction Studies Program is designed to provide students with the knowledge and skills required to begin the certification process for work in California drug treatment settings. It also provides opportunities for general knowledge about addiction and addiction treatment. The program leads to an Associate’s Degree in Addictions Studies or a Certificate of Achievement.

Career Opportunities
With sufficient hours of clinical practice and successful completion of the CATC examination entry level employment as a certified addiction counselor in addiction treatment practice in the public and private sector may be available.

Highlights
Understanding of the addiction process
Acquiring and practice of counseling skills

Note to transfer students
Many four year institutions do not offer a specialized major in this field. Seek the assistance of a guidance counselor if you plan to transfer.

DEGREE (2/09)
A.A. - Addiction Studies (21050.AA)

The Associate in Arts Degree in Addiction Studies, which is fully accredited by the California Association for Alcohol and Drug Educators (CAADE), is available for students who meet the graduation requirements and complete the following required courses with a 2.0 GPA or higher in each class.

Program Student Learning Outcomes
A. Distinguish among a variety of models and theories of addiction.
B. Recognize the social, political, economic, and cultural context within which addiction and substance abuse exist, including risk and resiliency factors that characterize individuals and groups and their living environments.
C. Distinguish among the confounding factors/symptoms of the co-occurring disorder/dual diagnosis client.
D. Compare the philosophies, practices, policies, and outcomes of the most generally accepted and scientifically support models of treatment, recovery, relapse prevention, and continuing care for addiction and other substance-related problems.
E. Differentiate between the established diagnostic criteria for substances use disorders and describe treatment modalities and placement criteria within the continuum of care.
F. Examine the diverse cultures and incorporate the relevant needs of culturally diverse groups, as well as people with disabilities, into clinical practice.
G. Understanding the obligation of the addition professional to participate in prevention as well as treatment.

CERTIFICATE
Addiction Studies (21050.CT)

A fully accredited CAADE Certificate of Achievement will be awarded upon the satisfactory completion of the 36-unit curriculum listed below plus an additional six units from the following electives with a 2.0 GPA or higher in each class.

Program Student Learning Outcomes
A. Recognize the social, political, economic, and cultural context within which addition and substance abuse exist, including risk and resiliency factors that characterize individuals and groups and their living environments.
B. Distinguish among a variety of models and theories of addition.
C. Distinguish among the confounding factors/symptoms of the co-occurring disorder/dual diagnosis client.
D. Compare the philosophies, practices, policies, and outcomes of the most generally accepted and scientifically support models of treatment, recovery, relapse prevention, and continuing care for addiction and other substance-related problems.
E. Differentiate between the established diagnostic criteria for substances use disorders and describe treatment modalities and placement criteria within the continuum of care.
F. Examine the diverse cultures and incorporate the relevant needs of culturally diverse groups, as well as people with disabilities, into clinical practice.
G. Understanding the obligation of the addition professional to participate in prevention as well as treatment.
ADST-41 INTRODUCTION TO ADDICTION STUDIES
3 units: 3 hours lecture.
Advisory: ENGL-A.
This is an introductory course which provides information on myths, theory, identification of, and the functions of family and social setting in addiction and recovery. Treatment, recovery, and relapse prevention models will be presented. (2/09)

ADST-42A SCREENING, ASSESSMENT, AND TREATMENT PLANNING IN ADDICTION COUNSELING
3 units: 3 hours lecture.
One-way corequisite: ADST-41. Advisory: ENGL-A.
This course is designed to give the student an introduction to counseling skills of screening, clinical evaluation, assessment, and treatment planning. (2/09)

ADST-42B INTRODUCTION TO ADDICTION COUNSELING SKILLS
3 units: 3 hours lecture.
Prerequisite: ADST-42A. Advisory: ENGL-A.
This course is oriented to counseling the alcoholic/chemically dependent client. Course work is designed to give the student an introduction to counseling skills and classroom experience in applying basic counseling skills with individuals and groups. (2/09)

ADST-43 PROFESSIONAL RESPONSIBILITIES AND ETHICAL PRACTICE IN ADDICTION COUNSELING
3 units: 3 hours lecture.
One-way corequisite: ADST-41. Advisory: ENGL-A.
This course focuses on professional responsibilities in addiction counseling. Awareness of state and federal laws and regulations, and the code of conduct governing the behavior of alcohol and drug counselors are examined. Effective approaches and the examination of legal, ethical, and moral responsibilities and referral practices of the alcohol/drug counselor will also be presented. (2/09)

ADST-44 PHARMACOLOGY OF SUBSTANCE ABUSE
3 units: 3 hours lecture.
Prerequisite: ADST-41. Advisory: ENGL-A.
This course provides a basic understanding and working knowledge of the classifications of drugs based on their effects on behavior, emotions, perceptions, consciousness, the metabolism of drugs, and neurotransmitter theory. The political, social, and cultural issues will be briefly explored. (2/09)

ADST-45 LEADERSHIP AND COUNSELING IN ADDICTION GROUPS
3 units: 3 hours lecture.
One-way corequisite: ADST-42B. Advisory: ENGL-A.
This course is an introduction to the dynamics of group counseling with clients with substance use disorders. The group will study itself, under supervision, and learn various leadership skills. The factors involved in problems of communication, effective emotional responses, and personal growth will be highlighted. (2/09)

ADST-46 ADDICTION EDUCATION AND PREVENTION
3 units: 3 hours lecture.
One-way corequisite: ADST-44. Advisories: ENGL-A.
This course presents basic concepts that provide the foundation upon which homeostasis is maintained in adults and/or children. Common threads integrated throughout the program are initiated: nursing process, nutrition, pharmacology, development levels, cultural diversity, communication, and professional role. (2/09)

ADST-47 CO-OCCURRING DISORDERS
3 units: 3 hours lecture.
Prerequisite: ADST-42B. One-way corequisite: ADST-43. Advisory ENGL-A.
This course focuses on assessing mental disorders associated with an addiction. Skills in recognizing co-occurring disorders, treatment planning, case management, appropriate scope of practice and utilization of community resources will be examined. (2/09)

ADST-49A-ZZ SPECIAL TOPICS IN ADDICTION STUDIES
0.5 - 4 units: 0.5-4 hours lecture.
Advisory: ENGL-A.
This course is designed to address special topics in addiction studies to meet the current needs of students. The course will allow pre-service and in-service personnel to maintain the most current education and training standards in the field. (05/09)
Administrative Office Management
Allied Health, Business, and Public Safety

DEGREES
A.A. - Administrative Medical Office Professional
A.A. - Administrative Office Professional

CERTIFICATES
Administrative Medical Office Professional
Administrative Office Professional

Program Description
Becoming an administrative professional is a solid choice for the future. The US Department of Labor reports more than 4.2 million people were employed as administrative assistants and secretaries in 2006, with another 362,000 jobs expected to be added by 2016, an 8.5 percent increase over the 10-year period.

The AOM program provides training in the office and technology skills required by administrative office professionals, such as: document preparation, storage and retrieval with an emphasis on electronic record keeping; integrated computer software applications; organization and scheduling; Internet/Intranet communications and research; customer service and public relations. Our program is versatile – train for the Degree, a Certificate or simply update/refresh skills that you may already have.

Career Opportunities
• Office Assistant
• Administrative Assistant
• Data Entry Specialist
• Customer Service Representative
• Receptionist
• Medical Assistant
• Front Desk Coordinator
• Public Relations Office Assistant
• Advertising Assistant
• Medical Transcriber

Highlights
Versatile program with online offerings
Most current computer applications and workplace/customer service skills
Workplace internship opportunity to achieve vital experience on the job and on the resume!
A.A. - Administrative Office Professional (05008.AA)

Refer to the general education requirements for specific information regarding general education, unit and scholarship requirements. Completion of the certificate program, in addition to the general education and district requirements, qualifies the student for an Associate in Arts Degree.

Program Student Learning Outcomes
A. The student will develop the necessary skills to perform administrative responsibilities in an office environment.

Core Courses (required of all Administrative Office Management majors.)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>AOM-50B</td>
<td>Document Formatting &amp; Keyboarding</td>
<td>3</td>
</tr>
<tr>
<td>AOM-51</td>
<td>Keyboarding/Word Processing</td>
<td>3</td>
</tr>
<tr>
<td>AOM-52A</td>
<td>Keyboarding Speed and Accuracy</td>
<td>1</td>
</tr>
<tr>
<td>AOM-56</td>
<td>Office Procedures</td>
<td>3</td>
</tr>
<tr>
<td>BUS-43</td>
<td>Business Communication</td>
<td>3</td>
</tr>
<tr>
<td>BUS-53</td>
<td>Business English</td>
<td>3</td>
</tr>
<tr>
<td>CPSC-30</td>
<td>Computer Applications</td>
<td>3</td>
</tr>
<tr>
<td>MGMT-50</td>
<td>Management Series</td>
<td>3</td>
</tr>
</tbody>
</table>

Administrative Office Professional
AOM-53 Advanced Computer Applications 3
AOM-58 Web Site Development 1

CERTIFICATE (11/09)
Administrative Medical Office Professional (05007.CT)

A Certificate of Achievement will be awarded upon the successful completion of the 22-unit core plus the program option listed below.

Program Student Learning Outcomes
A. The student will develop the necessary skills to perform administrative responsibilities in an office environment.

Core Courses (required of all Administrative Office Management majors.)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>AOM-50B</td>
<td>Document Formatting &amp; Keyboarding</td>
<td>3</td>
</tr>
<tr>
<td>AOM-51</td>
<td>Keyboarding/Word Processing</td>
<td>3</td>
</tr>
<tr>
<td>AOM-52A</td>
<td>Keyboarding Speed and Accuracy</td>
<td>1</td>
</tr>
<tr>
<td>AOM-56</td>
<td>Office Procedures</td>
<td>3</td>
</tr>
<tr>
<td>BUS-43</td>
<td>Business Communication</td>
<td>3</td>
</tr>
<tr>
<td>BUS-53</td>
<td>Business English</td>
<td>3</td>
</tr>
<tr>
<td>CPSC-30</td>
<td>Computer Applications</td>
<td>3</td>
</tr>
<tr>
<td>MGMT-50</td>
<td>Management Series</td>
<td>3</td>
</tr>
</tbody>
</table>

Administrative Office Professional
AOM-53 Advanced Computer Applications 3
AOM-58 Web Site Development 1

Recommended Sequence: A.A. - Administrative Medical Office Professional (05007.AA); A.A. - Administrative Office Professional (05008.AA)
ADMINISTRATIVE OFFICE MANAGEMENT (AOM)

AOM-50A KEYBOARDING
1 unit: .5 hour lecture, 1.5 hours lab.
Advisories: ENGL-81, ENGL-84.
This course includes development of basic computerized keyboarding techniques by touch, and speed and accuracy. (11/06)

AOM-50B DOCUMENT FORMATTING & KEYBOARDING
3 units: 2 hours lecture, 3 hours lab.
Advisories: ENGL-81, ENGL-84.
This course includes: (1) fundamental knowledge of word processing software to properly format memorandums, letters, envelopes and reports with tables and (2) development of basic computerized keyboarding techniques. (11/09)

AOM-51 KEYBOARDING/WORD PROCESSING
3 units: 2 hours lecture, 3 hours lab.
Prerequisite: AOM-50B (35 wpm, 95% accuracy). Advisories: ENGL-81, ENGL-84.
This course provides instruction and review of computerized keyboarding using word processing software; emphasis is placed on formatting memorandums, letters, envelopes, tables, and reports, as well as keyboarding with speed and accuracy. (11/06)

AOM-52A KEYBOARDING SPEED AND ACCURACY
1 unit: .5 hour lecture, 1.5 hours lab.
Advisories: Know the keyboard and be able to key at least 20 wpm with 85% accuracy; ENGL-81, ENGL-84.
This course is designed to increase keyboarding speed and accuracy through the use of individualized evaluation. The course helps bridge the speed gap between each level of keyboarding instruction. It is designed for the person who has been away from keyboarding for an extended period of time and wishes to regain keyboarding speed and accuracy. This course may be repeated two times. (11/06)

AOM-52B KEYBOARDING SPEED AND ACCURACY
2 units: 1 hour lecture, 3 hours lab.
Advisories: Know the keyboard and be able to key at least 20 wpm with 85% accuracy; ENGL-81, ENGL-84.
This course is designed to increase keyboarding speed and accuracy through the use of individualized evaluation. The course helps bridge the speed gap between each level of keyboarding instruction. It is designed for the person who has been away from keyboarding for an extended period of time and wishes to regain keyboarding speed and accuracy. This course may be repeated two times. (11/06)

AOM-53 ADVANCED COMPUTER APPLICATIONS
3 units: 2 hours lecture, 3 hours lab.
Prerequisite: CPSC-30.
The student will learn the advanced features of the word processor, spreadsheet, database, and presentations applications. Typically the most current version of Microsoft Office is taught, students are advised to check with the discipline faculty for software version information. A prerequisite challenge is encouraged from students who can provide evidence of competency of current introductory software skills in Word, Excel, Access, and PowerPoint. (11/09)

AOM-56 OFFICE PROCEDURES
3 units: 3 hours lecture.
Advisories: ENGL-81, ENGL-84.
Students will learn the skills, strategies, and techniques needed to perform the common office procedures employed in any business. (11/08)

AOM-58 WEB SITE DEVELOPMENT
1 unit: 1 hour lecture.
Advisories: CPSC-30.
An introductory course in the planning, design and creation of a web site using Microsoft SharePoint Designer 2007. (11/09)

AOM-59 MEDICAL CODING & BILLING
3 Units: 3 hours lecture.
Advisory: ALLH-67.
This course will enable the student to develop a basic knowledge of the national diagnostic and procedural coding systems and to simplify the process of filing claim forms. The student will be introduced to the major medical insurance programs, reimbursement, privacy rules, HIPAA, and a basic understanding of legal and regulatory considerations. (11/09)
Agriculture
Career and Technical Education

DEGREES
A.A. - General Agriculture
A.S. - General Agriculture: Advanced

CERTIFICATES
Agricultural Chemicals
General Agriculture

Program Description
The General Agriculture major is tailor made for students wishing to explore this diverse industry with a multitude of classes offered. A broad general agricultural background provides students with entry level employment opportunities and skills along with the ability to transfer to a college or university and continue their studies in a wide variety of agricultural fields.

Career Opportunities
A major in General Agriculture opens many doors for students in this area such as Agricultural Education, Agricultural Banking and Finance, Self-Employment in Agriculture, Wholesale and Retail Sales, Equipment Service and Sales, Legislative/Administrative Services, Field Service Representative, and Pest Control Advisor.

DEGREE
A.A. - General Agriculture (01050.AA)

The Associate in Arts Degree is available upon satisfactory completion of the graduation requirements in addition to the General Agriculture Core and nine units from the elective list. Students must complete elective courses from three of the five agricultural areas.

Program Student Learning Outcomes
A. Given various pieces of Agricultural Equipment and the proper and safe operation instructions, students will demonstrate proper and safe use of said equipment.
B. Given the required equipment and materials and a set of plans/instructions, students will demonstrate the ability to assemble a sample project by selecting the correct equipment and performing basic welding operations related to the welding field.
C. Given the proper criteria for selection and application students will identify and select the most appropriate plants and trees with their decision based on the environment conditions, plant characteristics and customer preferences.
D. Given a computer with the proper software and the parameters of a hypothetical or actual problem students will be able to demonstrate the ability to compose a word processing document, a mathematical spreadsheet, and/or an information database given the parameters of a hypothetical problem.

Core: Units
AGBS-18 Agricultural Computer Applications 3
AGRI-10 Agriculture, Environment, and Society 3
ANSC-10 Elements of Animal Science 3

Dean
James Andersen

Phone
(209) 384-6250

Area Office
AG-Office

Counseling
(209) 384-6314

Cooperative Work Experience
(209) 384-6364

LAND-11 Elements of Landscape Horticulture 3
MECH-31 Equipment Safety 1

Plus nine units from three of the five following areas:
Animal Science
ANSC-11 Elements of Animal Nutrition 3
ANSC-13 Animal Disease and Parasite Control 3
ANSC-15 Livestock Selection 3
ANSC-30 Fitting, Showing, and Merchandising Livestock 1.5

Crop Science/Plant Science/Soil Science
CROP-10 Elements of Agronomy 3
CROP-12 Vegetable Crops 3
CROP-13 Forage Crops 3
PLSC-13 Economic Entomology 3
SOIL-11 Fertilizer and Soil Amendments 3

Landscape Horticulture
LAND-10A Plant Identification and Usage: Fall 3
LAND-12 Landscape Design 3
LAND-14 Landscape Construction and Installation 3
LAND-16 Plant Propagation 3

Mechanized Agriculture
MECH-06 Fundamentals of Oxy-Fuel Welding and Shielded Metal Arc Welding 3
MECH-10 Agricultural Skills 3
MECH-15 Small Engine Repair and Maintenance 3
MECH-35 Compact Power Equipment 3

Suggested agriculture courses to meet General Education Breadth Requirements:
AGBS -11* (Area D) Agricultural Economics 3
PLSC-10* (Area B2) Elements of Plant Science 3
SOIL-10* (Area B1) Soil Science 3
*Transfer students should consult with their counselor regarding General Education Breadth Requirements.

DEGREE (11/09)
A.S. - General Agriculture: Advanced (01040.AS)

The Associate in Science Degree is available upon satisfactory completion of the graduation requirements in addition to the General Agriculture Core and 18 units from the elective list. Students must complete elective courses from three of the five agricultural areas.

Program Student Learning Outcomes
A. Given various pieces of Agricultural Equipment and the proper and safe operation instructions, students will demonstrate proper and safe use of said equipment.
B. Given the required equipment and materials and a set of plans/instructions, students will demonstrate the ability to assemble a
Agriculture Business

<table>
<thead>
<tr>
<th>Core:</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGBS-18 Agricultural Computer Applications</td>
<td>3</td>
</tr>
<tr>
<td>AGRI-10 Agriculture, Environment, and Society</td>
<td>3</td>
</tr>
<tr>
<td>ANSC-10 Elements of Animal Science</td>
<td>3</td>
</tr>
<tr>
<td>LAND-11 Elements of Landscape Horticulture</td>
<td>3</td>
</tr>
<tr>
<td>MECH-31 Equipment Safety</td>
<td>1</td>
</tr>
<tr>
<td>Plus 18 units from three of the following areas:</td>
<td></td>
</tr>
<tr>
<td>AGBS-10 Introduction to Agriculture Business</td>
<td>3</td>
</tr>
<tr>
<td>AGBS-12 Agricultural Accounting</td>
<td>3</td>
</tr>
<tr>
<td>AGBS-13 Agricultural Marketing</td>
<td>3</td>
</tr>
<tr>
<td>AGBS-17 Agricultural Sales and Communication</td>
<td>3</td>
</tr>
<tr>
<td>AGBS-30 Agricultural Leadership</td>
<td>2</td>
</tr>
<tr>
<td>Animal Science</td>
<td></td>
</tr>
<tr>
<td>ANSC-11 Elements of Animal Nutrition</td>
<td>3</td>
</tr>
<tr>
<td>ANSC-13 Animal Disease and Parasite Control</td>
<td>3</td>
</tr>
<tr>
<td>ANSC-15 Livestock Selection</td>
<td>3</td>
</tr>
<tr>
<td>ANSC-30 Fitting, Showing, and Merchandising Livestock</td>
<td>1.5</td>
</tr>
<tr>
<td>Crop Science/Plant Science/Soil Science</td>
<td></td>
</tr>
<tr>
<td>CROP-10 Elements of Agronomy</td>
<td>3</td>
</tr>
<tr>
<td>CROP-12 Vegetable Crops</td>
<td>3</td>
</tr>
<tr>
<td>CROP-13 Forage Crops</td>
<td>3</td>
</tr>
<tr>
<td>PLSC-13 Economic Entomology</td>
<td>3</td>
</tr>
<tr>
<td>SOIL-11 Fertilizer and Soil Amendments</td>
<td>3</td>
</tr>
<tr>
<td>Landscape Horticulture</td>
<td></td>
</tr>
<tr>
<td>LAND-10A Plant Identification and Usage: Fall</td>
<td>3</td>
</tr>
<tr>
<td>LAND-12 Landscape Design</td>
<td>3</td>
</tr>
<tr>
<td>LAND-14 Landscape Construction and Installation</td>
<td>3</td>
</tr>
<tr>
<td>LAND-16 Plant Propagation</td>
<td>3</td>
</tr>
<tr>
<td>Mechanized Agriculture</td>
<td></td>
</tr>
<tr>
<td>MECH-06 Fundamentals of Oxy-Fuel Welding and Shielded</td>
<td>3</td>
</tr>
<tr>
<td>Metal Arc Welding</td>
<td>3</td>
</tr>
<tr>
<td>MECH-10 Agricultural Skills</td>
<td>3</td>
</tr>
<tr>
<td>MECH-15 Small Engine Repair and Maintenance</td>
<td>3</td>
</tr>
<tr>
<td>MECH-35 Compact Power Equipment</td>
<td>3</td>
</tr>
<tr>
<td>Suggested agriculture courses to meet General Education Breadth Requirements:</td>
<td></td>
</tr>
<tr>
<td>AGBS-11* Agricultural Economics</td>
<td>3</td>
</tr>
<tr>
<td>PLSC-10* Elements of Plant Science</td>
<td>3</td>
</tr>
<tr>
<td>SOIL-10* Soil Science</td>
<td>3</td>
</tr>
<tr>
<td>*Transfer students should consult with their counselor regarding General Education Breadth Requirements.</td>
<td></td>
</tr>
</tbody>
</table>

## CERTIFICATE

### General Agriculture (01050.CT)

A Certificate of Achievement will be awarded upon satisfactory completion of the 13-unit core plus 24 units from the elective list. Students must complete elective courses from all five agricultural areas.

**Program Student Learning Outcomes**

A. Given various pieces of Agricultural Equipment and the proper and safe operation instructions, students will demonstrate proper and safe use of said equipment.

B. Given the proper criteria for selection and application students will identify and select the most appropriate plants and trees with their decision based on the environment conditions, plant characteristics and customer preferences.

C. Given the required equipment and materials and a set of plans/instructions, students will demonstrate the ability to assemble a sample project by selecting the correct equipment and performing basic welding operations related to the welding field.

D. Given a computer with the proper software and the parameters of a hypothetical or actual problem students will be able to demonstrate the ability to compose a word processing document, a mathematical spreadsheet, and/or an information database given the parameters of a hypothetical problem.

### Core:

<table>
<thead>
<tr>
<th>Core:</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGBS-18 Agricultural Computer Applications</td>
<td>3</td>
</tr>
<tr>
<td>AGRI-10 Agriculture, Environment, and Society</td>
<td>3</td>
</tr>
<tr>
<td>ANSC-10 Elements of Animal Science</td>
<td>3</td>
</tr>
<tr>
<td>LAND-11 Elements of Landscape Horticulture</td>
<td>3</td>
</tr>
<tr>
<td>MECH-31 Equipment Safety</td>
<td>1</td>
</tr>
<tr>
<td>Plus 24 units from the following areas:</td>
<td></td>
</tr>
<tr>
<td>AGBS -10 Introduction to Agriculture Business</td>
<td>3</td>
</tr>
<tr>
<td>AGBS -12 Agricultural Accounting</td>
<td>3</td>
</tr>
<tr>
<td>AGBS-13 Agricultural Marketing</td>
<td>3</td>
</tr>
<tr>
<td>AGBS-17 Agricultural Sales and Communication</td>
<td>3</td>
</tr>
<tr>
<td>AGBS-30 Agricultural Leadership</td>
<td>2</td>
</tr>
<tr>
<td>Animal Science</td>
<td></td>
</tr>
<tr>
<td>ANSC-11 Elements of Animal Nutrition</td>
<td>3</td>
</tr>
<tr>
<td>ANSC-13 Animal Disease and Parasite Control</td>
<td>3</td>
</tr>
<tr>
<td>ANSC-15 Livestock Selection</td>
<td>3</td>
</tr>
<tr>
<td>ANSC-30 Fitting, Showing, and Merchandising Livestock</td>
<td>1.5</td>
</tr>
<tr>
<td>Crop Science/Plant Science/Soil Science</td>
<td></td>
</tr>
<tr>
<td>CROP-10 Elements of Agronomy</td>
<td>3</td>
</tr>
<tr>
<td>CROP-12 Vegetable Crops</td>
<td>3</td>
</tr>
<tr>
<td>CROP-13 Forage Crops</td>
<td>3</td>
</tr>
<tr>
<td>PLSC-13 Economic Entomology</td>
<td>3</td>
</tr>
<tr>
<td>SOIL-11 Fertilizer and Soil Amendments</td>
<td>3</td>
</tr>
<tr>
<td>Landscape Horticulture</td>
<td></td>
</tr>
<tr>
<td>LAND-10A Plant Identification and Usage: Fall</td>
<td>3</td>
</tr>
<tr>
<td>LAND-12 Landscape Design</td>
<td>3</td>
</tr>
<tr>
<td>LAND-14 Landscape Construction and Installation</td>
<td>3</td>
</tr>
<tr>
<td>LAND-16 Plant Propagation</td>
<td>3</td>
</tr>
<tr>
<td>Mechanized Agriculture</td>
<td></td>
</tr>
<tr>
<td>MECH-06 Fundamentals of Oxy-Fuel Welding and Shielded</td>
<td>3</td>
</tr>
<tr>
<td>Metal Arc Welding</td>
<td>3</td>
</tr>
<tr>
<td>Mech-10 Agricultural Skills</td>
<td>3</td>
</tr>
<tr>
<td>MECH-15 Small Engine Repair and Maintenance</td>
<td>3</td>
</tr>
<tr>
<td>MECH-35 Compact Power Equipment</td>
<td>3</td>
</tr>
</tbody>
</table>

WWW.MCCD.EDU
A Certificate of Achievement in Agricultural Chemicals will be awarded upon satisfactory completion of the 18-unit core courses listed below.

Program Student Learning Outcomes

A. Given various pieces of agricultural equipment and the proper and safe operation instructions, students will demonstrate proper and safe use of said equipment.

B. Given the proper criteria for selection and application students will identify and select the most appropriate plants and trees with their decision based on the environment conditions, plant characteristics and customer preferences.

C. Given the required equipment and materials and a set of plans/instructions, students will demonstrate the ability to assemble a sample project by selecting the correct equipment and performing basic welding operations related to the welding field.

D. Given a computer with the proper software and the parameters of a hypothetical or actual problem students will be able to demonstrate the ability to compose a word processing document, a mathematical spreadsheet, and/or an information database given the parameters of a hypothetical problem.

Units

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGBS-18</td>
<td>Agricultural Computer Applications</td>
<td>3</td>
</tr>
<tr>
<td>PLSC-10</td>
<td>Elements of Plant Science</td>
<td>3</td>
</tr>
<tr>
<td>PLSC-12</td>
<td>Weeds</td>
<td>3</td>
</tr>
<tr>
<td>PLSC-13</td>
<td>Economic Entomology</td>
<td>3</td>
</tr>
<tr>
<td>SOIL-10</td>
<td>Soil Science</td>
<td>3</td>
</tr>
<tr>
<td>SOIL-11</td>
<td>Fertilizers and Soil Amendments</td>
<td>2</td>
</tr>
</tbody>
</table>

Total: 18 units
Agriculture Business
Career and Technical Education

DEGREES
A.A. - Agriculture Business
A.S. - Agriculture Business

CERTIFICATE
Agriculture Business

Program Description
The Agriculture Business Program at Merced College is designed to meet the need for trained personnel in a broad range of occupational opportunities involved with or related to the Agriculture Industry.

Career Opportunities
Agricultural Business graduates are in demand today and will continue to be. There is an expansion in the career opportunities in the business phases of farm related enterprises. These career opportunities are expanding fast in California, the highest farm income state in the nation. A sample of positions available to the graduate include Farm Machine Sales, Cooperative Management, Farm Management, Agricultural Banking, Food Merchandising, Land Appraisal, Marketing Economist, Livestock Buyer, Ranch Marketing Specialist, and Agricultural Insurance.

DEGREE (12/04)
A.A. - Agriculture Business (01000.AA)
The Associate in Arts Degree is available upon satisfactory completion of the graduation requirements in addition to the Agriculture Business core and 3 units from the elective list.

Program Student Learning Outcomes
A. Given a computer with the proper software and the parameters of a hypothetical or actual problem, students will be able to demonstrate the ability to compose a word processing document, a mathematical spreadsheet, and/or an information database given the parameters of a hypothetical problem.
B. Given a new or improved agricultural product, supply, or service, students will develop a written and oral marketing plan that will include an analysis of the market, a business proposition, the projected budget, and a detailed action plan.
C. Given a scenario involving proposed agricultural legislation or policies, students will analyze the affect of this legislation or policy on the local, state, and national economy and write a position paper justifying their decision to vote “yes” or “no”.

Core:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGBS-10</td>
<td>3</td>
</tr>
<tr>
<td>AGBS-11</td>
<td>3</td>
</tr>
<tr>
<td>AGBS-12</td>
<td>3</td>
</tr>
<tr>
<td>AGBS-13</td>
<td>3</td>
</tr>
<tr>
<td>AGBS-17</td>
<td>3</td>
</tr>
<tr>
<td>AGBS-18</td>
<td>3</td>
</tr>
<tr>
<td>MECH-31</td>
<td>1</td>
</tr>
</tbody>
</table>

Plus 3 units from these electives:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGBS-14</td>
<td>3</td>
</tr>
<tr>
<td>AGBS-30*</td>
<td>2</td>
</tr>
<tr>
<td>AGBS-31*</td>
<td>3</td>
</tr>
<tr>
<td>AGBS-48</td>
<td>2</td>
</tr>
<tr>
<td>AGBS-70A-ZZ</td>
<td>1-4</td>
</tr>
<tr>
<td>ANSC</td>
<td>1-4</td>
</tr>
<tr>
<td>PLSC</td>
<td>1-4</td>
</tr>
<tr>
<td>MECH</td>
<td>1-4</td>
</tr>
</tbody>
</table>

*AGBS-30 and AGBS-31 are both repeatable three times.
*Includes Animal Science and Dairy Husbandry courses.
**Includes Plant Science, Crop Production, Soil Science, Landscape Horticulture, and Fruit Production courses.

Suggested agriculture courses to meet General Education Breadth Requirements: AGBS-11 (Area D); ANSC-10 or PLSC-10 (area B2); and SOIL-10 (area B1).
**Certificate**

Agriculture Business (01000.CT)

A Certificate of Achievement will be awarded upon satisfactory completion of the 19 unit core, plus 15 units from the electives below (at least five elective units must be AGBS courses).

Program Student Learning Outcomes

A. Given a computer with the proper software and the parameters of a hypothetical or actual problem, students will be able to demonstrate the ability to compose a word processing document, a mathematical spreadsheet, and/or an information database given the parameters of a hypothetical problem.

B. Given a new or improved agricultural product, supply, or service, students will develop a written and oral marketing plan that will include an analysis of the market, a business proposition, the projected budget, and a detailed action plan.

C. Given a scenario involving proposed agricultural legislation or policies, students will analyze the affect of this legislation or policy on the local, state, and national economy and write a position paper justifying their decision to vote "yes" or "no".

---

**Core:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGBS-10 Introduction to Agriculture Business</td>
<td>3</td>
</tr>
<tr>
<td>AGBS-11 Agricultural Economics</td>
<td>3</td>
</tr>
<tr>
<td>AGBS-12 Agricultural Accounting</td>
<td>3</td>
</tr>
<tr>
<td>AGBS-13 Agricultural Marketing</td>
<td>3</td>
</tr>
<tr>
<td>AGBS-17 Agricultural Sales &amp; Communication</td>
<td>3</td>
</tr>
<tr>
<td>AGBS-18 Agricultural Computer Applications</td>
<td>3</td>
</tr>
<tr>
<td>MECH-31 Equipment Safety</td>
<td>1</td>
</tr>
</tbody>
</table>

Plus 12 units from these electives:

A. Given a computer with the proper software and the parameters of a hypothetical or actual problem, students will be able to demonstrate the ability to compose a word processing document, a mathematical spreadsheet, and/or an information database given the parameters of a hypothetical problem.

B. Given a new or improved agricultural product, supply, or service, students will develop a written and oral marketing plan that will include an analysis of the market, a business proposition, the projected budget, and a detailed action plan.

C. Given a scenario involving proposed agricultural legislation or policies, students will analyze the affect of this legislation or policy on the local, state, and national economy and write a position paper justifying their decision to vote "yes" or "no".

---

**Recommended Sequence: A.A. - Agriculture Business (01000.AA); A.S. - Agriculture Business: Advanced (01030.AS)**

**Fall 1**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGBS-10 Introduction to Agriculture Business</td>
<td>3</td>
</tr>
<tr>
<td>AGBS-18 Agricultural Computer Applications</td>
<td>3</td>
</tr>
</tbody>
</table>

**Spring 1**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGBS-17 Agricultural Sales and Communication</td>
<td>3</td>
</tr>
<tr>
<td>MECH-31 Equipment Safety</td>
<td>1</td>
</tr>
</tbody>
</table>

**Fall 2**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGBS-11 Agricultural Economics</td>
<td>3</td>
</tr>
<tr>
<td>AGBS-13 Agricultural Marketing</td>
<td>3</td>
</tr>
</tbody>
</table>

**Spring 2**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGBS-12 Agricultural Accounting</td>
<td>3</td>
</tr>
</tbody>
</table>

---

**Suggested agriculture courses to meet General Education Breadth Requirements:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGBS-11 Agricultural Economics</td>
<td>3</td>
</tr>
<tr>
<td>ANSC-10 Elements of Animal Science</td>
<td>3</td>
</tr>
</tbody>
</table>

or

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>PLSC-10 Elements of Plant Science</td>
<td>3</td>
</tr>
<tr>
<td>SOIL-10 Soil Science</td>
<td>3</td>
</tr>
</tbody>
</table>

*AGBS-30 and AGBS-31 are both repeatable three times.

**Includes Animal Science and Dairy Husbandry courses.

***Includes Plant Science, Crop Production, Soil Science, Landscape Horticulture, and Fruit Production courses.

---

**Suggested agriculture courses to meet General Education Breadth Requirements:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGBS-11 (Area D); ANSC-10 or PLSC-10 (area B2); and SOIL-10 (area B1).</td>
<td></td>
</tr>
</tbody>
</table>
AGRICULTURE BUSINESS (AGBS)

AGBS-10 INTRODUCTION TO AGRICULTURE BUSINESS
3 units: 3 hours lecture.
Advisories: ENGL-A; MATH-A or MATH-B.
This course is a survey of the broad scope of agriculture business. It serves as an introduction to economic, accounting, management, sales, leadership, and marketing aspects of agriculture and their impact on producers and consumers. The management principles encountered in the day-to-day operation of a business are stressed as they relate to the decision-making process. (12/06)

AGBS-11 AGRICULTURAL ECONOMICS
(CSU breadth area D2) (IGETC area 4B)
3 units: 3 hours lecture.
Advisories: ENGL-A; MATH-A.
This course serves as an introduction to the economic aspects of agriculture and the implications to local, state, national, and global markets. Students will learn the role of agricultural resources (land, labor, capital, and entrepreneurship), major agricultural resource issues and their policy remedies, and economic factors that affect prices, supply, demand, and allocation of farm commodities. This class will explore the contemporary and historical place of agriculture and farmers in our economic, social, and political systems and their relationship to the consuming public. (10/04)

AGBS-12 AGRICULTURAL ACCOUNTING
3 units: 3 hours lecture.
Advisories: ENGL-A; MATH-A or MATH-B.
This course will focus on the principles of agricultural accounting systems, type of records, their use, and how to compute and use measures of earnings and costs of production to improve agribusiness efficiency. Farm income tax, social security, and employee payroll records will also be covered. (12/06)

AGBS-13 AGRICULTURAL MARKETING
3 units: 3 hours lecture.
Advisories: ENGL-A; MATH-A or MATH-B.
This course surveys the nine functions of marketing within the context of the agricultural industry. These functions include: buying, selling, storage, transportation, processing, risk management, market information, grading, and financing. Also included is an overview of the structure and institutional aspects of the marketing system including global agricultural markets. (12/06)

AGBS-14 FARM MANAGEMENT
3 units: 3 hours lecture.
Advisories: ENGL-A; MATH-A or MATH-B.
This course will focus on the organization and operation of farm or ranch businesses. Students will assess factors affecting profitability and evaluate opportunities for increased efficiency and profit. Students will apply budgeting principles to the school farm laboratory and perform and independent analysis of a farm. (12/06)

AGBS-17 AGRICULTURAL SALES AND COMMUNICATION
3 units: 3 hours lecture.
Advisory: ENGL-A.
This course involves the study of principles and practices of the selling process: selling strategies and approaches, why and how people buy, prospecting, territory management, and customer service. Self-management, communication, and interpersonal skills necessary in developing managerial abilities, leadership qualities, and facilitating teamwork within the agribusiness sector will be explored. Students will gain experience through roleplay, formal sales presentations, and job shadowing. (12/06)

AGBS-18 AGRICULTURAL COMPUTER APPLICATIONS
(CILC areas A,B,C,D,E,F,G)
3 units: 2 hours lecture, 3 hours lab.
Advisories: ENGL-A; MATH-A or MATH-B.
This course explores computer use in the workplace with emphasis on agribusiness situations. Computer applications including word-processing, spreadsheets, databases, and presentation managers will be covered. Also included will be accessing information through the Internet and World Wide Web, telecommunications, an introduction to web page design, and other software appropriate to agribusiness. (01/07)

AGBS-31 AGRICULTURAL AMBASSADORS
1.5 units: 1 hour lecture, 1.5 hours lab.
Advisories: ENGL-81, ENGL-84.
The purpose of this course is to train effective and efficient Agricultural Ambassadors. This highly specialized team of students will encourage higher education, agricultural awareness, and educational opportunities within Merced College’s Agriculture Division. Students will develop confidence and speaking ability, prepare recruitment and teaching materials, and establish an on-call public relations system for prospective future students and members of the community. This course may be repeated three times. (2/02)

AGBS-48 AGRICULTURE BUSINESS: PROBLEMS
2 units: 6 hours lab.
Advisories: ENGL-A; MATH-A or MATH-B.
This course is designed for students interested in problems within the field of Agricultural Business. The problem areas will include, but not be limited to, management, marketing, accounting, commodities, market, agriculture economics, taxation, and computer use. (01/07)

AGBS-70 A-Z SPECIAL TOPICS IN AGRICULTURE BUSINESS
0.5 - 4 units: 0.4 hours lecture, 0-12 hours lab.
Advisories: ENGL-A; MATH-A or MATH-B.
This course is the study of basic principles, processes, and theories of the special topic being presented during the semester. (12/06)
ALLIED HEALTH (ALLH)

ALLH-50 EMERGENCY MEDICAL TECHNICIAN I  
6 units: 5 hours lecture, 3 hours lab.  
Limitation on enrollment: Negative TB skin test or negative chest x-ray for TB within the last four years; a CPR course based on American Red Cross or American Heart Association that includes one- and two-rescuers CPR plus infant CPR. Advisories: ALLH-67; ENGL-84; a first-aid course equivalent to the course offered by the American Red Cross.  
This beginning course is designed to teach basic emergency medical procedures and responsibilities, including stabilization of the sick and injured for transportation to medical facilities, care during transport, communication with base-hospital personnel, and transfer of the injured to the base-hospital emergency room. This course meets the requirements of Title 22, Division of California Administrative Code. Students successfully completing ALLH-50 and ALLH-51 are eligible to take the EMT I certifying exam from any EMS Agency within the State of California. It is recommended that the student take ALLH-50 and ALLH-51 concurrently.  
(4/05)

ALLH-51 EMERGENCY MEDICAL TECHNICIAN I, AMBULANCE  
1 unit: 18 total hours lecture, plus 8 hours of field experience.  
Limitation on enrollment: Valid California driver's license; negative TB skin test or negative chest x-ray; a CPR course based on American Red Cross or American Heart Association that includes one- and two-rescuers CPR plus infant CPR. Two-way corequisite: ALLH-50. Advisories: ALLH-67; ENGL-84; First Aid: Be able to perform first aid based on the course offered by the Red Cross or its equivalent a) recognize when emergency has occurred: b) follow emergency action steps in any emergency; c) provide basic care for injury and or sudden illness until the victim can receive professional medical help.  
This course provides the ambulance module of the EMT I certification program. Topics for the course include the roles and responsibilities of ambulance personnel, legal aspects of ambulance operation, radio communications, maintenance of medical equipment and supplies, driver licensing requirements. This course with ALLH-50 satisfies the California Administrative Code requirements for eligibility for certification as an EMT 1. (11/09)

ALLH-60 NURSE ASSISTANT  
5.5 units: 3 hours lecture, 7.5 hours lab.  
Limitation on enrollment: Orientation workshop; CPR card - Module A/C; negative TB screening test within past 6 months or negative chest x-ray within past year; DOJ fingerprint clearance; Penal Code Violations clearance. Advisories: ENGL-80, ENGL-84.  
The course provides clinical instruction and practice of basic nursing skills required of nursing assistants employed in skilled nursing facilities and extended care facilities. The course emphasizes care of the older adult client, assistance with the activities of daily living, bathing, dressing, exercise movement, eating, eliminating safety measures, cardiopulmonary resuscitation and rehabilitation techniques. Meets State Department of Health Services requirements for eligibility to take the Nursing Assistant Certification examination. (10/06)

ALLH-67 MEDICAL TERMINOLOGY  
3 units: 3 hours lecture.  
Advisory: ENGL-A.  
This course is a study of general medical terminology -- diagnostic, operative, and symptomatic terms related to body systems -- with emphasis on proper spelling and pronunciation. (10/03)
# American Sign Language

**Social Sciences, Humanities, and Fine Arts**

<table>
<thead>
<tr>
<th>AMERICAN SIGN LANGUAGE (ASLG)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ASLG-01 BEGINNING AMERICAN SIGN LANGUAGE</strong></td>
<td>3 units: 3 hours lecture.</td>
</tr>
<tr>
<td>Prerequisite/Advisory: None.</td>
<td></td>
</tr>
<tr>
<td>This course is an introduction to understanding and signing American Sign Language and appreciating the basic elements of the deaf culture. Emphasis is on obtaining a practical command of the language, including major grammatical components, basic ASL sentence structures, non-manual gestures, expression of spatial relationships in a visual-gestural language, and beginning conversational skills. (9/07)</td>
<td></td>
</tr>
</tbody>
</table>

| **ASLG-02 INTERMEDIATE AMERICAN SIGN LANGUAGE** | 3 units: 3 hours lecture. |
| Prerequisite: ASLG-01. |  |
| This course provides intermediate practice understanding and signing American Sign Language and appreciating the basic elements of the deaf culture. Emphasis is on obtaining a practical command of the language including major grammatical components, basic ASL sentence structures, non-manual gestures, expression of spatial relationships in a visual-gestural language, and intermediate conversational skills. (9/07) |  |

| **ASLG-03 ADVANCED AMERICAN SIGN LANGUAGE** | 3 units: 3 hours lecture. |
| Prerequisite: ASLG-02. |  |
| This course provides advanced practice in understanding and signing American Sign Language and appreciating the basic elements of the deaf culture. Emphasis is on obtaining a practical command of the language, including major grammatical components, basic ASL sentence structures, non-manual gestures, expression of spatial relationships in a visual-gestural language, and advanced conversational skills. (9/07) |  |
Animal Science
Career and Technical Education

DEGREES
A.A. - Animal Science
A.S. - Animal Science: Advanced

CERTIFICATE
Animal Science

Program Description
The Animal Science curriculum at Merced College is designed to meet the need for trained personnel in a broad range of occupational opportunities involved with or related to the Animal Science field.

Career Opportunities
Two out of ten Animal Science graduates are involved with the production end of Animal Science. They work as self-employed farmers or ranchers in a livestock environment. The remaining eight graduates find positions in Animal-related occupations such as meat and animal processing and marketing, livestock sales, U.S. Department of Agriculture, and banking and corporate holdings in Agriculture Management. The Animal Science graduate can expect to find employment in the areas of Animal Production, Ranch Manager, Feed Processing, Equipment Sales & Service, Veterinarian, Health Products Sales & Service, Marketing, and Teaching.

DEGREE (8/04)
A.A. - Animal Science (01100.AA)

An Associate in Arts Degree in Animal Science is available upon satisfactory completion of the graduation requirements and completing the 22-unit core.

Program Student Learning Outcomes
A. With an emphasis on general education, given various feed samples, identify each sample by name, formulate a ration and analyze which categories they fit.
B. With an emphasis on general education, given a group of replacement females and their production records, judge and assess which females should be kept for replacements in the herd.
C. With an emphasis on general education, given a group of cows and the proper equipment, demonstrate the proper technique to artificially inseminate a cow.

Core:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGBS-18</td>
<td>3</td>
</tr>
<tr>
<td>ANSC-10</td>
<td>3</td>
</tr>
<tr>
<td>ANSC-11</td>
<td>3</td>
</tr>
<tr>
<td>ANSC-12</td>
<td>3</td>
</tr>
<tr>
<td>ANSC-13</td>
<td>3</td>
</tr>
<tr>
<td>CROP-13</td>
<td>3</td>
</tr>
<tr>
<td>MECH-31</td>
<td>1</td>
</tr>
<tr>
<td>Plus one animal production course from the following list:</td>
<td></td>
</tr>
<tr>
<td>ANSC-16</td>
<td>3</td>
</tr>
<tr>
<td>ANSC-17</td>
<td>3</td>
</tr>
<tr>
<td>ANSC-18</td>
<td>3</td>
</tr>
<tr>
<td>ANSC-19</td>
<td>3</td>
</tr>
<tr>
<td>DAIR-10</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>22</td>
</tr>
</tbody>
</table>
DEGREE  (11/09)
A.S. - Animal Science: Advanced  (01110.AS)

An Associate in Science Degree in Animal Science is available upon satisfactory completion of the graduation requirements, completion of the core courses, plus eight units from the electives list.

Program Student Learning Outcomes
A. With an emphasis on science, given various feed samples, identify each sample by name, formulate a ration and analyze which categories they fit.  
B. With an emphasis on science, given a group of replacement females and their production records, judge and assess which females should be kept for replacements in the herd.  
C. With an emphasis on science, given a group of cows and the proper equipment, demonstrate proper techniques to artificially inseminate a cow.

Core:  
AGBS-18  Agricultural Computer Applications ............................................ 3  
ANSC-10  Elements of Animal Science ......................................................... 3  
ANSC-11  Elements of Animal Nutrition ....................................................... 3  
ANSC-12  Livestock Breeding and Selection .................................................. 3  
ANSC-13  Animal Disease and Parasite Control ............................................. 3  
CROP-13  Forage Crops .................................................................................. 3  
MECH-31  Equipment Safety ........................................................................... 1

Plus one animal production course from the following list::  
ANSC-16  Horse Husbandry ............................................................................ 3  
ANSC-17  Beef Production .............................................................................. 3  
ANSC-18  Sheep Production ............................................................................ 3  
ANSC-19  Swine Production ............................................................................ 3  
DAIR-10  Elements of Dairy ............................................................................ 3

Plus 8 units from these electives:  
AGBS-12  Agricultural Accounting ................................................................. 3  
ANSC-15  Livestock Selection ......................................................................... 2  
ANSC-16  Horse Husbandry ............................................................................ 3  
ANSC-17  Beef Production .............................................................................. 3  
ANSC-18  Sheep Production ............................................................................ 3  
ANSC-19  Swine Production ............................................................................ 3  
ANSC-22  Applied Livestock Practices .............................................................. 3  
ANSC-30  Fitting, Showing, and Merchandising Livestock .............................. 1.5  
ANSC-70  Special Topics in Animal Science .................................................... 1-3  
DAIR-10  Elements of Dairy ............................................................................ 3  
DAIR-11  Dairy Cattle Selection ..................................................................... 2  
MECH-06  Fundamentals of Oxy-Fuel Welding and Shielded Metal Arc Welding ................................................................. 3  
MECH-12  Agriculture Equipment ................................................................. 3

CERTIFICATE  
Animal Science  (01100.CT)

A Certificate of Achievement will be awarded upon satisfactory completion of the 22-unit core and 14 units from the electives list.

Program Student Learning Outcomes
A. Given various feed samples, identify each sample by name, formulate a ration and analyze which categories they fit.  
B. Given a group of replacement females and their production records, judge and assess which females should be kept for replacements in the herd.  
C. Given a group of cows and the proper equipment, demonstrate proper techniques to artificially inseminate a cow.

Core:  
AGBS-18  Agricultural Computer Applications ............................................ 3  
ANSC-10  Elements of Animal Science ............................................................ 3  
ANSC-11  Elements of Animal Nutrition .......................................................... 3  
ANSC-12  Livestock Breeding and Selection .................................................... 3  
ANSC-13  Animal Disease and Parasite Control ............................................. 3  
CROP-13  Forage Crops .................................................................................. 3  
MECH-31  Equipment Safety ........................................................................... 1

Plus one animal production course from the following list::  
ANSC-16  Horse Husbandry ............................................................................ 3  
ANSC-17  Beef Production .............................................................................. 3  
ANSC-18  Sheep Production ............................................................................ 3  
ANSC-19  Swine Production ............................................................................ 3  
DAIR-10  Elements of Dairy ............................................................................ 3

Plus 14 units from these electives:  
AGBS-12  Agricultural Accounting ................................................................. 3  
ANSC-15  Livestock Selection ......................................................................... 2  
ANSC-16  Horse Husbandry ............................................................................ 3  
ANSC-17  Beef Production .............................................................................. 3  
ANSC-18  Sheep Production ............................................................................ 3  
ANSC-19  Swine Production ............................................................................ 3  
ANSC-22  Applied Livestock Practices .............................................................. 3  
ANSC-30  Fitting, Showing, and Merchandising Livestock .............................. 1.5  
ANSC-70  Special Topics in Animal Science .................................................... 1-3  
DAIR-10  Elements of Dairy ............................................................................ 3  
DAIR-11  Dairy Cattle Selection ..................................................................... 2  
MECH-06  Fundamentals of Oxy-Fuel Welding and Shielded Metal Arc Welding ................................................................. 3  
MECH-12  Agriculture Equipment ................................................................. 3

Recommended Sequence:  A.A. - Animal Science  (01110.AA) &  
A.S. - Animal Science: Advanced  (01110.AS)

Fall 1  
AGBS-18  Agricultural Computer Applications ............................................ 3  
ANSC-10  Elements of Animal Science ............................................................ 3  
ANSC-30  Fitting, Showing, and Merchandising Livestock .............................. 1.5  
Production Class in Rotation:  
ANSC-16  Horse Husbandry ............................................................................ 3  
ANSC-17  Beef Production .............................................................................. 3  
ANSC-18  Sheep Production ............................................................................ 3  
ANSC-19  Swine Production ............................................................................ 3  
DAIR-10  Elements of Dairy ............................................................................ 3

Spring 1  
ANSC-11  Elements of Animal Nutrition .......................................................... 3  
ANSC-30  Fitting, Showing, and Merchandising Livestock .............................. 1.5  
MECH-31  Equipment Safety ........................................................................... 1  
Production Class in Rotation:  
ANSC-16  Horse Husbandry ............................................................................ 3  
ANSC-17  Beef Production .............................................................................. 3  
ANSC-18  Sheep Production ............................................................................ 3

WWW.MCCD.EDU  •  Animal Science  •  65
ANSC-19 Swine Production ......................................... 3
DAIR-10 Elements of Dairy ........................................ 3

Fall 2
ANSC-13 Animal Disease and Parasite Control .......... 3
ANSC-30 Fitting, Showing, and Merchandising Livestock .. 1.5

Production Class in Rotation
ANSC-16 Horse Husbandry ....................................... 3
ANSC-17 Beef Production ........................................ 3
ANSC-18 Sheep Production ....................................... 3
ANSC-19 Swine Production ....................................... 3
DAIR-10 Elements of Dairy ....................................... 3

Spring 2
ANSC-12 Livestock Breeding and Selection ............... 3
ANSC-30 Fitting, Showing, and Merchandising Livestock .. 1.5
CROP-13 Forage Crops ........................................... 3

ANSC-16 Horse Husbandry ....................................... 3
ANSC-17 Beef Production ........................................ 3
ANSC-18 Sheep Production ....................................... 3
ANSC-19 Swine Production ....................................... 3
DAIR-10 Elements of Dairy ....................................... 3

Recommended Sequence: Certificate - Animal Science (01100. CT)

Fall 1
AGBS-12 Agricultural Accounting .............................. 3
AGBS-18 Agricultural Computer Applications .............. 3
ANSC-10 Elements of Animal Science ............................ 3
ANSC-13 Animal Disease and Parasite Control ............... 3
ANSC-30 Fitting, Showing, and Merchandising Livestock .. 1.5
MECH-12 Agricultural Equipment ............................. 2

Production Class in Rotation
ANSC-16 Horse Husbandry ....................................... 3
ANSC-17 Beef Production ........................................ 3
ANSC-18 Sheep Production ....................................... 3
ANSC-19 Swine Production ....................................... 3
DAIR-10 Elements of Dairy ....................................... 3

Spring 1
ANSC-11 Elements of Animal Nutrition ..................... 3
ANSC-12 Livestock Breeding and Selection ............... 3
ANSC-30 Fitting, Showing, and Merchandising Livestock .. 1.5
CROP-13 Forage Crops ........................................... 3
MECH-06 Fundamentals of Oxy-Fuel Welding and Shielded Metal Arc Welding ................................. 3
MECH-31 Equipment Safety ...................................... 1

ANSC-10 ELEMENTS OF ANIMAL SCIENCE

3 units: 3 hours lecture.
Advisory: ENGL-A.

This course is a survey of the livestock industry, supply of animal products, and their uses in animal production. There is a special emphasis on the origin, characteristics, adaptation, and contributions of farm animals to the agriculture industry. The student will analyze the economic trends and career opportunities in animal agriculture. Field trips will be required. (12/06)

ANSC-11 ELEMENTS OF ANIMAL NUTRITION

3 units: 3 hours lecture.
Advisories: ENGL-A; MATH-80.

The science of animal nutrition is the basis for “Livestock Feeding and Nutrition.” The fundamentals of digestion and absorption in both ruminants and non-ruminants are discussed in this course. The nutritive value of feeds as they relate to the formulation of livestock rations will be emphasized, including by-product feeding. (12/06)

ANSC-12 LIVESTOCK BREEDING AND SELECTION

3 units: 3 hours lecture.
Advisory: ENGL-A.

This course combines the study of basic genetic principles with the study of the anatomical and physiological aspects of reproduction as they relate to animal species significant to agriculture. The genetic principles to be emphasized include basic inheritance, selection techniques, mating systems, heterosis, and performance evaluation. The reproductive aspects to include endocrinology, estrous cycles, mating behaviors, gametogenesis, conception, gestation, parturition, and maternal behaviors. Artificial insemination, embryo manipulation, and current innovations in reproductive biotechnology will also be examined. (12/06)

ANSC-13 ANIMAL DISEASE AND PARASITE CONTROL

3 units: 3 hours lecture.
Advisory: ENGL-A.

This course of animal health and sanitation will provide instruction to the student on common livestock diseases and fundamentals of immunity. It will also include coverage of the livestock worker’s role in promoting animal health and the foundation of disease control programs. (12/06)

ANSC-15 LIVESTOCK SELECTION

2 units: 1 hour lecture, 3 hours lab.
Advisory: ENGL-A.

This is a detailed analysis of various visual and physical methods of appraising beef, sheep, swine, and horses concerning functional and economic value. Written and oral summaries of evaluation will be learned in the class. Specific reference will be made to performance data and factors determining carcass value. The course may be repeated three times for advanced skill and training. (01/07)

ANSC-16 HORSE HUSBANDRY

3 units: 2 hours lecture, 3 hours lab.
Advisory: ENGL-A.

This is a survey of the equine industry encompassing the evolution and role of the equine species throughout history, breed selection and development, nutrition, diseases, preventive health, reproductive management, basic horsemanship, and stapling alternatives. (12/06)

ANSC-17 BEEF PRODUCTION

3 units: 2 hours lecture, 3 hours lab.
Advisory: ENGL-A.

This is a study of principles and practices of purebred and commercial beef cattle production throughout the world, United States, and California. There will be emphasis placed on the importance of breeds, breeding principles, selection, nutrition, environmental management, health, marketing, and record keeping to ensure scientifically-based management decisions and consumer product acceptance as applied to beef cattle. (12/06)

ANSC-18 SHEEP PRODUCTION

3 units: 2 hours lecture, 3 hours lab.
Advisory: ENGL-A.

This course is a survey of the sheep industry, including management of commercial, purebred, and small farm flocks; selecting, feeding, breeding, and basic care of ewes and lambs, plus the marketing of lambs and wool. (12/06)

ANSC-19 SWINE PRODUCTION

3 units: 2 hours lecture, 3 hours lab.
Advisory: ENGL-A.

This is a study of the principles and practices of purebred and commercial pork production throughout California, the United States, and the world. Emphasis will be placed on the importance of breeds, breeding principles, selection, nutrition, environmental management, health, marketing, and record keeping to ensure scientifically-based management decisions and consumer product acceptance. (12/06)

ANSC-22 APPLIED LIVESTOCK PRACTICES

3 units: 2 hours lecture, 3 hours lab.
Advisories: ENGL-81, ENGL-84.

This class will provide the selection and completion of an animal project
under faculty supervision. The class involves participation in the actual purchase, raising, care and handling, managing, and merchandising of one or a group of project animals. The actual ownership of the livestock is not required as college animals will be used. This course may be repeated once. (3/00)

ANSC-30 FITTING, SHOWING, AND MERCHANDISING LIVESTOCK
1.5 units: 1 hour lecture, 1.5 hours lab.
Advisory: ENGL-A.
This course is designed for people to develop skills in preparing and marketing beef cattle, sheep, swine, dairy cattle, and horses for competition at fairs and shows. Lessons in exhibiting the animals are given. The course may be repeated three times for advanced skill and training. (1/06)

ANSC-40 BEGINNING HORSEMANSHIP (WESTERN)
2 units: 1 hour lecture, 3 hours lab.
Advisories: ENGL-81, ENGL-84. (Note: Check with instructor for supplies needed.)
This is a course that deals with the handling and schooling of a horse from the ground, in addition to basic fundamentals of riding. Safety factors for both horse and rider will be emphasized. Other areas of the course will include the proper use of equipment and aids. (11/06)

ANSC-41 INTERMEDIATE HORSEMANSHIP (WESTERN)
2 units: 1 hour lecture, 3 hours lab.
Prerequisite: ANSC-40. Advisories: ENGL-81, ENGL-84. (Note: Check with instructor for supplies needed.)
This is a class in intermediate western riding which will enable a person to school a horse, teach beginning riding, or train another rider in schooling. The student will obtain a working knowledge of the judging of horse shows and obligations involved in the judging of different events. A rider in this class is expected to be able to give a creditable performance in a standard AHSA or AQHA horse show. (11/06)

ANSC-46A SPECIALIZED HORSE TRAINING
4 units: 2 hours lecture, 6 hours lab.
One-way corequisite: ANSC-40. Advisories: ENGL-81, ENGL-84. (Note: Check with instructor for supplies needed.)
This course deals with early schooling of the young horse, in training techniques, breaking to lead, acceptance of snaffle bit, socking out procedures, and developing a good foundation of horse and trainer relationship for elementary ground work and riding. (11/06)

ANSC-46B SPECIALIZED HORSE TRAINING
4 units: 2 hours lecture, 6 hours lab.
Prerequisite: ANSC-46A. Advisories: ENGL-81, ENGL-84. (Note: Check with instructor for supplies needed.)
This course is designed for learning advanced training of the young horse including collection, turning, backing, leads, flying leads, trailer loading, rope work, and cattle work. (11/06)

ANSC-47A BACK COUNTRY ANIMAL MANAGEMENT
1 unit: 0.5 hour lecture, 1.5 hours lab.
Prerequisite/Advisory: None.
The care and maintenance of horses and mules in back country situations will be the emphasis of this course. Packing skills, load hitches, and load balance of pack animals will be stressed. Trail and pack animal safety will be incorporated.

ANSC-48 TACK REPAIR
1 unit: 0.5 hour lecture, 1.5 hours lab.
Prerequisite/Advisory: None.
This class is designed to teach the care and maintenance of tack and accessories. The skills to be learned will include stitching, braiding, splicing, riveting, and proper saddle and miscellaneous tack repair. Repairs, taking into consideration the comfort of the horse, will be stressed.

ANSC-49 ANIMAL SCIENCE: PROBLEMS
2 units: 6 hours lab.
Advisory: ENGL-A.
This course will involve supervised study and practices involving special problems in Animal Science. The areas covered in this course should be areas that are not covered in other Animal Science courses. Emphasis will be placed on the needs and interests of the students. (3/07)

ANSC-50 HORSESHOEING
5 units: 2 hours lecture, 9 hours lab.
Advisories: ENGL-81, ENGL-84.
This course is an introduction to the shoeing of horses, utilizing both hot and cold shoes. Also included will be the anatomy and physiology of the horse’s foot with the ability to identify blemishes and soundness in horses. Use of the forge and the making of shoes from bar stock will be presented in addition to the instruction of actually shoeing horses. (1/06)

ANSC-51 ADVANCED HORSESHOEING
5 units: 2 hours lecture, 9 hours lab.
Prerequisite: ANSC-50. Advisory: ENGL-81.
This is an advanced course in the corrective shoeing of horses. The course is designed to prepare the farrier to handle special problems in correcting foot problems of various types of horses. Use of the forge for the construction of various types of special shoes and weights will be included along with its actual application to the shoeing of problem horses. (1/06)

ANSC-52 HOOF CARE AND TRIMMING
2 units: 1 hour lecture, 3 hours lab.
Advisories: ENGL-81, ENGL-84.
This is a class designed to teach the student how to care for and maintain the hooves of horses. (1/06)

ANSC-54 ARTIFICIAL INSEMINATION
1 unit: 3 hours lab.
Advisories: ENGL-81, ENGL-84.
This is a hands-on program where the student learns and practices to artificially inseminate. Included in this course is anatomy, heat detection, proper equipment, fertility, insemination records, and determining pregnancy. (1/06)

ANSC-70AA-ZZ SPECIAL TOPICS IN ANIMAL SCIENCE
0.5 - 4 units: 0-4 hours lecture, 0-12 hours lab.
Advisories: ENGL-81, ENGL-84.
This course is the study of basic principles, processes, and theories of the special topic being presented during the semester. (01/07)

DAIRY HUSBANDRY (DAIR)

DAIR-10 ELEMENTS OF DAIRY
3 units: 2 hours lecture, 3 hours lab.
Advisories: ENGL-A.
This is a study of history, development, and projections of the dairy industry. General information on the economics of dairying, facts, trends, selection, culling, fitting, showing, judging, pedigrees, feeding, and basic management skills will be learned and also information on employment opportunities and requirements. (12/06)

DAIR-11 DAIRY CATTLE SELECTION
2 units: 1 hour lecture, 3 hours lab.
Advisory: ENGL-A.
There will be selection of dairy cattle based on type conformation and the correlation between type and production. Pedigree evaluation, animal analysis, linear classification, and body condition scoring will be learned. Written and oral evaluation on selection will be done. The course may be repeated once for advanced skill and training. (01/07)
Anthropology & Archeology
Social Sciences, Humanities, and Fine Arts

DEGREE
A.A. - Anthropology: Archaeology
A.A. - Anthropology: Cultural
A.A. - Anthropology: Physical

Program Description
The Anthropology program integrates concepts and information from the Natural Sciences, Social Sciences and Humanities to provide a holistic understanding of mankind through the fields of Biological Anthropology, Socio-cultural Anthropology and Archaeology.

This program is designed for students interested in Anthropology who intend to continue their studies at one of the California State Colleges or at the University of California; students should work with their counselors for specific requirements.

DEGREE
A.A. - Anthropology: Archaeology
(22100.AA)

For an Associate in Arts Degree in Anthropology: Archaeology, students must meet the graduation requirements and the 18-unit curriculum below. It is recommended that breadth classes be chosen from the lists below whenever possible.

Program Student Learning Outcomes
A. Demonstrate the ability to use chronometric data and cadastral technology in archaeological fieldwork.
B. Evaluate the evidence for Archaeological interpretations.
C. Demonstrate an understanding of past cultural diversity.
D. Apply knowledge and skills towards solving problems in archaeological interpretation.

Units
ANTH-01 Physical Anthropology .................................................. 3
ANTH-01L Physical Anthropology Lab ........................................ 1
ANTH-02 Cultural Anthropology ................................................ 3
ARCH-01 Introduction to Archaeology ...................................... 3
ARCH-01L Field Archaeology ..................................................... 1

Students must also select an additional seven units from the following lists according to the student’s area of concentration:
Archaeology Concentration
GEOG-01 Physical Geography .................................................. 3
GEOG-01L Physical Geography Lab ........................................ 1
GEOL-01 Physical Geology .......................................................... 4
MATH-10 Elementary Statistics .............................................. 3
SCI-30 Science Lab Experience .............................................. 1
SOIL-10 Soil Science ................................................................. 3

18

DEGREE
A.A. - Anthropology: Cultural (22105.AA)

For an Associate in Arts Degree in Anthropology: Cultural, students must meet the graduation requirements and the 18-unit curriculum below. It is recommended that breadth classes be chosen from the lists below whenever possible.

Program Student Learning Outcomes
A. Evaluate the interpretation of anthropological evidence.
B. Demonstrate an understanding of cultural diversity.
C. Apply knowledge towards addressing problems in Socio-cultural Anthropology.

Units
ANTH-01 Physical Anthropology .................................................. 3
ANTH-01L Physical Anthropology Lab ........................................ 1
ANTH-02 Cultural Anthropology ................................................ 3
ARCH-01 Introduction to Archaeology ...................................... 3
ARCH-01L Field Archaeology ..................................................... 1

Students must also select an additional seven units from the following lists according to the student’s area of concentration:
Cultural Concentration
ANTH-10 Southeast Asian Culture ............................................ 3
GEOG-10 World Geography ....................................................... 3
MATH-10 Elementary Statistics .............................................. 3
PHIL-15 Comparative Religions .............................................. 3
SCI-30 Science Lab Experience .............................................. 1

18
DEGREE
A.A. - Anthropology: Physical (22110.AA)

For an Associate in Arts Degree in Anthropology: Physical, students must meet the graduation requirements and the 18-unit curriculum below. It is recommended that breadth classes be chosen from the lists below whenever possible.

Program Student Learning Outcomes
A. Demonstrate the ability to use current anthropometric or other appropriate technology and interpret the resulting data.
B. Evaluate bio-anthropological evidence relating to primatology, human paleontology and physical variability.
C. Demonstrate an understanding of the cultural development of man from the Paleolithic to Neolithic periods.
D. Apply knowledge and skills towards solving problems in Forensic Anthropology.

Program Student Learning Outcomes Units
ANTH-01 Physical Anthropology ......................... 3
ANTH-01L Physical Anthropology Lab ...................... 1
ANTH-02 Cultural Anthropology .......................... 3
ARCH-01 Introduction to Archaeology .................... 3
ARCH-01L Field Archaeology ............................... 1

Students must also select an additional seven units from the following lists according to the student’s area of concentration:

Physical Concentration

BIOI-09 Introduction to Genetics .......................... 3
BIOI-16 General Human Anatomy ......................... 4
CHEM-04A General Chemistry ............................. 5
CHEM-04B General Chemistry ............................. 5
GEOL-01 Physical Geology ................................. 4
MATH-10 Elementary Statistics ........................... 3
SCI-30 Science Lab Experience ............................ 1

ANTHROPOLOGY (ANTH)

ANTH-01 PHYSICAL ANTHROPOLOGY
(CSU breadth area B2/B3) (IGETC area 5B)
4 units: 3 hours lecture, 3 hours lab.
Advisory: ENGL-A.
This survey of physical anthropology deals with the study of man's biological heritage and physical variability. The fossil evidence and theories of early man's development will be covered. Students will have the opportunity to study man's behavioral adaptability through contact with authentic stone tools made by our prehistoric ancestors. Human genetics, racial variation, primatology, paleoanthropology, forensic anthropology, and current bioethical issues will also be discussed. The philosophy of science and the scientific method serve as the foundation of this course. The laboratory portion of the course will include exercises in human variation, genetics, skeletal analysis, and primate behavior. (1/05)

ANTH-02 CULTURAL ANTHROPOLOGY
(CSU breadth area D1) (IGETC area 4A)
3 units: 3 hours lecture.
Advisories: ENGL-A.
This course is an introduction to the study of human culture and the concepts, theories, and methods used in the comparative study of socio-cultural systems. Subjects include subsistence patterns, social and political organization, language and communication, family and kinship, religion, the arts, social inequality, ethnicity, gender, and culture change. The course applies anthropological perspectives to contemporary issues. (1/05)

ANTH-10 SOUTHEAST ASIAN CULTURE: EMPHASIS HMONG CULTURE
(CSU breadth area D1) (IGETC area 4A)
3 units: 3 hours lecture.
Advisories: ENGL-A.
This course surveys the basic ideas and social constructs of Southeast Asian cultures, especially the cultures of the new Southeast Asian groups in California: Hmong, Mien, Lao, Cambodian, Vietnamese, etc. Emphasis will be placed on issues of cultural ethnicity, family lifestyle, educational background, and socio-political organization of each group in the past and in the United States. (12/06)

ANTH-32 AN ANTHROPOLOGICAL STUDY OF WOMEN
3 units: 3 hours lecture.
This course focuses on the contrasting roles of women in traditional and contemporary cultures. The arts and artifacts, beliefs, and traditions of various world societies will be studied with regard to their effect on, and interaction with, women. The position of women in decision making, family structure, economics, and other social systems will be investigated.

ARCHAEOLOGY (ARCH)

ARCH-01 INTRODUCTION TO ARCHAEOLOGY
(CSU breadth area B1) (IGETC area 5A)
3 units: 3 hours lecture.
Advisories: ENGL-A.
This course is an introduction to archaeological theory and method. The class examines the historical development of the discipline, various theoretical and methodological approaches, and technical aspects of archaeology such as stratigraphic analysis, relative and absolute dating, lithic analysis and seriation. Artifacts from around the world are used in class to illustrate various concepts of archaeology and prehistory. (2/08)

ARCH-01L FIELD ARCHAEOLOGY
1 unit: 3 hours lab.
Advisories: ENGL-A.
This course provides the student with an opportunity to gain practical experience in archaeological field reconnaissance, archaeological site excavation, laboratory analysis of archaeological data, and preparation of archaeological reports. Students will take part in surveys and excavations on local and historic and prehistoric sites. This course may be repeated three times. (2/08)

ARCH-31 MUSEUM TECHNOLOGY
2 units: 1 hour lecture, 3 hours lab.
Advisories: ENGL-A.
This course is an introduction to the techniques of preservation of those objects which best illustrate the phenomenon of nature and the works of man as well as the utilization of these objects in a museum setting for the increase of knowledge and the enlightenment of the people. Lecture and laboratory work on collection, preservation, and display of such materials and artifacts will be taught. (2/08)
DEGREE
A.A. - Arts and Humanities

Program Description
The degree in Arts and Humanities offers a focus on the broad basic cultural manifestations of the arts and humanities. The area of emphasis is on the intellectual, cultural and aesthetic development of the arts and humanities rather than on the application of skills.

This area of emphasis provides an opportunity to earn an AA degree in a broad area of study and is intended for students who may need to explore possibilities before committing themselves to a career or transferring to a four-year university.

Students are strongly encouraged to consult with a counselor for specific information regarding their career planning.

DEGREE
A.A. - Arts and Humanities (49800.AA)

For an Associate in Arts Degree with an area of emphasis in Arts and Humanities, students must meet the basic graduation requirements and complete 18 units from the courses listed below.

Select nine units from each of the following two categories. Courses listed below may be counted as general education requirements as well as area of emphasis requirements.

Program Student Learning Outcomes
A. Demonstrate a knowledge of the techniques and processes involved in a variety of photographic media.
B. Demonstrate a knowledge of aesthetics and design principles in a variety of photographic media.
C. Recognize and trace relationships between various culture an periods in the art historical time-line and demonstrate their grasp of the underlying philosophies exhibited in the art produced.

Category 1: Arts
ART-01 Art History – Ancient through Gothic.........................3
ART-02 Art History – Renaissance through Modern ................3
ART-06 Art of the 20th Century...........................................3
ART-12A Sculpture.................................................................3
ART-15 Fundamentals of Design in Art.................................3
ART-24A Drawing I.................................................................3
DRAM-01 Introduction to Theater...........................................3
DRAM-03/ENGL-03 History of Dramatic Literature.................3
MUS-01 Fundamentals of Music..............................................3
MUS-11 History of Classical Music (Early Music through Baroque Era).................................3
MUS-12 History of Classical Music (Classical Era to the Present Day).................................3
MUS-13 History and Appreciation of Jazz..............................3
MUS-14 History of American Popular Music.........................3

Category 2: Humanities
HUM-01 Studies in Humanities – Ancient Through Renaissance ...........................................3
HUM-01H Honors Studies in Humanities - Ancient Through Renaissance...........................................3
HUM-02 Studies in Humanities – Renaissance to Present...........3
HUM-02H Studies in Humanities – Renaissance to Present...........3
HUM-21 Humanities and Film.................................................3
ENGL-01B Introduction to Literature.......................................3
ENGL-04A Introduction to World Literature: Ancients to 1650....3
ENGL-04B Introduction to World Literature: 1650 to Present........3
ENGL-06A Major English Writers............................................3
ENGL-06B Major English Writers............................................3
ENGL-10 American Literature from Beginnings to Civil War......3
ENGL-11 American Literature from Post-Civil War to Present...3
ENGL-14 Introduction to Film..................................................3
ENGL-18 African and African-American literature.....................3
PHIL-01 Introduction to Philosophy.........................................3
PHIL-01H Honors Introduction to Philosophy.............................3
PHIL-03 Ancient Philosophy....................................................3
PHIL-04 Modern Philosophy....................................................3
PHIL-05 Contemporary Moral and Social Issues.......................3
PHIL-12 Logic........................................................................3
PHIL-15 Comparative Religions..............................................3
ASTRONOMY (ASTR)

ASTR-01 PRINCIPLES OF ASTRONOMY
(CSU breadth area B1) (IGETC area 5A)
3 units: 3 hours lecture.
Advisory: ENGL-A.

This is a basic course studying the principles of astronomy beginning with the solar system and continuing through the Milky Way Galaxy and the galaxies beyond. Throughout the course topics relating to the philosophy of science, history of astronomy, tools of the astronomer, and supporting topics of physics are introduced. The course is designed for students satisfying breadth requirements in science and having a general interest in astronomy. (12/06)

ASTR-01L INTRODUCTORY ASTRONOMY LABORATORY
(CSU breadth area B3) (IGETC area 5A)
1 unit: 3 hours lab.
One-way corequisite: ASTR-01. Advisories: ENGL-A; MATH A or MATH B.

This is a basic course in astronomy providing laboratory experience and opportunity for observation of the night sky. Specific topics include observations of the solar system and deep sky objects, time studies, planetary motions, telescopes and their applications, spectroscopy, and basic calculations of the astronomer. (12/06)
Automotive Technology
Career and Technical Education

DEGREES
A.A. - Automotive Technology
A.A. - Toyota-approved Auto Technology

CERTIFICATES
Body and Fender
Engine Performance
Suspension and Brakes
Toyota-approved Auto Technology
Transmissions

Program Description
The Merced College Automotive Technology program provides students with skills required for efficient diagnosis, maintenance and repair of current automobiles and automobile systems. The program is recognized and certified by the National Automotive Technicians Education Foundation (NATEF) as an Automotive Service Excellence (ASE) program. The automotive program instructors are ASE certified. The Merced College Automotive program is also certified by the California Bureau of Automotive Repair (BAR) to teach the Basic and Enhanced Clean Air Car Courses.

Merced College Automotive Technology offers students training in theory and practice in all automotive systems. Upon successful completion of the program, students are qualified for placement as technicians in the automotive repair industry. Students may apply units earned by successful completion of Automotive Technology courses to one or more specific certificates and/or an Associate of Arts Degree in Automotive Technology.

Merced College in co-operation with Toyota Motor Sales USA Inc., offers specific technical training that is designed to equip students with skills necessary for employment as a technician in Toyota/Scion or Lexus dealerships. The Toyota Technical Education Network (T-TEN) program offers students training and experience using the latest Toyota, Scion and Lexus vehicles, as well as factory tools and electronic service information. Students interested in this program should contact an automotive instructor or the T-TEN coordinator for information regarding enrollment in the T-TEN program.

Career Opportunities
Automotive Service Technicians
Automotive Line Technicians (mid-level)
Automotive Master Technicians
Assistant Service Managers
Service Managers
Parts Specialist
Field Technical Specialists
Director of Fixed Operations
General Managers

Automotive Service Excellence
Merced College is ASE certified in the following automotive areas:
- Engine Repair
- Transmissions and Transaxles
- Drivetrains and Axles
- Suspension and Steering
- Brake Systems
- Electrical/Electronic Systems
- Heating and Air Conditioning
- Engine Performance

Highlights
Merced College also offers weekend smog update classes certified by the Bureau of Automotive Repair for smog technicians. Contact the Career Technical Education secretary or automotive instructors for more information and dates of update classes.

Aaron Gregory  (209) 386-6677
B.A.R. Certified Instructor
T-10 Coordinator
Don Hoornaert  (209) 384-6175
DEGREE  (2/10)
A.A. - Automotive Technology (09000.AA)

For an Associate in Arts Degree in Automotive Technology, students must meet the graduate requirements and complete one of the following options.

Program Student Learning Outcomes
A. Inspect, diagnose, disassemble, repair, replace and service components/systems in student's area of specialization.
B. Work safely and responsibly within all shop safety and environmental guidelines and standards.
C. Demonstrate competency in accessing and applying technical service information.

<table>
<thead>
<tr>
<th>Units</th>
<th>Body and Fender Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUTO-04</td>
<td>Automotive Mechanics .......................................... 3</td>
</tr>
<tr>
<td>AUTO-32</td>
<td>Wheel Alignment and Suspension .................................. 4</td>
</tr>
<tr>
<td>AUTO-50</td>
<td>Auto Body Repair and Painting .................................. 4</td>
</tr>
<tr>
<td>AUTO-61</td>
<td>Advanced Auto Body Repair and Refinishing .................. 4</td>
</tr>
<tr>
<td>AUTO-65</td>
<td>Automotive Parts and Service Advising .......................... 3</td>
</tr>
<tr>
<td>WELD-06</td>
<td>Fundamentals of Oxy-Fuel Welding and Shielded Metal Arc Welding .......... 3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Units</th>
<th>Engine Performance Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUTO-04</td>
<td>Automotive Mechanics .......................................... 3</td>
</tr>
<tr>
<td>AUTO-42</td>
<td>Automotive Electrical Systems .................................. 3</td>
</tr>
<tr>
<td>AUTO-43</td>
<td>Automotive Fuel Systems .......................................... 3</td>
</tr>
<tr>
<td>AUTO-47</td>
<td>Engine Performance ................................................. 4</td>
</tr>
<tr>
<td>AUTO-48B</td>
<td>Special Problems in Engine Performance ......................... 4</td>
</tr>
<tr>
<td>AUTO-55</td>
<td>Basic/Enhanced Emission Control Devices and Servicing .............. 5</td>
</tr>
<tr>
<td>AUTO-62</td>
<td>Basic Automotive Electronics for Technicians ...................... 3</td>
</tr>
<tr>
<td>AUTO-65</td>
<td>Automotive Parts and Service Advising .......................... 27</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Units</th>
<th>Suspension and Brakes Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUTO-04</td>
<td>Automotive Mechanics .......................................... 3</td>
</tr>
<tr>
<td>AUTO-32</td>
<td>Wheel Alignment and Suspension .................................. 4</td>
</tr>
<tr>
<td>AUTO-33</td>
<td>Automotive Brake Systems .......................................... 4</td>
</tr>
<tr>
<td>AUTO-62</td>
<td>Basic Automotive Electronics for Technicians ...................... 3</td>
</tr>
<tr>
<td>AUTO-65</td>
<td>Automotive Parts and Service Advising .......................... 18</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Units</th>
<th>Transmissions Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUTO-04</td>
<td>Automotive Mechanics .......................................... 3</td>
</tr>
<tr>
<td>AUTO-36</td>
<td>Automatic Transmissions and Drive Trains ......................... 4</td>
</tr>
<tr>
<td>AUTO-46</td>
<td>Automatic Transmissions ............................................. 4</td>
</tr>
<tr>
<td>AUTO-62</td>
<td>Basic Automotive Electronics for Technicians ...................... 3</td>
</tr>
<tr>
<td>AUTO-65</td>
<td>Automotive Parts and Service Advising .......................... 18</td>
</tr>
</tbody>
</table>

DEGREE  (9/07)
A.A. - Toyota-approved Auto Technology (09750.AA)

The Associate in Arts Degree in Toyota-Approved Automotive is designed to prepare students for employment as an automotive technician or parts and service advisor. Students must meet the graduation requirements and complete the major requirements below.

Program Student Learning Outcomes
A. Inspect, diagnose, disassemble, repair, replace and service components/systems in student's area of specialization.
B. Work safely and responsibly within all shop safety and environmental guidelines and standards.
C. Demonstrate competency in accessing and applying technical service information.

<table>
<thead>
<tr>
<th>Units</th>
<th>Automotive Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUTO-04</td>
<td>Automotive Mechanics .......................................... 3</td>
</tr>
<tr>
<td>AUTO-32</td>
<td>Wheel Alignment and Suspension .................................. 4</td>
</tr>
<tr>
<td>AUTO-33</td>
<td>Brakes .......................................................... 4</td>
</tr>
<tr>
<td>AUTO-36</td>
<td>Automotive Manual Transmission Drive Trains ................... 4</td>
</tr>
<tr>
<td>AUTO-41</td>
<td>Automotive Engines ............................................... 4</td>
</tr>
<tr>
<td>AUTO-42</td>
<td>Automotive Electrical Systems ................................... 3</td>
</tr>
<tr>
<td>AUTO-43</td>
<td>Automotive Fuel Systems .......................................... 3</td>
</tr>
<tr>
<td>AUTO-44</td>
<td>Auto Air Conditioning, Heating &amp; Cooling ......................... 4</td>
</tr>
<tr>
<td>AUTO-46</td>
<td>Engine Performance ................................................. 4</td>
</tr>
<tr>
<td>AUTO-47</td>
<td>Automatic Transmissions ........................................... 4</td>
</tr>
<tr>
<td>AUTO-55</td>
<td>Basic/Enhanced Emission Control Devices and Servicing .............. 5</td>
</tr>
<tr>
<td>AUTO-62</td>
<td>Basic Electronics for Technicians .................................. 3</td>
</tr>
<tr>
<td>AUTO-65</td>
<td>Automotive Parts and Service Advising .......................... 4</td>
</tr>
<tr>
<td>COOP-41</td>
<td>Cooperative Education ............................................. 8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Units</th>
<th>Certificate (12/09)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUTO-04</td>
<td>Automotive Mechanics .......................................... 3</td>
</tr>
<tr>
<td>AUTO-32</td>
<td>Wheel Alignment and Suspension .................................. 4</td>
</tr>
<tr>
<td>AUTO-50</td>
<td>Auto Body Repair and Painting .................................. 4</td>
</tr>
<tr>
<td>AUTO-61</td>
<td>Advanced Auto Body Repair and Refinishing ...................... 4</td>
</tr>
<tr>
<td>AUTO-62</td>
<td>Basic Automotive Electronics for Technicians ...................... 3</td>
</tr>
</tbody>
</table>

Students must also complete the following requirements:
A. Pass two ASE certification tests from area A-1 to A-8.
B. Pass Refrigerant Recovery and Recycling Certification tests offered by one of the following organizations: ASE, Mobile Air Conditioning Society, or International Mobile Air Conditioning Association.
C. Meet dealership hiring requirements that may include drug testing and DMV driving record print out.
D. Pass relevant Toyota certification tests with a minimum score of 80%.

CERTIFICATE (12/09)

Body and Fender (09001.CL)

For successful completion, a student must complete the requirements with a minimum grade point of 2.0 in each course required for the certificate.

Program Student Learning Outcomes
A. Inspect, diagnose, disassemble, repair, replace and service components/systems in student's area of specialization.
B. Work safely and responsibly within all shop safety and environmental guidelines and standards.
C. Demonstrate competency in accessing and applying technical service information.

<table>
<thead>
<tr>
<th>Units</th>
<th>Certificate</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUTO-04</td>
<td>Automotive Mechanics .......................................... 3</td>
</tr>
<tr>
<td>AUTO-32</td>
<td>Wheel Alignment and Suspension .................................. 4</td>
</tr>
<tr>
<td>AUTO-50</td>
<td>Auto Body Repair and Painting .................................. 4</td>
</tr>
<tr>
<td>AUTO-61</td>
<td>Advanced Auto Body Repair and Refinishing ...................... 4</td>
</tr>
<tr>
<td>AUTO-62</td>
<td>Basic Automotive Electronics for Technicians ...................... 3</td>
</tr>
</tbody>
</table>
CERTIFICATE

Engine Performance (09002.CL)

For successful completion, a student must complete the requirements with a minimum grade point of 2.0 in each course required for the certificate.

AUTO-04 Automotive Mechanics ........................................... 3
AUTO-42 Automotive Electrical Systems ............................. 3
AUTO-43 Automotive Fuel Systems ..................................... 3
AUTO-47 Engine Performance ............................................. 4
AUTO-48B Special Problems in Engine Performance ............. 2
AUTO-55 Basic/Enhanced Emission Control Devices and Servicing ............................................. 5
AUTO-62 Basic Automotive Electronics for Technicians ........ 3
DRFT-59 Basic Drafting ........................................... 2

CERTIFICATE [12/09]

Suspension and Brakes (09004.CL)

For successful completion, a student must complete the requirements with a minimum grade point of 2.0 in each course required for the certificate.

Program Student Learning Outcomes

A. Inspect, diagnose, disassemble, repair, replace and service components/systems in student’s area of specialization
B. Work safely and responsibly within all shop safety and environmental guidelines and standards.
C. Demonstrate competency in accessing and applying technical service information.

AUTO-04 Automotive Mechanics ........................................... 3
AUTO-32 Wheel Alignment and Suspension .......................... 4
AUTO-33 Automotive Brake Systems .................................. 4
AUTO-62 Basic Automotive Electronics for Technicians ........ 3
AUTO-65 Automotive Parts and Service Advising ............... 5

CERTIFICATE [12/09]

Transmissions (09006.CL)

For successful completion, a student must complete the requirements with a minimum grade point of 2.0 in each course required for the certificate.

Program Student Learning Outcomes

A. Inspect, diagnose, disassemble, repair, replace and service components/systems in student’s area of specialization.
B. Work safely and responsibly within all shop safety and environmental guidelines and standards.
C. Demonstrate competency in accessing and applying technical service information.

AUTO-04 Automotive Mechanics ........................................... 3
AUTO-36 Automotive Manual Transmissions and Drive Trains 4
AUTO-46 Automatic Transmissions ..................................... 4
AUTO-62 Basic Automotive Electronics for Technicians ........ 3
AUTO-65 Automotive Parts and Service Advising ............... 5

Students must also complete the following requirements:
1. Pass two ASE certification tests from area A-1 to A-8.
2. Pass Refrigerant Recovery and Recycling Certification tests offered by one of the following organizations: ASE, Mobile Air Conditioning Society, or International Mobile Air Conditioning Association.
3. Meet dealership hiring requirements that may include drug testing and DMV driving record print out.
4. Pass relevant Toyota certification tests with a minimum score of 80%.

Recommended Sequence: Automotive Technology (09000.AA)

Body and Fender Option
Fall 1
AUTO-04 Introduction to Automotive Technology ............... 3
AUTO-50 Basic Auto Body Repair and Painting .................. 4
AUTO-62 Basic Electronics for Technicians ....................... 3
AUTO-65 Automotive Parts and Service Advising ............... 4

CERTIFICATE

Toyota-approved Auto Technology (09005.CT)

A Certificate of Achievement in Toyota-approved Auto Technology will be awarded upon the satisfactory completion of the full program option with the exception that students must complete two units from one of the following courses: AUTO-48A, 48B, 48C, or 48D). For successful completion, a student must complete the requirements with a minimum grade point of 2.0 in each course required for the certificate.

Program Student Learning Outcomes

A. Inspect, diagnose, disassemble, repair, replace and service components/systems in student’s area of specialization.
B. Work safely and responsibly within all shop safety and environmental guidelines and standards.
C. Demonstrate competency in accessing and applying technical service information.

AUTO-04 Automotive Mechanics ........................................... 3
AUTO-32 Wheel Alignment and Suspension .......................... 4
AUTO-33 Automotive Brake Systems .................................. 4
AUTO-41 Automotive Engines .......................................... 4
AUTO-42 Automotive Electrical Systems ............................ 3
AUTO-43 Automotive Fuel Systems ................................... 3
AUTO-44 Auto Air Conditioning, Heating & Cooling ............. 4
AUTO-46 Automatic Transmissions ..................................... 4
AUTO-47 Engine Performance .......................................... 4
AUTO-55 Basic/Enhanced Emission Control Devices and Servicing ............................................. 5
AUTO-62 Basic Automotive Electronics for Technicians ........ 3
AUTO-65 Automotive Parts and Service Advising ............... 5

WELD-06 Fundamentals of Oxy-Fuel Welding and Shielded Metal Arc Welding ............................................. 3
AUTOMOTIVE TECHNOLOGY (AUTO)

AUTO-04 AUTOMOTIVE MECHANICS
3 units: 3 hours lecture.
Advisories: ENGL-81, ENGL-84, and MATH-80.
This class is designed for students without prior experience in automotive mechanics. It is a study of fundamental theory and operation of the components that make up the major automotive systems with the purpose of giving the student general knowledge of the automobile. Major emphasis is given to operational principles of the automobile and related terminology.
(12/08)

AUTO-32 WHEEL ALIGNMENT AND SUSPENSION
4 units: 3 hours lecture, 3 hours lab.
Advisories: AUTO-04, ENGL-A; MATH-80.
This course is designed to provide the technical knowledge and experience required for aligning and servicing suspension systems on modern automobiles. Laboratory exercises will provide the student an opportunity to develop entry-level skills in the use of machines and equipment commonly used in wheel alignment, tire service, and front-end repairs.
(3/05)

AUTO-33 AUTOMOTIVE BRAKE SYSTEMS
4 units: 3 hours lecture, 3 hours lab.
Advisories: AUTO-04, AUTO-62, ENGL-A; MATH-80.
This course is designed for students without prior experience in automotive brake repair. The course covers theory, service, and repair of conventional and common anti-lock brake systems (A.B.S.) Laboratory exercises will provide the student the opportunity to develop skills and knowledge in the use of tools and equipment necessary in the repair and service of automotive brake systems.
(3/05)

AUTO-36 AUTOMOTIVE MANUAL TRANSMISSIONS AND DRIVE TRAINS
4 units: 3 hours lecture, 3 hours lab.
Advisories: AUTO-04; ENGL-A; MATH-80.
This course is designed for the student without any prior experience in standard transmissions or drive axles. The class will provide technical information required for understanding and repairing of manual transmissions and drive trains. Laboratory exercise will provide the student with proper repair procedures and use of related tools and equipment. Standard transmissions, transaxles, differentials, drivelines, and related components will be covered.
(4/04)

AUTO-40 AUTOMOTIVE MACHINING
3 units: 2 hours lecture, 3 hours lab.
Advisories: AUTO-04; ENGL-A; MATH-80.
This is a course designed to teach the theory of machining operations used in automotive engine repair and to develop basic skills in the operation of these machines. Instruction will be given in the following areas: 1) cylinder reconditioning; 2) cylinder head, valve, valve seat, and valve guide reconditioning; 3) connecting rod reconditioning; 4) and repair or reconditioning of other automotive mechanical parts.
(3/06)

AUTO-41 AUTOMOTIVE ENGINES
4 units: 2 hours lecture, 6 hours lab.
One-way corequisite: AUTO-04. Advisories: ENGL-81, ENGL-84; MATH-80.
This is a class in the principles and theory of engine repair and rebuilding including the disassembly and assembly of engines. There will be emphasis on inspection, measuring, and comparing worn and rebuilt parts. Testing equipment will be used during in-car engine condition diagnosis. Also included will be minor machining operations that are used in engine rebuilding and repairing.
(11/08)

AUTO-42 AUTOMOTIVE ELECTRICAL SYSTEMS
3 units: 2.5 hours lecture, 1.5 hours lab.
Prerequisite: AUTO-62. Advisories: AUTO-04; ENGL-81, ENGL-84; MATH-80.
This course covers automotive electrical systems and includes a review of electron theory, magnetism, and semiconductors. The student will acquire technical and working knowledge of starting, charging and ignition systems and components. The student will acquire technical and working knowledge of electrical accessories and accessory circuits. The use of special service tools and electronic diagnostic equipment will be included.
(9/07)

AUTO-43 AUTOMOTIVE FUEL SYSTEMS
3 units: 2.5 hours lecture, 1.5 hours lab.
One-way corequisite: AUTO-04. Advisories: AUTO-42; ENGL-81, ENGL-84; MATH-80.
This course covers the testing and service of automotive fuel systems, including fuel injection systems, electronic engine controls, and emission controls.
(10/08)

AUTO-44 AUTOMOTIVE AIR CONDITIONING, HEATING SYSTEM, COOLING SYSTEM
4 units: 3 hours lecture, 3 hours lab.
Advisories: AUTO-04; ENGL-81, ENGL-84; MATH-80.
This is a basic course in the principles of operation of automotive air conditioning, heating system, and cooling system. The course covers theory, system controls, troubleshooting, service, and repairs. Lab emphasis consists of system diagnosis servicing, repairs, and preventive maintenance on live vehicles.
(5/06)

AUTO-46 AUTOMATIC TRANSMISSIONS
4 units: 2 hours lecture, 6 hours lab.
Advisories: AUTO-04, AUTO-62; ENGL-A; MATH-80.
This course will cover domestic and import automatic transmissions and transaxles. Rebuilding will include diagnosis, inspection, repair, and testing. Theory will cover power flow, apply devices, hydraulics, torque converters, and shift controls.
(4/04)
AUTO-47 ENGINE PERFORMANCE
4 units: 2 hours lecture, 6 hours lab.
Prerequisites: AUTO-42, AUTO-43. Advisories: ENGL-81, ENGL-84; MATH-80.
This course is a study in the diagnosis of automotive electrical and computer controlled fuel and ignition systems. The course will cover charging and starting circuits, computer controlled fuel injection and ignition systems and emissions control devices. All integrated systems will be included as they relate to live maintenance and diagnostic procedures. Advanced systems diagnosis and maintenance of these circuits will receive special attention. (9/08)

AUTO-48A SPECIAL PROBLEMS IN AUTOMOTIVE TRANSMISSIONS AND DRIVE TRAINS
2 units: 6 hours lab.
Prerequisite: AUTO-36, or AUTO-46 and AUTO-62. Advisories: ENGL-81, ENGL-84; MATH-80.
This course is designed to permit the student to gain additional hands on experience in areas covered in the objectives of AUTO-36 or AUTO-46. This course will help prepare the student for employment in the automotive repair industry with entry level skills. AUTO-36 is the prerequisite if the student's emphasis will be in manual transmissions and AUTO-46 and AUTO-62 will be the prerequisite if the student's emphasis will be in automatic transmissions. (4/09)

AUTO-48B SPECIAL PROBLEMS IN ENGINE PERFORMANCE
2 units: 6 hours lab.
Prerequisite: AUTO-47. Advisories: ENGL-81, ENGL-84.
This course is designed to permit the student to gain additional hands on experience in areas covered in the objectives of AUTO-47. This course will help prepare the student for employment in the automotive repair industry with entry level skills. (10/08)

AUTO-48C SPECIAL PROBLEMS IN AUTOMOTIVE ENGINES
2 units: 6 hours lab.
Prerequisite: AUTO-41. Advisories: ENGL-81, ENGL-84.
This course is designed to permit the student to gain additional hands on experience in areas covered in the objectives of AUTO-41. This course will help prepare the student for employment in the automotive repair industry with entry level skills. (10/08)

AUTO-48D SPECIAL PROBLEMS IN AUTOMOTIVE SUSPENSIONS
2 units: 6 hours lab.
Prerequisite: AUTO-32. Advisories: ENGL-81, ENGL-84; MATH-80.
This course is designed to permit the student to gain additional hands on experience in areas covered in the objectives of AUTO-32. This course will help prepare the students for employment in the automotive repair industry with entry level skills. (4/09)

AUTO-48E SPECIAL PROBLEMS IN AUTOMOTIVE BRAKES
2 units: 6 hours lab.
Prerequisites: AUTO-33, AUTO-62. Advisories: ENGL-81, ENGL-84; MATH-80.
This course is designed to permit the student to gain additional hands on experience in areas covered in the objectives of AUTO-33. This course will help prepare the student for employment in the automotive repair industry with entry level skills. (4/09)

AUTO-48F SPECIAL PROBLEMS IN AUTO BODY REPAIR AND PAINTING
1.5-2.0 units: 4.5-6 hours lab.
Prerequisite: AUTO-50. Advisories: WELD/MECH-06, ENGL-81, ENGL-84; MATH-80.
This course will provide the student additional time to develop and complete techniques, concepts, and skills learned in AUTO-50 (Auto Body Repair and Painting). The student will be provided with sufficient time to complete projects started in other classes. The course may be repeated three times. (4/08)

AUTO-50 AUTO BODY REPAIR AND PAINTING
4 units: 2 hours lecture, 6 hours lab.
Advisories: ENGL-81, ENGL-84; MATH-80; WELD-06/MECH-06.
This course is an introduction to auto body repair and painting. Methods of metal repair will include shrinking, stretching, contouring, and plastic filling. Proper use of specialized hand tools and power tools will be emphasized. Various automotive primers and paints and their application will be covered. Application of paint, spraying techniques, and spray equipment maintenance will receive special attention. (9/07)

AUTO-51 ADVANCED AUTO BODY REPAIR AND REFINISHING
4 units: 2 hours lecture, 6 hours lab.
Prerequisite: AUTO-50. Advisories: ENGL-81, ENGL-84; MATH-80.
This course involves repairing and refinishing of vehicles with body and finish damage. Vehicle panel repair or replacement through proper tools and equipment will be covered. Students will receive instruction in the proper choice of paints, repairing techniques, cost estimating, and customer relations. Training in advanced painting techniques will be included to meet industry standards. (9/07)

AUTO-55 BASIC AND ENHANCED CLEAN AIR CAR COURSE
5 units: 4.5 hours lecture, 1.5 hours lab.
Prerequisite: AUTO-47. Advisories: ENGL-81, ENGL-84; MATH-80.
This course is approved by the California Bureau of Automotive Repair for technicians seeking basic (EB) and enhanced (EA) emission control licenses. It is designed especially for the automobile technician preparing for the California Smog Check License. Students who do not have one year of trade experience in emissions/tune-up or required courses and certificates will not be able to take the California state licensing examination. (12/09)

AUTO-56 CONSUMER AUTOMOTIVE SERVICE
2 units: 1 hour lecture, 3 hours lab.
Advisories: ENGL-81, ENGL-84.
This course is designed for the automotive consumer or entry-level technician who is interested in learning about and performing routine maintenance on his/her vehicle. It will cover topics such as tools and equipment, safety, consumer protection, and maintenance procedures ranging from air conditioning inspection and minor service to wiper blade replacement. (3/05)

AUTO-62 BASIC AUTOMOTIVE ELECTRONICS FOR TECHNICIANS
3 units: 2.5 hours lecture, 1.5 hours lab.
Advisories: MATH-80; ENGL-81 and ENGL-84.
This course is designed to provide the automotive student with a strong background in basic electrical concepts. This will help the student to troubleshoot electrical system problems with the aid of technical information and test equipment. The class will also provide the necessary electrical theory for the more advanced automotive classes. (01/07)

AUTO-65 AUTOMOTIVE PARTS AND SERVICE ADVISING
4 units: 3.5 hours lecture, 1.5 hours lab.
Prerequisite: AUTO-04. Advisories: ENGL-81, ENGL-84; BUS-53; MATH-80.
This course will cover the duties and responsibilities of automotive parts and service advisors working at independent and dealership-based stores. Course content will include service and parts merchandising and communication skills, integrated computer management software, cost estimation, enhancing customer satisfaction, scheduling, inventory control, hazardous materials, warranties, lemon laws, and documentation requirements. (3/05)
DEGREE
A.S. - Biological Science

Program Description
The student majoring in biological science is generally preparing for transfer to a four-year institution and a career in research, teaching, lab technology, one of the health care professions, or related fields. Math requirements for biology majors vary widely. Investigate the math requirements of the four-year schools to which the student intends to apply and design an educational plan accordingly.

DEGREE (4/09)
A.S. - Biological Science (04100.AS)

For an Associate in Science Degree in Biological Science, a student must meet the basic graduation requirements (CHEM-04A and BIOL-04A or BIOL-04AH should be taken for science breadth), and complete the courses listed below.

Program Student Learning Outcomes
A. Organize, analyze and interpret observations and predictions about the natural world using the scientific method.
B. Identify and describe cellular and multicellular processes and structures and relate them to their functions.
C. Analyze patterns and mechanisms of genetics from the molecular to the population level.
D. Recognize the ecological relationships between organisms and their environment and the environmental impact of population growth.
E. Explain principles and mechanisms of evolution and recognize the resulting major groups of organisms as they are arranged in currently recognized taxa.
F. Develop an awareness of the careers and professions available in the biological sciences and are prepared to transfer to appropriate schools.

Required

<table>
<thead>
<tr>
<th>Units</th>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>25-26</td>
<td>BIOL-04A Fundamentals of Biology: The Cell and Evolution</td>
</tr>
<tr>
<td>5</td>
<td>CHEM-04A General Chemistry</td>
</tr>
<tr>
<td></td>
<td>MATH-05A Analytical Geometry &amp; Calculus</td>
</tr>
<tr>
<td>5</td>
<td>BIOL-04B Diversity of Life: Morphology and Physiology</td>
</tr>
<tr>
<td></td>
<td>MATH-05B Analytical Geometry &amp; Calculus</td>
</tr>
<tr>
<td>5</td>
<td>CHEM-04B General Chemistry</td>
</tr>
<tr>
<td></td>
<td>MATH-05B Analytical Geometry &amp; Calculus</td>
</tr>
<tr>
<td>3</td>
<td>CHEM-12A Organic Chemistry I</td>
</tr>
<tr>
<td></td>
<td>MATH-05B Analytical Geometry &amp; Calculus</td>
</tr>
<tr>
<td>3</td>
<td>CHEM-12B Organic Chemistry II</td>
</tr>
<tr>
<td></td>
<td>MATH-05B Analytical Geometry &amp; Calculus</td>
</tr>
<tr>
<td>3</td>
<td>CHEM-04A General Chemistry</td>
</tr>
<tr>
<td>3</td>
<td>CHEM-04B General Chemistry</td>
</tr>
<tr>
<td>3</td>
<td>MATH-05A Analytical Geometry &amp; Calculus</td>
</tr>
<tr>
<td>3</td>
<td>MATH-05B Analytical Geometry &amp; Calculus</td>
</tr>
<tr>
<td>3</td>
<td>BIOL-04A Honors Fundamentals of Biology - The Cell and Evolution</td>
</tr>
<tr>
<td>4</td>
<td>BIOL-04AH Honors Fundamentals of Biology - The Cell and Evolution</td>
</tr>
<tr>
<td>3</td>
<td>BIOL-06 Environmental Science</td>
</tr>
<tr>
<td>3</td>
<td>BIOL-09 Introduction to Genetics</td>
</tr>
<tr>
<td>4</td>
<td>BIOL-20 Microbiology</td>
</tr>
<tr>
<td>4</td>
<td>BIOL-31 Biotechnology I: Basic Lab Techniques &amp; Theory</td>
</tr>
<tr>
<td>5</td>
<td>CHEM-04A General Chemistry</td>
</tr>
<tr>
<td>5</td>
<td>CHEM-12B Organic Chemistry II</td>
</tr>
<tr>
<td>4</td>
<td>MATH-04A Analytical Geometry &amp; Calculus</td>
</tr>
<tr>
<td>4</td>
<td>MATH-04B Analytical Geometry &amp; Calculus</td>
</tr>
<tr>
<td>4</td>
<td>PHYS-02A General Physics</td>
</tr>
<tr>
<td>4</td>
<td>PHYS-02B General Physics</td>
</tr>
</tbody>
</table>
**BIOLOGY (BIOL)**

**BIOL-01 GENERAL BIOLOGY FOR NON-MAJORS**
(CSU breadth area B2/B3) (IGETC area 5B)
4 units: 3 hours lecture, 3 hours lab.
Advisory: ENGL-A. Note: This course is not available to students having a grade of "C" or better in BIOL-04A or BIOL-04AH.
This is an introductory-level course designed for non-majors. Areas stressed include the origin of life, structure and function of cells, basic processes of life, reproduction, ecology, microbiology, evolution, classification, genetics, and metabolic processes. (11/04)

**BIOL-02 HUMAN BIOLOGY**
4 units: 3 hours lecture, 3 hours lab.
Limitation on enrollment: This course is not open to students having a grade of "C" or better in BIOL-04A or BIOL-04AH. Advisories: ENGL-A; LRNR-30.
This course is an introduction to the principles of biology with an emphasis on humans. Topics covered include scientific method, cell structure and function, biochemistry, metabolism, cell division, heredity, biotechnology, evolution, anatomy and physiology of the human body, development and aging, disease, and ecology. This course is recommended for allied health students. (11/08)

**BIOL-04A FUNDAMENTALS OF BIOLOGY: THE CELL AND EVOLUTION**
4 units: 3 hours lecture, 3 hours lab.
One-way corequisite: CHEM-04A. Advisories: BIOL-01 or BIOL-02; ENGL-A.
This course is a study of the principles of biology. Areas of study will include aspects of the philosophy of science, the chemistry of life, the cell and cellular organization, biological membranes, energy transfer including photosynthesis and cellular metabolism, mitosis/meiosis, and molecular biology. Genetics will include Mendelian genetics, human genetics and biotechnology. This course is intended for science majors for pre-medical, pre-veterinarian, pre-dental, pre-optometry, and pre-pharmacy majors. (5/09)

**BIOL-04AH HONORS FUNDAMENTALS OF BIOLOGY: THE CELL AND EVOLUTION**
4 units: 3 hours lecture, 3 hours lab.
Limitation on enrollment: Enrollment in the Merced College's Honors Program. See the college catalog. One-way corequisite: CHEM-04A. Advisories: BIOL-01 or BIOL-02; ENGL-A.
This course is intended for science majors enrolled in the honors program and focuses on the principles of biology. Areas of study will include aspects of the philosophy of science, the chemistry of life, the cell and cellular organization, biological membranes, energy transfer including photosynthesis and cellular metabolism, mitosis/meiosis, and molecular biology. Genetics will include Mendelian genetics, human genetics and biotechnology. This course is intended for science majors for pre-medical, pre-veterinarian, pre-dental, pre-optometry, and pre-pharmacy majors. (5/09)

**BIOL-04B DIVERSITY OF LIFE: MORPHOLOGY AND PHYSIOLOGY**
5 units: 3 hours lecture, 6 hours lab.
Prerequisite: BIOL-04A or BIOL-04AH. Advisories: BIOL-01 or BIOL-02; ENGL-A.
This course is the second semester of a two-semester sequence of general biology for biology majors. This course will cover the origins of life, evolutionary history, biological diversity, plant form and function, animal form and function, and ecology. This course is intended for science majors and for pre-medical, pre-veterinarian, pre-dental, pre-optometry, and pre-pharmacy majors. (5/09)

**BIOL-04BH HONORS DIVERSITY OF LIFE: MORPHOLOGY AND PHYSIOLOGY**
5 units: 3 hours lecture, 6 hours lab.
Prerequisite: BIOL-04A or BIOL-04AH. Advisories: BIOL-01 or BIOL-02; ENGL-A.
BIOL-04BH is intended for science students enrolled in the honors program and focuses on the principles of biology. This course is the second semester of a two-semester sequence of general biology for biology majors. This course will cover the origins of life, evolutionary history, biological diversity, plant form and function, animal form and function, and ecology. This course is intended for science majors and for pre-medical, pre-veterinarian, pre-dental, pre-optometry, and pre-pharmacy majors. (5/09)

**BIOL-06 ENVIRONMENTAL SCIENCE**
(CSU breadth area B2) (IGETC area 5B)
3 units: 3 hours lecture.
Advisory: ENGL-A.
This introductory course examines Earth as an ecosystem composed of biological, chemical, and physical processes with emphasis on man's impact on the planet. Topics include the structure and function of ecosystems, bio-diversity, the impact of industrialization and urbanization, energy, populations, resources, pollution, pesticides, and risk/benefit assessment. (10/04)

**BIOL-08 CONSERVATION OF NATURAL RESOURCES**
(CSU breadth area B2) (IGETC area 5B)
3 units: 3 hours lecture.
This course is a study of human interactions with our physical and biological environment. Included in this course are a survey of human use of resources, the history of ideas about resources, the role of ecology as a basis for wise decisions, and current environmental problems. Maintenance and improvement of long-term productivity and quality of the environment will be emphasized. (10/04)

**BIOL-09 INTRODUCTION TO GENETICS**
(CSU breadth area B2) (IGETC area 5B)
3 units: 3 hours lecture.
Prerequisite: BIOL-01 or BIOL-02 or BIOL-04A or BIOL-04AH. Advisory: ENGL-A.
This course is an introductory study of genetic principles, inheritance, variation, and evolution in plants and animals. This course includes the study of Mendelian genetics, molecular genetics, and population genetics. Recent research innovations explored include genetic engineering. (2/09)

**BIOL-12 PRINCIPLES OF BOTANY**
(CSU breadth area B2/B3) (IGETC area 5B)
5 units: 3 hours lecture, 6 hours lab.
Prerequisite: BIOL-04A or BIOL-04AH. Advisory: ENGL-A.
This course is a study of prokaryotes, algae, fungi, and plants, including structure, physiology, development, genetics, ecology, and evolution. Emphasis is given to the economic importance of various plant groups. Laboratory includes required field trips. (9/07)

**BIOL-13 GENERAL ZOOLOGY**
(CSU breadth area B2/B3) (IGETC area 5B)
5 units: 3 hours lecture, 6 hours lab.
Prerequisite: BIOL-04A or BIOL-04AH. Advisory: ENGL-A.
This course is an introduction to the principles of animal biology. The phylogenetic series, structure, function, heredity, comparative relationships, and evolution of the invertebrates and vertebrates will be studied. This course is designed for life science majors and students in pre-professional programs. (Note: The laboratory portion of this course includes required field trips.) (12/06)
BIOL-16 GENERAL HUMAN ANATOMY  
(CSU breadth area B2/B3) (IGETC area 5B)  
4 units: 2 hours lecture, 6 hours lab.  
Prerequisite: BIOL-01 or BIOL-02 or BIOL-50. Advisory: ENGL-A.  
This course is an intensive study of the structure of the human body. Consideration is given to the skeletal, muscular, circulatory, respiratory, digestive, excretory, reproductive, and nervous systems. Special emphasis is placed on the needs of students majoring in biology, nursing, physical education, and medical sciences. (2/09)

BIOL-18 PRINCIPLES OF PHYSIOLOGY  
(CSU breadth area B2/B3) (IGETC area 5B)  
4 units: 3 hours lecture, 3 hours lab.  
Prerequisites: BIOL-01 or BIOL-02 or BIOL-16; CHEM-02A. Advisory: ENGL-A.  
This course is a general lecture and laboratory course in human physiology, including a study of blood and circulation, respiration, muscle activity, endocrine glands, digestion, excretion, and the functions and activities of the brain, nerves, and sense organs. (2/09)

BIOL-20 MICROBIOLOGY  
(CSU breadth area B2/B3) (IGETC area 5B)  
4 units: 2 hours lecture, 6 hours lab.  
Prerequisite: BIOL-01 or BIOL-02 or BIOL-04A or BIOL-04AH. Advisories: Chem-02A; ENGL-A.  
This is an introductory course familiarizing students with basic laboratory techniques and fundamental topics of microbiology. Laboratory work includes aseptic techniques, staining procedures, biochemical characterization, serology, and DNA technology used in the identification of microorganisms. Lecture topics consist of a historical overview, genetics, metabolism, cell physiology, growth requirements, immunology, and host-parasite interactions between humans and bacteria, viruses, protozoa, and helminthes. The course is designed for students in any of the allied health professions. (2/09)

BIOL-25 THE OCEANS  
(CSU breadth area B2) (IGETC area 5B)  
3 units: 3 hours lecture.  
This is an introductory study of the modern biology of the oceans. The marine world is treated as man’s last frontier on earth; various discoveries, problems and methods of the marine biologist will be emphasized. Lecture topics will include classification of marine environments, ocean currents, tides, continental drifts, sea floor spreading, marine resources, pollution, and the biology of important marine fishes and invertebrates. A number of these topics will be related to the marine ecology of the California coast.

BIOL-31 BIOTECHNOLOGY I: BASIC LABORATORY TECHNIQUES AND THEORY  
[CILC areas C,F]  
4 units: 2 hours lecture, 6 hours lab.  
Prerequisite: BIOL-01 or BIOL-02 or BIOL-04A or BIOL-04AH; CHEM-02A or CHEM-04A. One-way corequisite: BIOL-09. Advisories: BIOL-20; ENGL-A; MATH-A or MATH-B.  
This is an introductory course in biotechnology theory and techniques. This course will cover laboratory safety, good laboratory practices and cGMP; instrumentation; laboratory math; preparation of solutions; DNA isolation, manipulation, transformation, and quantization; PCR and analysis of PCR products; electrophoresis; bacterial transformation; and introduction to basic tissue culture methods which include sterile technique and media preparation. The primary focus of the course will be the development of basic laboratory skills and the principles underlying them. This course is recommended for students seeking a certificate or AS degree in biotechnology; for students majoring in biotechnology at a 4-year institution; or for students transferring to a university who are interested in undergraduate research. (2/09)

BIOL-33 BIOTECHNOLOGY II: ADVANCED LABORATORY TECHNIQUES AND THEORY  
4 units: 2 hours lecture, 6 hours lab.  
Prerequisite: BIOL-31. Advisories: BIOL-20; ENGL-A; MATH-A or MATH-B.

An advanced course on techniques in biotechnology. This course is designed to build upon the skills developed in Biology 31. The course will cover PCR, restriction enzyme digest, subcloning, gene expression, genomic library construction, primary cell culture, mammalian cell expression systems, Southern and Western blotting, and protein quantization. Field trips may be required (2/08)

BIOL-40 EXPERIENCE IN HUMAN DISSECTION  
1 unit: 3 hours lab.  
Limitation on enrollment: Eight students per semester. Prerequisites: BIOL-16. Advisory: ENGL-A.  
This course is an experience in human cadaver dissection for students with a special interest in the science of anatomy. Emphasis is on regional study of gross structure at a level that assists students pursuing careers in allied health professions. Pre-registration counseling with instructor is highly recommended. (10/07)

BIOL-50 SURVEY OF ANATOMY AND PHYSIOLOGY  
3 units: 3 hours lecture.  
Advisory: ENGL-A.  
This is a course in basic anatomy and physiology of the human body. It is designed as an elementary course for students with limited background in science or biology. (12/06)
Biotechnology
Math, Science and Engineering

DEGREE
A.S. - Biotechnology

CERTIFICATE
Biotechnology

Program Description
The student majoring in Biotechnology is generally preparing for employment in the biotechnology industry or for transfer to a four-year institution to complete the requirements for a bachelor’s degree.

DEGREE (4/09)
A.S. - Biotechnology (04130.AS)

The student majoring in Biotechnology is generally preparing for employment in the biotechnology industry or for transfer to a four-year institution to complete the requirements for a bachelor’s degree. For the Associate in Science Degree in Biotechnology, a student must meet the basic graduation requirements and complete 30 units from the courses listed below. It is intended that the student complete both courses in the CHEM-02A sequence, or both courses in the CHEM-04A sequence, with the first course in the sequence satisfying the physical science breadth requirements. BIOL-04A or BIOL-04AH (for students transferring to a university) or BIOL-01 or BIOL-02 should be taken to satisfy the life science breadth requirement.

Program Student Learning Outcomes
A. Comprehend and apply laboratory math skills where appropriate.
B. Comprehend underlying theory of and apply basic biotechnology laboratory skills.
C. Prepare, comprehend, evaluate, and maintain standard documents associated with the biotechnology workplace.
D. Interpret federal, state, and local safety regulations and apply them to the biotechnology workplace.
E. Comprehend, interpret and apply federal, state and local regulations as they relate to quality control of products produced in the laboratory.
F. Demonstrate problem solving skills in the biotechnology laboratory.
G. Demonstrate an appropriate work ethic and demonstrate teamwork skills.

<table>
<thead>
<tr>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL-09 Introduction to Genetics ........................................ 3</td>
</tr>
<tr>
<td>BIOL-20 Microbiology ....................................................... 4</td>
</tr>
<tr>
<td>BIOL-31 Introduction to Biotechnology I .................................. 4</td>
</tr>
<tr>
<td>BIOL-33 Biotechnology II: Advanced Laboratory Techniques .......... 4</td>
</tr>
<tr>
<td>CHEM-02B Introductory Chemistry ........................................... 4</td>
</tr>
<tr>
<td>or CHEM-04B General Chemistry ............................................... 5</td>
</tr>
<tr>
<td>And the remaining 10-11 units from the following courses:</td>
</tr>
<tr>
<td>BIOL-04B Diversity of Life: Morphology and Physiology ............. 5</td>
</tr>
<tr>
<td>or BIOL-04BH Honors Diversity of Life: Morphology and Physiology .... 5</td>
</tr>
<tr>
<td>BIOL-06 Environmental Science .............................................. 3</td>
</tr>
<tr>
<td>BIOL-16 General Human Anatomy ........................................... 4</td>
</tr>
<tr>
<td>BIOL-18 Principles of Physiology ........................................... 4</td>
</tr>
<tr>
<td>CPSC-01 Introduction to Management Information Systems .......... 4</td>
</tr>
<tr>
<td>or CPSC-30 Computer Applications ......................................... 3</td>
</tr>
<tr>
<td>ENTC-33 Introduction to Environmental Technology ................. 3</td>
</tr>
<tr>
<td>PLSC-10 Elements of Plant Science ......................................... 3</td>
</tr>
<tr>
<td>29-31</td>
</tr>
</tbody>
</table>

209.384.6000
For the Certificate of Achievement in Biotechnology, a student must complete 29-31 units from the courses listed below. It is intended that the student complete both courses in the CHEM-02A sequence or both courses in the CHEM-04A sequence. BIOL-04A or BIOL-04AH (for students transferring to a university) or BIOL-01 or BIOL-02 should be taken to satisfy the prerequisite requirement for BIOL-31.

Program Student Learning Outcomes
A. Comprehend and apply laboratory math skills where appropriate.
B. Comprehend underlying theory of and apply basic biotechnology laboratory skills.
C. Prepare, comprehend, evaluate, and maintain standard documents associated with the biotechnology workplace.
D. Interpret federal, state, and local safety regulations and apply them to the biotechnology workplace.
E. Comprehend, interpret and apply federal, state and local regulations as they relate to quality control of products produced in the laboratory.
F. Students will demonstrate problem-solving skills in the biotechnology laboratory.
G. Students will demonstrate an appropriate work ethic and demonstrate teamwork skills.

BIOL-09 Introduction to Genetics ........................................... 3
BIOL-20 Microbiology .............................................................4
BIOL-31 Biotechnology I: Basic Lab Techniques & Theory .... 4
BIOL-33 Biotechnology II: Advanced Laboratory Techniques and Theory .............................................................4
CHEM-02B Introductory Chemistry: Introduction to Organic & Biochemistry .............................................................4
or
CHEM-04B General Chemistry .............................................................5

And the remaining 10-11 units from the following courses:
BIOL-04B Diversity of Life: Morphology and Physiology ............5
or
BIOL-04BH Honors Diversity of Life: Morphonology and Physiology .............................................................5
BIOL-06 Environmental Science ..................................................3
BIOL-16 General Human Anatomy ...........................................4
BIOL-18 Principles of Physiology ..................................................4
CPSC-01 Introduction to Management Information Systems ... 4
or
CPSC-30 Computer Applications ..................................................3
ENTC-30 Introduction to Environmental Technology .................3
PLSC-10 Elements of Plant Science ...........................................3

29-31

*Note: A student may not take BIOL-01 or BIOL-02 for credit after having taken BIOL-04A or BIOL-04AH.
Business
Allied Health, Business, and Public Safety

DEGREES
A.A. - Business Administration
A.A. - General Business

CERTIFICATE
General Business

Program Description
The American economy offers ever-increasing opportunities in business careers and Merced College provides training in a variety of business fields. The suggested courses of study prepare the student for immediate employment in business.

The Business Administration program is designed to prepare students who plan to transfer to a four-year college or university to earn a Bachelor in Arts or Science Degree. Students take classes to complete general education requirements and combine business classes in accounting, computer science, and business law to complete the General Business program. Upon transferring to a four-year college or university, students may choose a concentration in areas such as accounting, business, education, executive secretarial administration, finance, management information, marketing, and real estate.

Highlights:
Career training and retraining.
Lower division courses for students planning to transfer to four-year colleges and universities.
Short, intensive programs for those who wish to specialize in one area with immediate employment in mind.

DEGREE
A.A. - Business Administration (05100.AA)

The mission of the Merced College BUSINESS ADMINISTRATION (A.A.) program is to provide the first two years of a well-balanced business program for students planning transfer to a four-year institution and completion of a Bachelor of Science in Business. We seek to educate the whole person, to help students develop a global perspective, to provide students a basis for life-long learning, to encourage students to seek opportunities to serve others, and to prepare students for success in the business environment of the 21st century.

Certain basic courses are included in the first two years of study which should give the student the proper background for upper division study in Business Administration. Students must meet the graduation requirements and complete the following major requirements.

Program Student Learning Outcomes
A. Identify and analyze business strengths, weaknesses, opportunities and threats, and formulate recommendations for courses of action.
B. Communicate interpersonally in order to establish positive business relationships; and logically and effectively construct and deliver business presentations in oral and written formats, utilizing a variety of presentation tools and media.
C. Demonstrate awareness of the economic, environmental, social, political, ethical, legal and regulatory, and technological factors on business practice.
D. Work effectively, respectfully, ethically and professionally with people of diverse ethnic, cultural, gender and other backgrounds and with people with different organizational roles, social affiliations and personalities.
E. Recognize and appropriately respond to ethical, legal and strategic concerns relating to human resource and organizational management.
F. Use team building skills and collaborative behaviors in the accomplishment of group goals and objectives.
G. Use quantitative and qualitative tools and methodologies to support organizational decision making, i.e., apply accounting concepts and methods to interpret financial statements for evaluating the financial position and performance of organizations, interpret and analyze accounting information for internal control, planning, performance evaluation, and coordination to continuously improve business processes, and make basic investment and financing decisions for a business using basic financial management concepts and methods.

Units

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACTG-04A</td>
<td>Fundamentals of Financial Accounting</td>
<td>4</td>
</tr>
<tr>
<td>ACTG-04B</td>
<td>Fundamentals of Managerial Accounting</td>
<td>4</td>
</tr>
<tr>
<td>BUS-10</td>
<td>Introduction to Business</td>
<td>3</td>
</tr>
<tr>
<td>BUS-18A</td>
<td>Business Law</td>
<td>4</td>
</tr>
<tr>
<td>CPSC-01</td>
<td>Introduction to Management Information</td>
<td>3</td>
</tr>
<tr>
<td>ECON-01A</td>
<td>Introduction to Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td>ECON-01B</td>
<td>Introduction to Microeconomics</td>
<td>3</td>
</tr>
<tr>
<td>MATH-10</td>
<td>Elementary Statistics</td>
<td>3</td>
</tr>
<tr>
<td>MATH-15</td>
<td>Finite Mathematics</td>
<td>3</td>
</tr>
</tbody>
</table>

ECON-01A and ECON-01B may be used to meet degree requirements.

Students should refer to the catalog of the school to which they plan to transfer to determine whether that school requires any specific courses in addition to, or other than, those listed above.
DEGREE (2/07)

A.A - General Business (05150.AA)

The mission of the Merced College GENERAL BUSINESS (A.A.) program is to provide students with general preparation for entry into employment in the business community. We seek to educate the whole person, to help students develop a global perspective, to provide students a basis for life-long learning, to encourage students to seek opportunities to serve others, and to prepare students for success in the business environment of the 21st century.

Students must meet the graduation requirements and complete the following major requirements.

Program Student Learning Outcomes

A. Communicate interpersonally in order to establish positive business relationships, and logically and effectively construct and deliver business presentations in oral and written formats, utilizing a variety of presentation tools and media.
B. Demonstrate comprehension of the core concepts of each business discipline – accounting, finance, information systems, economics, management, and marketing.
C. Analyze business problem situations systematically and effectively, and apply knowledge from multiple disciplines to the problem.
D. Use word-processing, spreadsheet, database, and collaborative software and World Wide Web tools and apply them to analysis of business decision situations.
E. Work effectively, respectfully, ethically and professionally with people of diverse ethnic, cultural, gender and other backgrounds and with people with different organizational roles, social affiliations and personalities.
F. Use team building skills and collaborative behaviors in the accomplishment of group goals and objectives.

<table>
<thead>
<tr>
<th>Units</th>
<th>ACTG-51</th>
<th>Applied Accounting</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Units</td>
<td>AOM-50B</td>
<td>Document Formatting &amp; Keyboarding</td>
<td>3</td>
</tr>
<tr>
<td>Units</td>
<td>BUS-10</td>
<td>Introduction to Business</td>
<td>3</td>
</tr>
<tr>
<td>Units</td>
<td>BUS-18A</td>
<td>Business Law</td>
<td>4</td>
</tr>
<tr>
<td>Units</td>
<td>BUS-35</td>
<td>Money Management</td>
<td>3</td>
</tr>
<tr>
<td>Units</td>
<td>CPSC-30</td>
<td>Computer Applications</td>
<td>3</td>
</tr>
<tr>
<td>Units</td>
<td>CPSC-31A</td>
<td>Beginning Word Processing</td>
<td>1</td>
</tr>
<tr>
<td>Units</td>
<td>CPSC-32A</td>
<td>Beginning Spreadsheet</td>
<td>1</td>
</tr>
<tr>
<td>Units</td>
<td>CPSC-33A</td>
<td>Beginning Databases</td>
<td>1</td>
</tr>
<tr>
<td>Units</td>
<td>ECON-01A</td>
<td>Introduction to Macroeconomics</td>
<td>3</td>
</tr>
</tbody>
</table>

Suggested electives include:

| Units | CPSC-01 | Introduction to Management Information Systems | 4 |
| Units | BUS-49A-ZZ | Special Topics in Business | ½ -3 |
| Units | MGMT-31 | Principles of Management | 3 |
| Units | MDSE-32 | Salesmanship | 3 |
| Units | MGMT-33 | Elements of Effective Leadership | 3 |

Students should refer to the catalog of the school to which they plan to transfer to determine whether that school requires any specific courses in addition to, or other than, those listed above.

CERTIFICATE

General Business (05150.CT)

The mission of the Merced College GENERAL BUSINESS (Certificate) program is to provide students with general preparation for entry into employment in the business community. We seek to educate the whole person, to help students develop a global perspective, to provide students a basis for life-long learning, to encourage students to seek opportunities to serve others, and to prepare students for success in the business environment of the 21st century.

A Certificate of Achievement will be awarded upon the satisfactory completion of 30 units of course work in this area of study which includes the core courses indicated for the A.A. Degree in General Business.

Program Student Learning Outcomes

A. Communicate interpersonally in order to establish positive business relationships, and logically and effectively construct and deliver business presentations in oral and written formats, utilizing a variety of presentation tools and media.
B. Demonstrate comprehension of the core concepts of each business discipline – accounting, finance, information systems, economics, management, and marketing.
C. Analyze business problem situations systematically and effectively, and apply knowledge from multiple disciplines to the problem.
D. Use word-processing, spreadsheet, database, and collaborative software and World Wide Web tools and apply them to analysis of business decision situations.
E. Work effectively, respectfully, ethically and professionally with people of diverse ethnic, cultural, gender and other backgrounds and with people with different organizational roles, social affiliations and personalities.
F. Use team building skills and collaborative behaviors in the accomplishment of group goals and objectives.

<table>
<thead>
<tr>
<th>Units</th>
<th>ACTG-51</th>
<th>Applied Accounting</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Units</td>
<td>AOM-50B</td>
<td>Document Formatting &amp; Keyboarding</td>
<td>3</td>
</tr>
<tr>
<td>Units</td>
<td>BUS-10</td>
<td>Introduction to Business</td>
<td>3</td>
</tr>
<tr>
<td>Units</td>
<td>BUS-18A</td>
<td>Business Law</td>
<td>4</td>
</tr>
<tr>
<td>Units</td>
<td>BUS-35</td>
<td>Money Management</td>
<td>3</td>
</tr>
<tr>
<td>Units</td>
<td>CPSC-30</td>
<td>Computer Applications</td>
<td>3</td>
</tr>
<tr>
<td>Units</td>
<td>CPSC-31A</td>
<td>Beginning Word Processing</td>
<td>1</td>
</tr>
<tr>
<td>Units</td>
<td>CPSC-32A</td>
<td>Beginning Spreadsheet</td>
<td>1</td>
</tr>
<tr>
<td>Units</td>
<td>CPSC-33A</td>
<td>Beginning Databases</td>
<td>1</td>
</tr>
<tr>
<td>Units</td>
<td>ECON-01A</td>
<td>Introduction to Macroeconomics</td>
<td>3</td>
</tr>
</tbody>
</table>

Plus 7 additional units in this area of study .......................... 7

30

Suggested electives include:

| Units | CPSC-01 | Introduction to Management Information Systems | 4 |
| Units | BUS-49A-ZZ | Special Topics in Business | ½ -3 |
| Units | MGMT-31 | Principles of Management | 3 |
| Units | MDSE-32 | Salesmanship | 3 |
| Units | MGMT-33 | Elements of Effective Leadership | 3 |
**BUSINESS (BUS)**

**BUS-10 INTRODUCTION TO BUSINESS**
3 units: 3 hours lecture.
Advisory: ENGL-A.

This survey course is an overview of all aspects involved in business. It covers economic foundations, types of business organizations, marketing, money and banking, and finance. This information will be integrated and related to social, political, legal, and international matters affecting the United States. (1/09)

**BUS-18A BUSINESS LAW**
4 units: 4 hours lecture.
Advisories: BUS-10; ENGL-A, ENGL-22.

This course is a study of legal principles that govern the conduct of business. Included are surveys of the essential elements of legal history and jurisprudence; judicial, administrative, and alternative dispute resolution; ethics; business crime; torts; contracts and the UCC; bankruptcy; agency relationships; property; administrative law; labor and employment law; international law. Introduction to legal research and brief-writing are also included. (1/09)

**BUS-34 FUNDAMENTALS OF INVESTING**
3 units: 3 hours lecture.

This course continues and builds on investing concepts introduced in BUS-35, government securities, corporate bonds, stocks, mutual funds, options, and commodities. The overall objective is to prepare students to make personal investment decisions while minimizing risk and earning an acceptable rate of return. (12/08)

**BUS-35 MONEY MANAGEMENT**
3 units: 3 hours lecture.
Advisories: CPSC-30; ENGL-A; MATH-80.

This course offers instruction in principles and practices of business from the consumer’s point of view. Areas of study include income and wealth distribution; occupational earnings; wise buying; consumer rights, legislation and protective agencies; credit and borrowing; financial services; automobiles; property liability, health, life and disability insurance; Social Security, pensions, annuities; housing; savings and investments; and taxes and estate planning. (10/06)

**BUS-43 BUSINESS COMMUNICATION**
3 units: 3 hours lecture.
Prerequisite: BUS-53. Advisory: AOM-50B, ENGL-A.

This course focuses on developing business communication skills including writing letters, memos, e-mail, and short reports. The course covers listening, nonverbal, intercultural, and oral presentation skills. To help students succeed in today’s increasingly digital and diverse workplace environments, the course emphasizes professionalism, business image, intercultural techniques, and employment communication. (2/09)
BUS-49A-ZZ SPECIAL TOPICS IN BUSINESS
.5-3 units: ½ -3 hours lecture.
Advisory: ENGL-A
This is a course designed to address special topics in business to meet the current needs of students. It will provide the students with access to instruction that will assist them in acquiring the most up-to-date information possible in order to cope with the rapidly changing business and economic environment. (2/07)

BUS-53 BUSINESS ENGLISH
3 units: 3 hours lecture.
Advisories: ENGL-81, ENGL-84; AOM-50B or type 20 wpm.
This course covers the mechanics of English as specifically applied to the field of business. It covers sentence structure, spelling, punctuation, grammar, business vocabulary, and the application of appropriate writing techniques to business communication. (11/08)
DEGREE
A.S. - Chemistry
A.S. - Chemistry - Pre-Professional

Program Description
The following Chemistry curriculum is designed for students planning to transfer to a four-year university. It is assumed that the student has completed two years of a foreign language, one year of chemistry, and math through pre-calculus in high school.

An Associate in Science Degree in Chemistry Pre-Professional is for students intending to study one of the professional areas. These areas include medicine, pharmacy, dentistry, chiropractic, and veterinary medicine. The suggested curriculum below should be modified according to the area of study and major selected. Students should see their counselor for assistance in tailoring a program to specific needs.

DEGREE
A.S. - Chemistry (19100.AS)

For an Associate in Science Degree in Chemistry a student must meet the graduation requirements (PHYS-02A or PHYS-04A and a course in the life sciences are suggested as courses to satisfy the breadth requirements in the science area) and complete the courses listed below.

Program Student Learning Outcomes
A. The student will be able to select the appropriate reaction(s), reactants and reaction conditions, to prepare the specified product.
B. The student will be able to predict the properties, structure or quantity of a product of a chemical reaction.
C. The student will be able to communicate their knowledge of chemical principles in written and oral form using the language of chemistry.
D. The student will be able to determine the identity, composition or structure using chemical methods, instrumentation or the technology available in our labs.
E. The student will be able to identify applications to other scientific fields and technology areas.
F. The student will be able to solve using the appropriate chemical, physical or mathematical principle and express their answer in an appropriate form.
G. The student will be able to identify applications to other scientific fields and technology areas.

<table>
<thead>
<tr>
<th>Units</th>
<th>MATH-04C</th>
<th>Analytical Geometry and Calculus</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MATH-05A</td>
<td>Applied Calculus ..................</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MATH-05B</td>
<td>Applied Calculus ..................</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MATH-06</td>
<td>Elementary Differential Equations</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MATH-12</td>
<td>FORTRAN Programming ..............</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MATH-14</td>
<td>C++ Programming ...................</td>
<td>3</td>
</tr>
</tbody>
</table>

Suggested Sequence: A.S. - Chemistry (19100.AS)

CHEM-02A is a prerequisite for CHEM-04A; if a student has done well in high school chemistry, they may take CHEM-04A without first taking CHEM-02A (a prerequisite challenge must be submitted). The following course sequence options assume that either CHEM-02A has already been taken or that the student will enroll directly in CHEM-04A. The prerequisite for MATH-04A is MATH-02; the following sequence assumes that MATH-02 has been taken by the student. Additional units can be taken as breadth or elective courses.

And select 11 units from the following:

<table>
<thead>
<tr>
<th>Units</th>
<th>CHEM-04A</th>
<th>General Chemistry ....................</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CHEM-12A</td>
<td>Organic Chemistry I ................</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>PHYS-02B</td>
<td>General Physics ....................</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>PHYS-04B</td>
<td>Physics ............................</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>BIOL-04B</td>
<td>Diversity of Life: Morphology and Physiology</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>BIOL-04BH</td>
<td>Honors Diversity of Life: Morphology and Physiology</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>CHEM-04B</td>
<td>General Chemistry ....................</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>CHEM-12B</td>
<td>Organic Chemistry II ................</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>MATH-04A</td>
<td>Calculus I ..........................</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>MATH-04B</td>
<td>Analytical Geometry and Calculus ....</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>MATH-05A</td>
<td>Applied Calculus ..................</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MATH-05B</td>
<td>Applied Calculus ..................</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>SCI-134</td>
<td>SCI-134</td>
<td>3</td>
</tr>
</tbody>
</table>

SCI-134 Cooperative Work Experience

And select seven units from the following:

<table>
<thead>
<tr>
<th>Units</th>
<th>MATH-02B</th>
<th>General Physics ....................</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MATH-04B</td>
<td>Analytical Geometry and Calculus ....</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### CHEMISTRY (CHEM)

**CHEM-02A INTRODUCTORY CHEMISTRY**  
(CSU breadth area B1/B3) (IGETC area 5A)  
4 units: 3 hours lecture, 3 hours lab.  
Advisories: ENGL-A; MATH-A or MATH-B.  
This is an introduction to the general principles of inorganic chemistry, atomic and molecular structure, states of matter, solutions, and radioactivity. The class is designed for students majoring in liberal studies, nursing, or agriculture. (5/09)

**CHEM-02B INTRODUCTORY CHEMISTRY: INTRODUCTION TO ORGANIC AND BIOCHEMISTRY**  
(CSU breadth area B1/B3) (IGETC area 5A)  
4 units: 3 hours lecture, 3 hours lab.  
Prerequisite: CHEM-02A. Advisories: ENGL-A; LRNR-30; MATH-A or MATH-B.  
This is a continuation of CHEM-02A with emphasis on organic chemistry. The structure, nomenclature, and properties of organic compounds such as: alkanes, alkenes, arenes, alcohols, thiols, amines, aldehydes, ketones, and carboxylic acids are covered. Structure, properties and reactions of biochemical compounds such as carbohydrates, proteins, and lipids are covered and followed through major and minor metabolic pathways. This course is intended for students in liberal studies, agriculture, and health-related fields. It is not for chemistry or science majors. (5/09)

**CHEM-04A GENERAL CHEMISTRY**  
(CSU breadth area B1/B3) (IGETC area 5A)  
5 units: 3 hours lecture, 6 hours lab.  
Prerequisites: CHEM-02A; MATH-C. Advisory: ENGL-A.  
This course is designed to teach general principles of chemistry emphasizing nomenclature, chemical equations, stoichiometry, concentration, gas laws, atomic structure, periodic properties, bonding, intermolecular forces, and crystalline solids. It is designed for the student majoring in chemistry, physics, biology, engineering, premed, or related fields. A student who has not successfully completed the prerequisites of CHEM-02A but has completed high school chemistry with a grade of “C” or higher should consider submitting a prerequisite challenge. (5/09)

**CHEM-04B GENERAL CHEMISTRY**  
(CSU breadth areas B1/B3) (IGETC area 5A)  
5 units: 3 hours lecture, 6 hours lab.  
Prerequisite: CHEM-04A. Advisory: ENGL-A.  
This is a continuation of the general principles of chemistry, with emphasis on kinetics, chemical equilibria, thermodynamics, electrochemistry, nuclear chemistry and transition metal complexes. An introduction to the principles of organic chemistry is included. The lab provides the student with experience in qualitative and quantitative analysis. (5/09)

**CHEM-12A ORGANIC CHEMISTRY I**  
5 units: 3 hours lecture, 6 hours lab.  
Prerequisite: CHEM-04B. Advisory: ENGL-A.  
This course is a study of the theory and practice of organic chemistry examining bonding, structure, stereochemistry, nomenclature, properties, and reactions of the hydrocarbons and organic halides. Addition, substitution, elimination, and rearrangement reactions are examined. Corresponding mechanisms and energy diagrams are included in the study. Nuclear magnetic resonance, infrared, ultra-violet and mass spectroscopy are introduced. The laboratory includes the study of organic laboratory techniques including the synthesis of organic compounds, separation, characterization, identification, purification, and the use of related instrumentation. This course is directed toward students in science and pre-professional preparation. (5/09)

**CHEM-12B ORGANIC CHEMISTRY II**  
5 units: 3 hours lecture, 6 hours lab.  
Prerequisite: CHEM-12A. Advisory: ENGL-A.  
This course is a continuation of CHEM-12A expanding the study of organic chemistry to include aromatic hydrocarbons, alcohols, ethers, thiols, sulfides, aldehydes, ketones, carboxylic acid and derivatives, amines and an introduction to the biochemistry of carbohydrates, proteins, and lipids. Included is a further examination of the use of IR, NMR, GC, and Mass Spectroscopy in the identification of organic substances. In the laboratory portion of the course emphasis is placed on the reactions, synthesis, purification, characterization, spectroscopy, and qualitative tests of organic substances. This course is directed toward students in science and pre-professional preparation. (5/09)

**CHEM-35A SUCCESS IN INTRODUCTORY CHEMISTRY**  
1 unit: 1 hour lecture.  
Prerequisite: ENGL-84; One-way corequisite: CHEM-02A.  
This course is designed to develop the computational skills necessary for success in CHEM-02A. Emphasis is placed on math, nomenclature, and basic concepts. This course is designed specifically for students who are taking CHEM-02A. (2/08)

**CHEM-35B SUCCESS IN GENERAL CHEMISTRY**  
1 unit: 1 hour lecture.  
Prerequisite: ENGL-84; One-way corequisite: CHEM-04A.  
This course is designed to develop the computational skills necessary for success in the CHEM-04A. Emphasis is placed on math, nomenclature, and basic concepts in general chemistry. This course is intended to increase the student’s success in CHEM-04A. (2/08)
DEGREE
A.A. - Child Development

CERTIFICATES
Child Development: Early Intervention Assistant Specialization
Child Development: Families In Crisis Specialization
Child Development: Infant/Toddler Care Specialization
Child Development: School Age Care Specialization

Program Description
The Merced College Child Development Department offers students classes and training to meet California requirements for credentials and licenses, as well as an Associate of Arts degree. Preparation includes transfer level courses with several that meet general education requirements and Certificates of Achievement. Throughout all courses, students are trained culturally sensitive and family-focused perspectives that emphasize the value of individual differences in your children. The Child Development Department works closely with many community programs to meet the specific needs of Merced County’s early childhood/child care workforce.

Career Opportunities
There are many opportunities for employment in the field of Early Childhood Education. People with training in child development can:

- Work with infants, toddlers, preschoolers, and school-aged children in positions including teacher assistants, teachers, directors, and program coordinators.
- Open a small child care business, a licensed family child care home or a private child care center.
- Become “in-home” child care providers who are hired by parents to do child care for children in the child’s home setting.
- Become a foster parent.
- Work as a teacher’s aide in elementary school programs.
- Transfer to a four-year college or university in fields related to children, schools and families, such as elementary school teachers, social workers, parent educators, special education teachers and early intervention specialists.

Highlights
“Average thirty graduates per year”, the Child Development program is one of the largest vocational programs at Merced College. Child Development Certificate and Associate of Arts degree requirements are offered on both the Merced Campus and Los Baños Campus. For the convenience of the students, six of the eight required core courses are offered online. In addition, Merced College participates in three programs to assist students in their success: California Early Childhood Mentor Program (CECMT), Child Development Training Consortium (CDTC), and Temporary Assistance for Needy Families—Child Development Careers Program (TANF-CDC). Please call the Child Development Department at (209) 384-6150 for additional information.

Note to Transfer Students
Students are strongly encouraged to transfer to a 4-year college or university. In several courses, students are given information about pursuing their bachelor, masters, and doctorate degrees. In particular classes, information, materials, and workshops on the Child Development Permit Matrix are shared. The permit matrix covers entry level positions through a master’s degree option. To increase the likelihood that students will transfer, students are required to develop an education plan with a counselor. Increasing numbers of our students are transferring to pursue degrees in child development, liberal studies, and other related fields.

DEGREE (12/07)
A.A. - Child Development (13010.AA)

For an Associate in Arts in Child Development, students must meet the graduation requirements and complete the following 24 unit courses listed below.

Program Student Learning Outcomes
A. Distinguish and display professional behavior as a teacher of young children.
B. Create appropriate classroom Early Childhood Education environments.
C. Distinguish appropriate health, safety and nutrition practices in the field of child development.
D. Relate effectively with families and communities in the role of an Early Childhood Educator.
E. Examine the basics of administration and be able to apply management skills needed for a teacher in child development

Core:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLDV-01</td>
<td>Child Growth and Development</td>
</tr>
<tr>
<td>CLDV-02</td>
<td>Child, Family and Community</td>
</tr>
<tr>
<td>CLDV-03</td>
<td>Principles and Practices of Teaching Young Children</td>
</tr>
<tr>
<td>CLDV-04</td>
<td>Observation and Assessment</td>
</tr>
<tr>
<td>CLDV-05</td>
<td>Health, Safety and Nutrition</td>
</tr>
<tr>
<td>CLDV-06</td>
<td>Teaching in a Diverse Society</td>
</tr>
<tr>
<td>CLDV-07</td>
<td>Introduction to Curriculum for the Young Child</td>
</tr>
<tr>
<td>CLDV-07L</td>
<td>Practicum</td>
</tr>
</tbody>
</table>

24
CERTIFICATE  (12/07)
Child Development: Early Intervention
Assistant Specialization (13015.CT)

In addition to the 24 unit core of classes, students must take the following 8 units of classes designated below to complete a 32 unit certificate of Achievement.

Program Student Learning Outcomes
A. Assess programs that support full participation and inclusive practices of children with disabilities, or other special needs, and their families.
B. Evaluate legal requirements related to the care, education and program policies of young children with disabilities or other special needs that meet IDEA, ADA, and state law requirements including parent’s rights and confidentiality matters.
C. Evaluate and construct safe and effective use of adaptive equipment based on the recommendations set by specialist service providers, families, and/or the IFSP/IEP team.

Core: Units
CLDV-01 Child Growth and Development .......................... 3
CLDV-02 Child, Family and Community .......................... 3
CLDV-03 Principles and Practices of Teaching Young Children ...... 3
CLDV-04 Observation and Assessment ............................ 3
CLDV-05 Health, Safety and Nutrition ............................ 3
CLDV-06 Teaching in a Diverse Society ............................ 3
CLDV-07 Introduction to Curriculum for the Young Child .......... 3
CLDV-07L Practicum .................................................. 3

Early Intervention Assistant option:
CLDV-11 Introduction to Early Intervention ........................ 3
CLDV-37 Supervising Adults in ECE Settings ...................... 2
CLDV-38 Children with Special Needs ............................ 3

32

CERTIFICATE  (12/07)
Child Development: Infant/Toddler Care
Specialization (13025.CT)

In addition to the 24 unit core of classes, students must take the following 8 units of classes designated below to complete a 32 unit certificate of Achievement.

Program Student Learning Outcomes
A. Distinguish and apply infant/toddler caregiving principles and infant/toddler education practices.
B. Design environments and curriculum for infant/toddler caregiving settings (including inclusive care) that support learning and building strong, positive and respectful relationships with children and families.
C. Distinguish the professional practices of adults and staff in infant/toddler caregiving settings.

Core: Units
CLDV-01 Child Growth and Development .......................... 3
CLDV-02 Child, Family and Community .......................... 3
CLDV-03 Principles and Practices of Teaching Young Children ...... 3
CLDV-04 Observation and Assessment ............................ 3
CLDV-05 Health, Safety and Nutrition ............................ 3
CLDV-06 Teaching in a Diverse Society ............................ 3
CLDV-07 Introduction to Curriculum for the Young Child .......... 3
CLDV-07L Practicum .................................................. 3
Infant/Toddler Care option:
CLDV-30C Infant/toddler Curriculum ............................. 2
CLDV-35 Infants/Toddlers Development ........................... 2
CLDV-35L Infant/Toddlers Lab ...................................... 2
CLDV-37 Supervising Adults in ECE Settings ...................... 2

32

CERTIFICATE  (12/07)
Child Development: School-Age Care
Specialization (13030.CT)

In addition to the 24 unit core of classes, students must take the following 8 units of classes designated below to complete a 32 unit certificate of Achievement.

Program Student Learning Outcomes
A. Design and analyze theme based activities for children in grades K-8, recognize the curriculum implications for behavior management, including the indoor and outdoor environment, and apply guidance techniques for school-age children.
B. Distinguish characteristics of the school-age care profession and professional,
C. Self-assess strengths and weaknesses of a school-age care provider, and understand the role in partnerships with the community and families of school-age children.
D. Determine current issues facing school-age children and apply school-age theories to school-age development, including physical, cognitive, and psychosocial development, and observe children in three age groups, 5-7, 8-10, and 11-13 years old.

Core: Units
CLDV-01 Child Growth and Development .......................... 3
CLDV-02 Child, Family and Community .......................... 3
CLDV-03 Principles and Practices of Teaching Young Children ...... 3
CLDV-04 Observation and Assessment ............................ 3
CLDV-05 Health, Safety and Nutrition ............................ 3
CLDV-06 Teaching in a Diverse Society ............................ 3
CLDV-07 Introduction to Curriculum for the Young Child .......... 3
CLDV-07L Practicum .................................................. 3
School-Age Care option:
CLDV-30D School-Age Curriculum ............................... 2
CLDV-37 Supervising Adults in ECE Settings ...................... 2
CHILD DEVELOPMENT (CLDV)

CLDV-01 CHILD GROWTH AND DEVELOPMENT
3 units: 3 hours lecture.
Advisory: ENGL-A.
The growth and development patterns of all children from prenatal life through adolescence will be studied. There will be a strong integration of theory and practice. There will be directed observations of children from newborn through adolescence. (12/07)

CLDV-02 CHILD, FAMILY AND COMMUNITY
(CSU breadth area E)
3 units: 3 hours lecture.
Advisory: ENGL-01A.
This course studies the importance of the socialization of children and how society supports and empowers families. Emphasis will include the role of family, peers, school/child care, media, community and culture, and the influence these socializing agents have on children from diverse backgrounds. (4/09)

CLDV-03 PRINCIPLES AND PRACTICES OF TEACHING YOUNG CHILDREN
3 units: 3 hours lecture.
One-way corequisite: CLDV-01. Advisory: ENGL-A.
This course is an examination of the underlying theoretical principles of developmentally appropriate practices applied to programs, environments, emphasizing the key role of relationships, constructive adult-child interactions, and teaching strategies in supporting physical, social, creative and intellectual development for all children ages 0-8. The course includes a review of the historical roots of early childhood programs and the evolution of the professional practices promoting advocacy, ethics and professional identity. (2/09)

CLDV-04 OBSERVATION AND ASSESSMENT
3 units: 2 hours lecture, 3 hours lab.
Limitation on enrollment: students must have a negative result on a TB test within the past 4 years. Prerequisite: CLDV-01. One-way corequisite: CLDV-03. Advisory: ENGL-A.
This course focuses on strategies to obtain an authentic view of the whole child. Observational techniques and other assessment tools will be studied, practiced and evaluated using all the domains of development. (12/07)

CLDV-05 HEALTH, SAFETY AND NUTRITION
3 units: 3 hours lecture.
Advisory: ENGL-A.
This course examines health, safety and nutrition issues for young children. This course provides necessary information for staff working in child care settings as well as current concerns related to regulations and policies for health, safety and nutrition required by licensing. (12/07)

CLDV-06 TEACHING IN A DIVERSE SOCIETY
3 units: 3 hours lecture.
Advisory: ENGL-A.
This course examines societal and personal attitudes, beliefs, values, assumptions and biases about culture, language, identity, family structures, ability, and socioeconomic status. Students will demonstrate strategies for helping children negotiate and resolve conflicts with a focus on using an anti-bias approach in the classroom. (12/07)

CLDV-07 INTRODUCTION TO CURRICULUM FOR THE YOUNG CHILD
3 units: 3 hours lecture.
One-way corequisite: CLDV-03. Advisory: ENGL-A.
This course presents an overview of knowledge and skills related to providing appropriate curriculum and environments for young children from birth to age 8. Students will examine teacher’s roles in supporting development and fostering learning for all young children using observation and assessment strategies emphasizing the essential role of play. An overview of content areas will include but not be limited to: language and literacy, social and emotional learning, sensory learning, art and creativity, math and science. (2/09)

CLDV-07L PRACTICUM
3 units: 1 hour lecture, 6 hours lab.
Limitation on enrollment: Students must provide proof of a negative result on a communicable tuberculosis examination with four years of the end date of this course. Prerequisite: CLDV-04. Advisory: ENGL-A.
This course is a demonstration of developmentally appropriate early childhood teaching competencies under guided supervision. Students will utilize practical classroom experiences to make connections between theory and practice, develop professional behaviors, and build a comprehensive understanding of children and families. Child centered, play-oriented approaches to teaching, learning, and assessment, and knowledge of curriculum content areas will be emphasized as student teachers design, implement and evaluate experiences that promote positive development and learning for all young children. (1/09)

CLDV-09 HUMAN DEVELOPMENT (Also: PSYC-09)
(CSU breadth area E)
3 units: 3 hours lecture.
Advisory: ENGL-A.
This course is an introduction to the scientific study of human development from conception through death. It examines interplay of biological, psychological, social, and cultural forces on the developing human being. (3/05)

CLDV-11 INTRODUCTION TO EARLY INTERVENTION
3 units: 2 hours lecture, 3 hours lab.
Limitation on enrollment: Students must have a negative result on a TB test within the past four years. Prerequisites: CLDV-01, CLDV-03. Advisory: ENGL-A.
This course is designed for the Early Intervention Assistant certificate. The student will study infants and toddlers with disabilities, atypical development or other special needs, both in the early intervention setting and the child care setting. The student will explore strategies and interventions used in the field of early intervention. Current theories in early intervention, early relationships, family systems, family grief, and stressors will be examined. (11/05)

CLDV-30C INFANT/TODDLER CURRICULUM
2 units: 2 hours lecture.
Advisories: CLDV-35; ENGL-A.
This course is designed to help Early Childhood Education students and practicing infant/toddler personnel provide an opportunity-rich program of interesting and age-appropriate activities for infants and toddlers. (1/05)

CLDV-30D SCHOOL-AGE CURRICULUM
2 units: 2 hours lecture.
Advisories: CLDV-01; ENGL-A.
This course is designed to help Early Childhood Education students and practicing child care professionals create developmentally appropriate curriculum ideas for children in school-age programs, ages 5-12 years old. Students will do hands-on work with materials. (12/04)

CLDV-33 WORKING EFFECTIVELY WITH FAMILIES (Also: PSYC-33 and SOC-33)
1 unit: 1 hour lecture.
Advisory: ENGL-A.
This is a course designed to teach students how to work with parents in school settings. Students will examine current ways of parent involvement, parent rights and responsibilities, and ways of keeping parents informed. (11/05)

CLDV-34A ADMINISTRATION AND SUPERVISION OF ECE PROGRAMS: LICENSING AND STAFFING
3 units: 3 hours lecture.


CLDV-34B ADMINISTRATION AND SUPERVISION OF ECE PROGRAMS: MANAGING PEOPLE, TIME, AND RESOURCES
3 units: 3 hours lecture.
Advisory: ENGL-A.
This course is designed to give students an in-depth look at administration problems of child development centers. Emphasis will be placed on fiscal management policy-making, personnel management, and developing staff relationships. (1/05)

CLDV-35 INFANT AND TODDLER DEVELOPMENT
2 units: 2 hours lecture.
Advisory: ENGL-A.
This course is the study of the development of children from birth to age three. This will include growth and development, health and nutrition needs, social and emotional needs, and cognitive and language development. Focus will be on care giving, education, curriculum, and developmentally appropriate programs/environments for infants and toddlers. Adult relationships with families, parents, and staff will also be studied. (11/09)

CLDV-35L INFANT AND TODDLER LAB
2 units: 6 hours lab.
Limitation on enrollment: Students must have a negative result on a TB test within the past four years. One-way corequisite: CLDV-35. The laboratory experience offers students the opportunity to work with infants and toddlers in programs on group and individual projects in a supervised early childhood program dealing with children from birth up to three years. (12/04)

CLDV-37 SUPERVISING ADULTS IN ECE SETTINGS
2 units: 2 hours lecture.
Advisory: ENGL-A.
This course is a study of the methods and principles of supporting and supervising adults in early childhood settings, emphasizing the role of experienced teachers who mentor new teachers. Required for entry into the Mentor Teacher program. This course also meets the Adult Supervision course requirement for the California Child Development Permit and certificates of achievement at Merced College. (2/10)

CLDV-38 CHILDREN WITH SPECIAL NEEDS
3 units: 3 hours lecture.
Advisories: CLDV-01; ENGL-A.
This course provides knowledge and skills that early childhood teachers need to serve developmentally delayed and disabled preschoolers. The focus will be on working with comprehensive family services, identification of special needs children, and the inter/multi-disciplinary approach to early intervention. (11/05)

CLDV-39 NUTRITION FOR YOUNG CHILDREN (Also: NUTR-39)
3 units: 3 hours lecture.
Advisory: ENGL-A.
This course offers a study of nutrients and their function with an emphasis on the needs of children -- birth through adolescence. Cultural and socioeconomic influences on food practices and methods of teaching good nutrition to children will be covered. Emphasis will be on improving the nutritional status of children. This course is designed for Early Childhood Education majors to fulfill state requirements for a Children’s Learning Center permit. The course is also for parents who wish to become more knowledgeable about nutrition for their children and for food service workers in child care programs. (11/06)

CLDV-40B ECE SUPERVISED FIELD EXPERIENCE
3 units: 1 hour lecture, 6 hours lab.
Limitation on enrollment: Students must have a negative result on a TB test within the past four years. Prerequisites: CLDV-07L or CLDV-35L OR CLDV-56L.
Students will be placed as student teachers in volunteer or paid preschool field sites. An overview of developmentally appropriate preschool practices will be presented. Students will review guidance techniques, observation techniques, and programming/curriculum ideas as they relate to their field placement. Students will learn interpersonal communication skills and team building. (3/05)

CLDV-41B ECE ADVANCED SUPERVISED FIELD EXPERIENCE
3 units: 1 hour lecture, 6 hours lab.
Limitation on enrollment: Students must have a negative result on a TB test within the past four years. Prerequisite: CLDV-40B.
Advisory: ENGL-A.
Students will be placed as student teachers in volunteer or paid field sites. Students will continue to perfect guidance techniques, observation techniques, and programming/curriculum ideas as they relate to their field placement. Students will perfect and continue to learn interpersonal communication skills and team building. (3/05)

CLDV-42B ECE SUPERVISED FIELD EXPERIENCE INFANT/TODDLER
3 units: 1 hour lecture, 6 hours lab.
Limitation on enrollment: Students will be required to obtain a negative result on a TB test within the past four years. Prerequisites: CLDV-35 and CLDV-07L, CLDV-35L, or CLDV-56L.
Students will be placed in an infant/toddler, volunteer or paid, field site. An overview of developmentally appropriate infant/toddler practices will be presented. Students will continue to review guidance techniques, observation techniques, and programming/curriculum ideas as they relate to their field placement. Students learn interpersonal communication skills and team building at an infant/toddler program. (3/05)

CLDV-43B ECE SUPERVISED FIELD EXPERIENCE FOR EARLY INTERVENTION
3 units: 1 hour lecture, 6 hours lab.
Limitation on enrollment: Students must have a negative result on a TB test within the past four years. Prerequisite: CLDV-11.
Students will be placed in a special needs classroom, volunteer or paid field site. An overview of developmentally appropriate practices for children with special needs will be presented. Students will review guidance techniques, observation techniques, and programming/curriculum ideas as they relate to their field placement. Students learn interpersonal communication skills and team building. (11/05)

CLDV-44B ECE SUPERVISED FIELD EXPERIENCE: SCHOOL-AGE CARE
3 units: 1 hour lecture, 6 hours lab.
Limitation on Enrollment: Students will be required to obtain a negative result on a TB test within the last four years. Prerequisites: CLDV-56 and CLDV-07L, CLDV 35L, or CLDV 56L.
Students will be placed in a school-age care center, volunteer or paid field site. An overview of developmentally appropriate school-age care practices will be presented. Students will continue to review guidance techniques, observation techniques, and programming/curriculum ideas as they relate to their field placement. Students learn interpersonal communication skills and team building at an infant/toddler program. (3/05)

CLDV-51 EARLY LITERACY FOR YOUNG CHILDREN
1 unit: 1 hour lecture.
Advisories: ENGL-81, ENGL-84.
This course gives Early Childhood Education students the basic elements of early literacy appropriate for young children. (1/05)

CLDV-54 SEXUAL DEVELOPMENT OF YOUNG CHILDREN
1 unit: 1 hour lecture.
Prerequisite: CLDV 29. Advisory: ENGL-A.
This course offers students knowledge about healthy sexual development of young children from infancy to age 12. It addresses concerns such as teaching body parts, gender roles, playing doctor, and preparing for puberty. (11/06)
CLDV-56  SCHOOL-AGE DEVELOPMENT
2 units: 2 hours lecture.
Prerequisite: CLDV-03
This introductory course on school-age development covers an overview of school-age care; the school-age professional; school-age theory and development ages 5-13; current issues facing school-age children; guidance of school-age children; regulations and program quality; and developing partnerships with communities and families. Students will participate in observations of school-age children and programs. (12/04)

CLDV-56L  SCHOOL-AGE DEVELOPMENT LAB
2 units: 6 hours lab.
Limitation on Enrollment: Students must have a negative result on a TB test within the past four years. One-way corequisite: CLDV-56.
School-age programs will be studied for purposes of planning experiences which encourage physical, mental, social and emotional growth. The laboratory will consist of supervised work in a selected school-age care program and is designed to offer students continued and increased opportunities in working with children ages 5-12 years old. (12/04)

CLDV-57  CHILD ABUSE AND NEGLECT
1 unit: 1 hour lecture.
Advisory: CLDV-01; ENGL-A
This course is designed to help Child Development students and practicing child care professionals understand that the educator has a vital role in the identification, treatment, and prevention of child abuse and neglect. (11/06)

CLDV-70A-ZZ  SPECIAL TOPICS IN CHILD DEVELOPMENT
1-3 units: 1-3 hours lecture, 0-9 hours lab.
Prerequisite/advisory: None.
This is a course designed to address special topics in Child Development to meet current needs of students. Specific classes will be offered to help them cope with the rapidly-changing environment and its effect on everyday living. (12/04)

CLDV-81A  MENTOR TEACHER SEMINAR A
0.5 unit: 0.5 hour lecture.
Limitation on enrollment: Students must be selected as a mentor teacher in the "Mentor Teacher Program."
Beginning Early Childhood Education mentors attend monthly seminars to explore issues related to their new role as supervisors of ECE student teachers. Seminar content will be individualized to meet the needs of each mentor. (1/05)

CLDV-82A-Z  FOSTER CARE EDUCATION
1 unit: 1 hour lecture.
Prerequisite/Advisory: None.
This practical lecture class is designed specifically to train foster parents and Kinship Care providers interested in becoming foster parents. Topics to be covered are an introduction to foster parenting, discipline, communication techniques, the court system, child abuse, sexual abuse, drug abuse, the role of the agency, children's rights, and foster parents' rights. Additional Kinship topics to be covered include legal rights of Kinship Care providers, parenting skills, and divided loyalties. (1/05)
COMMUNICATION STUDIES (COMM)

COMM-01 FUNDAMENTALS OF SPEECH
(IGETC area 1C) (CSU breadth area A1)
3 units: 3 hours lecture.
Prerequisite: ENGL-A.
This course is designed to instruct students in the fundamentals of preparing and giving speeches in front of audiences. The focus will be on speeches to inform and persuade. By the end of the course, students should be speaking confidently and skillfully and should be able to transfer their understanding and skills from the classroom to "real world" situations. (10/04)

COMM-01H HONORS FUNDAMENTALS OF SPEECH
(CSU breadth area A1) (IGETC area 1C - CSU only)
3 units: 3 hours lecture.
Limitation on enrollment: Enrollment in the Honors Program. See the college catalog for a description of admission requirements.
Prerequisite: ENGL-A.
This course is designed to increase students’ understanding and to improve their skills as public speakers, both in and outside the classroom. In order to help students become aware of and think critically about current issues, and to defend and advocate positions, the course will focus on argumentation and persuasion. (10/07)

COMM-02 ORAL INTERPRETATION (Also: ENGL-02)
3 units: 3 hours lecture.
Prerequisite: ENGL-A.
This course is designed to help students understand, appreciate, and convey the power of the written word. A variety of writings will be analyzed in their rhetorical, historical, and cultural contexts and be brought to life through performance. (2/08)

COMM-04 SMALL GROUP DISCUSSION AND PROBLEM SOLVING
(CSU breadth area A1) (IGETC area 1C - CSU only)
3 units: 3 hours lecture.
Prerequisite: ENGL-A.
This is a course designed to help students develop critical thinking skills for communication and working together on small group tasks. Emphasis is placed on problem solving, reasoning, conflict resolution, and leadership. (10/04)

COMM-05 INTERPERSONAL COMMUNICATION
(CSU breadth area A1)
3 units: 3 hours lecture.
Prerequisite: ENGL-A.
The focus of this course is to examine successful communication in interpersonal relationships. Communication theory and skills will be investigated in order to help students interact more effectively in personal and professional relationships. Specific skills that will be examined for usefulness and appropriateness are self-concept, perception, verbal and nonverbal communication, culture, and conflict resolution. (3/07)

COMM-30 INTRODUCTION TO INTERCULTURAL COMMUNICATION
[OILC areas D] (CSU breadth area D7) (IGETC area 4G)
3 units: 3 hours lecture.
Prerequisite: ENGL-A.
This course is designed to examine the basic concepts, principles, and their application to communication between persons from different minority, ethnic, and co-cultural backgrounds within the United States and in the international arena through the scope of interpersonal communication skills. This class will assist in the understanding and evaluation of barriers to communicating with people from other cultures, which include ethnocentrism, prejudice, and lack of awareness. (10/07)
COMM-50 ACCENT REDUCTION
3 units: 3 hours lecture.
Advisories: ENGL-81, ENGL-84.
This course is for non-native speakers of English who speak English well, but would like to reduce their accent. The course emphasizes stress rhythm and intonation patterns that enable students to be understood by native speakers. It also addresses problematic consonant and vowel sounds. Use of the language lab may be required. This course may be repeated once. (12/03)
DEGREES
A.S. - Computer Science
A.S. - Management Information Systems

Program Description
The Associate in Science Degree in Management Information Systems is designed for students pursuing degrees in Business Administration, Computer Information Systems, or Management Information Systems. Students should determine what other lower division requirements are required by the institution to which they intend to transfer.

The Associate in Science Degree in Computer Science is designed for students pursuing degrees in Computer Science or Computer Engineering.

Career Opportunities
Over the past two decades, there has been a sharp rise in the use of computers and information technology in every sector of our economy. The overall demand for computer professionals (systems analysts, programmers, and computer networking technicians) continues to expand, increasing every year with the future seemingly limitless. Many professions demand an understanding of information technology beyond computer literacy. This anticipated growth, according to the Bureau of Labor Statistics, surpasses all other occupations.

Graduates of the computer science and MIS Programs often transfer to a four-year college earning a bachelor’s degree in business administration, management information systems, computer science, computer engineering, software engineering, business management, accounting, statistics, mathematics, physics or electronics.

DEGREE
A.S. - Computer Science (07200.AS)

For an Associate in Science Degree in Computer Science, students must meet the graduation requirements and complete the following required courses.

Program Student Learning Outcomes
A. Students will understand the mathematical and scientific concepts that underlie computer science.
B. Students will apply the cognitive method to analyze, synthesize and evaluate academic and real life problems.
C. Students will employ the industry standard technology to prepare them to enter the workforce.
D. Students will demonstrate an appreciation for lifelong learning.

<table>
<thead>
<tr>
<th>Units</th>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>CPSC-01 Introduction to Management Information Systems</td>
</tr>
<tr>
<td>3</td>
<td>MATH-04A Calculus I</td>
</tr>
<tr>
<td>4</td>
<td>MATH-04B Analytical Geometry and Calculus</td>
</tr>
<tr>
<td>3</td>
<td>MATH-10 Elementary Statistics</td>
</tr>
<tr>
<td>3</td>
<td>MATH-14 C++ Programming</td>
</tr>
<tr>
<td></td>
<td>Plus a minimum of 12 units from the following:</td>
</tr>
<tr>
<td>5</td>
<td>CHEM-04A General Chemistry</td>
</tr>
<tr>
<td>5</td>
<td>CHEM-04B General Chemistry</td>
</tr>
<tr>
<td>3</td>
<td>CPSC-05A Visual Basic Programming</td>
</tr>
<tr>
<td>4</td>
<td>MATH-04C Analytical Geometry and Calculus</td>
</tr>
<tr>
<td>3</td>
<td>MATH-06 Elementary Differential Equations</td>
</tr>
<tr>
<td>3</td>
<td>MATH-08 Linear Algebra</td>
</tr>
<tr>
<td>4</td>
<td>PHYS-04A Physics</td>
</tr>
<tr>
<td>4</td>
<td>PHYS-04B Physics</td>
</tr>
</tbody>
</table>

DEGREE (2/09)
A.S. - Management Information Systems (07300.AS)

For an Associate in Science Degree in Management Information Systems, students must meet the graduation requirements and complete the following required courses.

Program Student Learning Outcomes
A. Students will understand the mathematical and scientific concepts that underlie management information systems.
B. Students will apply the cognitive method to analyze, synthesize and evaluate academic and real life problems relating to business and management.
C. Students will assess requirements of an information system.
D. Students will demonstrate an appreciation for lifelong learning.

<table>
<thead>
<tr>
<th>Units</th>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>ACTG-04A Financial Accounting</td>
</tr>
<tr>
<td>4</td>
<td>ACTG-04B Managerial Accounting</td>
</tr>
<tr>
<td>4</td>
<td>BUS-18A Business Law</td>
</tr>
<tr>
<td>4</td>
<td>CPSC-01 Introduction to Management Information Systems</td>
</tr>
<tr>
<td>3</td>
<td>CPSC-05A Visual Basic Programming</td>
</tr>
<tr>
<td>3</td>
<td>CPSC-06 Programming Concepts and Methodology I</td>
</tr>
<tr>
<td>3</td>
<td>ECON-01A Introduction to Macroeconomics</td>
</tr>
<tr>
<td>3</td>
<td>MATH-10 Elementary Statistics</td>
</tr>
</tbody>
</table>
### Computer Studies (CPSC)

#### CPSC-01 INTRODUCTION TO MANAGEMENT INFORMATION SYSTEMS

[CILC areas A,B,C,D,E,F]

- **Units:** 4
- **Hours:** 3 lecture, 3 lab.
- **Advisories:** ENGL-A; MATH-C.

This is an entry-level course for business majors, students majoring in Computer Science or Management Information Systems, or anyone interested in the fundamentals of computer information systems and gaining an understanding of fundamental programming concepts. Algorithm design, logic diagrams, coding, and debugging are introduced using a third generation programming language. (12/08)

#### CPSC-05A VISUAL BASIC PROGRAMMING

- **Units:** 3
- **Hours:** 2 lecture, 3 lab.
- **Prerequisite:** CPSC-01.

An introduction to programming and software development using the popular Visual Studio IDE, and the Basic programming language. Software applications will be created using the Visual Studio development environment that will include the standard Windows interface, design of the graphical user interface as well as concepts of programming, problem solving, and programming logic. (12/08)

#### CPSC-05B C# PROGRAMMING

- **Units:** 3
- **Hours:** 2 lecture, 3 lab.
- **Prerequisite:** CPSC-01.

An introduction to programming and software development using the popular Visual Studio IDE, and the C# programming language. Software applications will be created using the Visual Studio development environment that will include the standard Windows interface, design of the graphical user interface as well as concepts of programming, problem solving, and programming logic. (12/08)

#### CPSC-06 PROGRAMMING CONCEPTS AND METHODOLOGY I

- **Units:** 3
- **Hours:** 2 lecture, 3 lab.
- **Prerequisite:** MATH C.

Advisories: CPSC-01; ENGL-A.

This course introduces the discipline of computer science using a high-level language, and provides an overview of computer organization and an introduction to software engineering. Topics include methodologies for program design, development, style, testing, and documentation, algorithms, control structures, sub-programs, and elementary data structures. These skills will be used to solve a variety of application problems. (11/09)

#### CPSC-12 FORTRAN PROGRAMMING (Also: ENGR-12 and MATH-12)

- **Units:** 3
- **Hours:** 2 lecture, 3 lab.
- **Prerequisite:** MATH-02, or MATH-25 and MATH-26.
- **Advisory:** ENGL-A.

This course teaches students to use the FORTRAN programming language to solve problems in a wide variety of areas. Program design, problem-solving, and debugging techniques are emphasized throughout the course. (1/07)

#### CPSC-24 INTRODUCTION TO COMPUTER STUDIES AND TECHNOLOGY

[CILC areas A,B,C,D,E,F]

- **Units:** 3
- **Hours:** 3 lecture.
- **Advisories:** AOM-50B; MATH-80.

This entry-level, theory-dominant course is for non-computer majors who wish to become computer and information technology literate. This course explores computer and software use in the workplace with emphasis on business and industrial situations, education, science, and within the humanities. Computer applications including word-processing, spreadsheets, databases, and presentation managers will be covered. Students will discuss the social and legal implications of these uses. This course is also designed, whenever possible, to meet many of the provisions found in California State Technology Requirements Preliminary and Professional Clear Credential Candidates Required assignments, such as e-mail use, e-mail with attachment, news group use, chat room location and use, virtual bulletin usage, the creation of a web page, the creation and use of at least one computer program, perform research on...
the Internet following a prescribed methodology, and perform a search and use of a data CD. (4/03)

**CPSC-30 COMPUTER APPLICATIONS**
[CILC areas A,B,C,D,E,F]
3 units: 2 hours lecture, 3 hours lab.
Advisories: AOM-50A or AOM-50B (keyboard at a minimum of 20 GWAM); ENGL-81, ENGL-84; MATH-80.
This course is intended for students seeking an introduction to application software used in the workplace with emphasis on business situations. Computer applications including word-processing, spreadsheets, databases, and presentation managers will be covered. Also included will be accessing information through the intranet, Internet and World Wide Web and telecommunications. This course meets the Computer and Information Literacy Competency (CILC) the A-F requirements for graduation. (See the current schedule or catalog.) (2/07)

**CPSC-31A BEGINNING WORD PROCESSING**
[CILC areas A,B,C,D]
1 unit: 1 hour lecture.
Advisories: AOM-50B or type at least 25 WPM; ENGL-A.
This course prepares students to begin to work with word processing in a career setting or for personal use. Students develop introductory skills using a current word processing application and explore the essential features of a current operating system and browser. Students also develop an understanding of fundamental computer hardware and software concepts.(2/09)

**CPSC-31B INTERMEDIATE WORD PROCESSING**
1 unit: 1 hour lecture.
Advisories: ENGL-A, AOM-50B; or CPSC-30; or CPSC-31A; or type by touch and have a basic understanding of word processing.
This course enhances a student’s knowledge in a current version of word processing in order to use the skills in as a student, careers setting, or for personal use. Students develop competency and efficiency in using word processing. Students will learn how to format a research paper using MLA, APA, and Chicago writing styles. (2/09)

**CPSC-32A BEGINNING SPREADSHEET**
[CILC areas B,C]
1 unit: 1 hour lecture.
Advisories: AOM-50B or type at least 25 WPM; ENGL-A; MATH-80.
This course prepares students to begin to work with spreadsheets in a career setting or for personal use. Students develop introductory skills using a current spreadsheet application and explore the essential features of a current operating system and browser. (2/09)

**CPSC-33A BEGINNING DATABASES**
[CILC areas B,C,D,E,F]
1 unit: 1 hour lecture.
Advisories: AOM-50B or type at least 25 WPM; ENGL-A; MATH-80.
This course prepares students to begin work with databases in a career setting or for personal use. Students develop introductory skills using a current database application and explore the essential features of a current operating system and browser. (2/09)

**CPSC-39 PROGRAMMING CONCEPTS AND METHODOLOGY II**
4 units: 3 hours lecture, 3 hours lab.
Prerequisite: CPSC-06.
This course is a continuation course in Computer Science which introduces further aspects of software design and implementation. Abstract data types, fundamental data structures and associated algorithms: lists, stacks, queues and trees. Students will be expected to design, implement, test and analyze a number of programs. (11/09)

**CPSC-40A NETWORKING FOR HOME AND SMALL BUSINESSES**
(Also: ELCT-40A)
[CILC areas A,C,E]
3 units: 2 hours lecture, 3 hours lab.
Advisories: ENGL-81, ENGL-84; MATH-80.
This curriculum helps students develop the skills needed to obtain entry-level networking jobs. It provides a hands-on approach to networking education that allows students to gain practical experience working on PC’s, their components and applications. Students complete instructional labs to understand the general theory needed to build networks and connect them to the internet. Basic security and wireless concepts are covered. It is for students with basic PC usage skills. (1/09)

**CPSC-40A WORKING AT A SMALL-TO-MEDIUM BUSINESS OR ISP**
(Also: ELCT-40A)
3 units: 2 hours lecture, 3 hours lab.
Prerequisite: CPSC-40A.
This course prepares students for jobs as network technicians. It also helps students develop additional skills required for computer technicians and help desk technicians. It provides a basic overview of routing and remote access, addressing, and security. It also familiarizes students with servers that provide e-mail services, Web space, and authenticated access. Students also learn about soft skills required for help desk and customer service positions. Network monitoring and basic troubleshooting skills are taught in context. (1/09)

**CPSC-40C ROUTING AND SWITCHING IN THE ENTERPRISE**
(Also:ELCT-40C)
3 units: 2 hours lecture, 3 hours lab.
Prerequisite: CPSC-40B.
This course familiarizes students with the equipment applications and protocols installed in enterprise networks, with a focus on switched networks, IP Telephony requirements, and security. It also introduces advanced routing protocols such as Enhanced Interior Gateway Routing Protocol (EIGRP) and Open Shortest Path First (OSPF) Protocol. Hands-on exercises include configuration, installation, and troubleshooting. (1/09)

**CPSC-40D DESIGNING AND SUPPORTING COMPUTER NETWORKS**
(Also: ELCT-40D)
3 units: 2 hours lecture, 3 hours lab.
Prerequisite: CPSC-40C.
This course introduces students to network design processes using two examples; a large stadium enterprise network and a medium-sized film company network. Students follow a standard design process to expand and upgrade each network, which includes requirements gathering, proof-of-concept, and project management. Lifecycle services, including upgrades, competitive analyses, and system integration, are presented in the context of pre-sale support. In addition to the Packet Tracer and lab exercises found in the previous courses, there are many pen-and-paper and role-playing exercises that students complete while developing their network upgrade proposals. (1/09)

**CPSC-49A ZZ SPECIAL TOPICS IN COMPUTER STUDIES**
0.5 - 3 units: 0.5 - 3 hours lecture, 0 - 6 hours lab.
Advisory: ENGL-A.
This series of courses is designed to provide opportunities for students to further develop their computing skills. (4/05)
Cooperative Education

English, Basic Skills and Child Development

**COOPERATIVE EDUCATION (COOP)**

**COOP-41A  COOPERATIVE EDUCATION IN (SUBJECT)**
1-4 units; 1-4 hours weekly.
Advisory: ENGL-A.

Cooperative work experience education is a process of education that combines work experience with regular college instruction as an integral part of the community college curriculum. Cooperative Education allows students the opportunity to benefit from practical application in a job setting within their major area, or will allow students to sample an experience in a career field the student may be considering. A student may enroll in Cooperative Education for a maximum of four semesters, and no more than 16 units may be earned at Merced College. Seventy-five hours of work experience (or 60 hours volunteer work) equal one unit of college credit. Cooperative education units are offered in all areas. The number of units (1, 2, 3, or 4) the student will be enrolled in will be determined by the number of hours the student will work during the semester. In order to participate in the Cooperative Education Program, a student must (a) have on-the-job experience that contributes to occupational or educational goals; (b) be enrolled in Cooperative Education; (c) have the approval of the Cooperative Education Coordinator; and (d) have the cooperation of the employer in including new or expanded responsibilities or learning opportunities on the job for which the student is enrolled in Cooperative Education. (10/07)

**COOP-41B  COOPERATIVE EDUCATION IN (SUBJECT)**
1-4 units; 1-4 hours weekly.
Prerequisite: COOP-41A. Advisory: ENGL-A.
See COOP-41A above. (10/07)

**COOP-41C  COOPERATIVE EDUCATION IN (SUBJECT)**
1-4 units; 1-4 hours weekly.
Prerequisite: COOP-41B. Advisory: ENGL-A.
See COOP-41A above. (10/07)

**COOP-41D  COOPERATIVE EDUCATION IN (SUBJECT)**
1-4 units; 1-4 hours weekly.
Prerequisite: COOP-41C. Advisory: ENGL-A.
See COOP-41A above. (10/07)
Corrections
Allied Health, Business, and Public Safety

DEGREE
A.A. - Corrections

CERTIFICATE
Corrections

Program Description
The Corrections program is multifaceted to serve the educational needs of both the pre-service and correctional professional. The program also provides educational opportunities for individuals interested in learning about the correctional aspects of the criminal justice system. In addition to an Associate’s degree and a Certificate of Achievement, an Adult Correctional Officer Core Academy, which meets the requirements of the State of California Board of Corrections, and Standards and Training for Corrections, is offered to qualified individuals.

Career Opportunities
The demand for qualified men and women in the corrections field is present today more than ever before. Today’s practitioners need to be able to deal with traditional functions and with the complex social issues of modern society. Professional opportunities in corrections and related fields for men and women may be found on the federal, state, local, and private levels. Each agency provides unique career opportunities for the trained recruit or advancing professional.

Highlights
Understanding correctional processes and inmate rights
Acquiring knowledge and skills for professional practice
Opportunity for qualified students to tour local institutions

Note to Transfer Students
Many four year institutions do not offer a specialized major in this field. Seek assistance of a guidance counselor if you plan to transfer.

DEGREE (10/06)
A.A. - Corrections (21100.AA)
For an Associate in Arts Degree in Corrections, students must complete the graduation requirements and the course work listed below with a 2.0 GPA or higher in each class.

Program Student Learning Outcomes
A. Demonstrate and understanding of the fundamental principles, laws, and processes related to the American judicial system and the constitutional rights of inmates.
B. Demonstrate an understanding of the issues and procedures related to safety and security management in institutions.
C. Demonstrate an understanding of the nature and role of custodial care of the correctional client.
D. Demonstrate an understanding of the basic structure and functions of correctional institutions.
E. Demonstrate critical thinking skills, effective written and oral communication skills.

Units

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CORR-01</td>
<td>Introduction to Corrections</td>
<td>3</td>
</tr>
<tr>
<td>CORR-04</td>
<td>Concepts of Criminal Law for Corrections</td>
<td>3</td>
</tr>
<tr>
<td>CORR-41</td>
<td>Correctional Writing</td>
<td>3</td>
</tr>
<tr>
<td>CORR-42</td>
<td>Control and Supervision in Corrections</td>
<td>3</td>
</tr>
<tr>
<td>CORR-43</td>
<td>Correctional Interviewing</td>
<td>3</td>
</tr>
<tr>
<td>CORR-44</td>
<td>Legal Aspects of Corrections</td>
<td>3</td>
</tr>
<tr>
<td>CORR-30</td>
<td>Probation and Parole</td>
<td>3</td>
</tr>
<tr>
<td>CORR-32</td>
<td>Adult Correctional Officer Core Academy</td>
<td>6</td>
</tr>
<tr>
<td>CRIM-06</td>
<td>Introduction to Evidence</td>
<td>3</td>
</tr>
<tr>
<td>CRIM-08</td>
<td>Introduction to Investigation</td>
<td>3</td>
</tr>
<tr>
<td>CRIM-30</td>
<td>Juvenile Procedures</td>
<td>3</td>
</tr>
<tr>
<td>CRIM-33</td>
<td>Family Violence</td>
<td>3</td>
</tr>
<tr>
<td>CRIM-35</td>
<td>Narcotics</td>
<td>3</td>
</tr>
<tr>
<td>CRIM-37</td>
<td>Communication and Ethics in Law Enforcement</td>
<td>3</td>
</tr>
<tr>
<td>CRIM-39</td>
<td>Police Tactics</td>
<td>1</td>
</tr>
</tbody>
</table>

Total Units: 24
CERTIFICATE
Corrections (21100.CT)

A Certificate of Achievement in Corrections can be obtained by completion of the following classes with a 2.0 GPA or higher.

Program Student Learning Outcomes
A. Demonstrate an understanding of the fundamental principles, laws, and processes related to the American judicial system and the constitutional rights of inmates.
B. Demonstrate an understanding of the issues and procedures related to safety and security management in institutions.
C. Demonstrate an understanding of the nature and role of custodial care of the correctional client.
D. Demonstrate an understanding of the basic structure and functions of correctional institutions.
E. Demonstrate critical thinking skills, effective written and oral communication skills.

CORR-01 Introduction to Corrections
CORR-04 Concepts of Criminal Law for Corrections
CORR-41 Correctional Writing
CORR-42 Control and Supervision in Corrections
CORR-43 Correctional Interviewing and Counseling
CORR-44 Legal Aspects of Corrections

Plus 17 units from the following electives:

CORR-30 Probation and Parole
CORR-32 Adult Correctional Officer Core Academy
CRIM-06 Introduction to Evidence
CRIM-08 Introduction to Investigation
CRIM-30 Juvenile Procedures
CRIM-33 Violence in the Family
CRIM-35 Narcotics
CRIM-37 Communication and Ethics in Law Enforcement
CRIM-39 Police Tactics

ACADEMY
Adult Correctional Officer Core Academy

Program Student Learning Outcomes
Upon completion of the Adult Correctional Officer Core Academy the student will be able to:
A. At a basic level demonstrate an understanding of the fundamental principles, laws, and processes related to the American judicial system and the constitutional rights of inmates.
B. Demonstrate an understanding of the issues and procedures related to safety and security management in institutions.
C. Demonstrate an understanding of the nature and role of custodial care of the correctional client.
D. Demonstrate an understanding of the basic structure and functions of adult local correctional institutions.
E. Demonstrate critical thinking skills, effective written and oral communication skills.

Recommended Sequence: A.A. - Corrections (21100.AA)

Fall 1
CORR-01 Introduction to Corrections
CORR-04 Concepts of Criminal Law for Corrections
CORR-41 Correctional Writing
CORR-42 Control and Supervision in Corrections
CORR-43 Correctional Interviewing and Counseling
CORR-44 Legal Aspects of Corrections

Suggested electives:
CORR-30 Probation and Parole
CORR-32 Adult Correctional Officer Core Academy
CRIM-06 Introduction to Evidence
CRIM-30 Juvenile Procedures
CRIM-33 Violence in the Family
CRIM-35 Narcotics
CRIM-37 Communication and Ethics in Law Enforcement
CRIM-39 Police Tactics

CORRECTIONS (CORR)

3 units: 3 hours lecture.
Advisory: ENGL-A.

This course is designed to provide the student with an overview of the history and trends of adult and juvenile corrections, including probation and parole. It will focus on the legal issues, specific laws, and general operation of correctional institutions. The relationship between corrections and other components of the judicial system will also be examined. (5/09)
CORR-04 CONCEPTS OF CRIMINAL LAW FOR CORRECTIONS
3 units: 3 hours lecture.
Advisories: ENGL-A; CORR-01 or current employment as a correctional officer.
This course covers historical development, philosophy, and practice of law and Constitutional provisions: definitions and classifications of crime, legal research, study of case law, methodology, and concepts of law as a social force. Law as it affects the correctional component of the justice system will be clearly identified. (5/09)

CORR-30 PROBATION AND PAROLE
3 units: 3 hours lecture.
Advisories: CORR-01; CRIM-01 or CRIM-02.
This course encompasses the background, structure, and procedures of probation, parole, and the criminal court process. (5/03)

CORR-32 ADULT CORRECTIONAL OFFICER CORE ACADEMY
6 units: 4 hours lecture, 6 hours lab.
Limitation on Enrollment: Students must be cleared by the California Department of Justice (DOJ) to participate. DOJ clearance is evaluated through the LiveScan fingerprint process. This clearance will reveal a qualifying/disqualifying criminal history background; absence of medical conditions that would prevent strenuous physical training, and arrest control methods training. Physicians’ clearance indicating good physical health must be presented to instructor at first class meeting. Student must possess a valid California Driver License.
Advisories: ENGL A.
This course meets the requirements of the State of California, Board of Corrections, and Standards and Training for Corrections (STC). It covers the specific performance and instructional objectives for local and county jails, probation institutions, and community correctional facilities, it covers topics such as: booking, receiving, and releasing of inmates; supervising inmates; medical and psychological services; hygiene; verbal communication; fire and life safety; defensive tactics; cell extractions; restraint devices; record keeping and report writing; searching and transporting of inmates. (10/06)

CORR-41 CORRECTIONAL WRITING
3 units: 3 hours lecture.
Prerequisite: CORR-04. Advisory: ENGL-A
This is an introductory course emphasizing the practical aspects of gathering, organizing, and preparing written reports for correctional activities on local, state, and federal levels. It will cover the techniques of communicating facts, information, and ideas effectively in a simple, clear and logical manner for various types of criminal justice system reports, letters, memoranda, directives, and administrative reports. Students will gain practical experience in note-taking, report writing, and presenting testimony in court. (12/09)

CORR-42 CONTROL & SUPERVISION IN CORRECTIONS
3 units: 3 hours lecture.
Advisories: CORR-01 or CRIM-01 or CRIM-02.
This course offers an overview of supervision of inmates in the local, state, and federal correctional institutions. The issues of control in a continuum from institutional daily living through crisis situations will be introduced and discussed. The course will emphasize the role played by the offender and the correctional worker. Topics will include inmate subculture, violence, and effects of crowding on inmates and staff, and coping techniques for correctional officers in a hostile prison environment. The causes and effects of abusive tactics will also be discussed. (12/09)

CORR-43 CORRECTIONAL INTERVIEWING AND COUNSELING
3 units: 3 hours lecture.
Advisories: Prior completion or concurrent enrollment in CORR-01.
This class provides an overview of the techniques available to practitioners in Corrections in counseling and interviewing. The student will learn the use of appropriate techniques and theories in confidence building which may be used by the correctional employee in client interviews and counseling. This is a basic course for students planning to enter or who are already employed within the Correctional Science field. (12/09)

CORR-44 LEGAL ASPECTS OF CORRECTIONS
3 units: 3 hours lecture.
One-way corequisite: CORR-01. Advisories: ENGL-A; or current employment as a correctional officer.
This course provides students with an awareness of the historical framework, concepts, and precedents that guide correctional practice. Course material will broaden the individual’s perspective of the corrections environment, the civil rights of prisoners, responsibilities, and liabilities of corrections officials. (2/10)

CORR-49A-ZZ SPECIAL TOPICS IN CORRECTIONS
0.5 - 7 units: 0.5 - 7 hours lecture.
Advisory: ENGL-A.
This is a course designed to address special topics in corrections to meet the current needs of students. The course will allow pre-service and in-service personnel to maintain the most current training standards in the field. (5/09)
Program Description
The Criminal Justice program is multifaceted and serves the educational needs of both pre-service and law enforcement professionals as well as individuals interested in learning about the field. The program leads to an Associate's Degree in Criminal Justice, and transfer to Baccalaureate degree programs and or a Certificate of Achievement. Additionally, the first two of three modules of the Modular Police Academy are offered to qualified students. These courses meet the State of California, Commission on Peace Officers Standards and Training (POST) requirements.

Career Opportunities
The demand for qualified men and women in the criminal justice field is present today more than ever before. Today's practitioners need to be able to deal with traditional law enforcement functions, and the complex social issues of our diverse society. Professional opportunities in law enforcement and related fields may be found on the federal, state, and local level as well as in the private sector and industry. Each agency or private entity provides unique career opportunities for the trained recruit. Many related career fields such as criminologist, fingerprint analyst, communications specialists, crime analyst, researcher, and educator are available.

Highlights
Academic and hands on experiences

---

### DEGREE
A.A. - Criminal Justice

### CERTIFICATE
Criminal Justice

#### Program Student Learning Outcomes

**A.** Demonstrate at the entry level an understanding of the fundamental principles, laws, and processes related to the American judicial system and individual constitutional rights.

**B.** Recognize at the entry level the social, political, economic, and cultural context within the criminal justice system and responsibilities to the community.

**C.** Demonstrate at the entry level critical thinking skills, the ability to analyze and solve problems using logical and creative methods.

**D.** Demonstrate at the entry level effective written, verbal and nonverbal communication skills.

#### Units

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRIM-01</td>
<td>Criminology</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CRIM-02</td>
<td>Introduction to Criminal Justice</td>
<td>3</td>
</tr>
<tr>
<td>CRIM-03</td>
<td>Criminal Procedures</td>
<td>3</td>
</tr>
<tr>
<td>CRIM-04</td>
<td>Criminal Law</td>
<td>3</td>
</tr>
<tr>
<td>CRIM-05</td>
<td>Community and Human Relations</td>
<td>3</td>
</tr>
<tr>
<td>CRIM-06</td>
<td>Introduction to Evidence</td>
<td>3</td>
</tr>
<tr>
<td>CRIM-10</td>
<td>Writing for Criminal Justice</td>
<td>3</td>
</tr>
<tr>
<td>CRIM-37</td>
<td>Communication and Ethics in Law Enforcement</td>
<td>3</td>
</tr>
</tbody>
</table>

Plus three units from the following electives:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRIM-08</td>
<td>Introduction to Investigation</td>
<td>3</td>
</tr>
<tr>
<td>CRIM-30</td>
<td>Juvenile Procedures</td>
<td>3</td>
</tr>
<tr>
<td>CRIM-33</td>
<td>Violence in the Family</td>
<td>3</td>
</tr>
<tr>
<td>CRIM-35</td>
<td>Narcotics</td>
<td>3</td>
</tr>
<tr>
<td>CRIM-39</td>
<td>Police Tactics</td>
<td>1</td>
</tr>
<tr>
<td>CRIM-42A</td>
<td>832 PC Arrest Methods</td>
<td>1.5</td>
</tr>
<tr>
<td>CRIM-42B</td>
<td>832 PC Firearms</td>
<td>1</td>
</tr>
<tr>
<td>CRIM-42C</td>
<td>Reserve Peace Officer Module Level 3</td>
<td>7</td>
</tr>
<tr>
<td>CRIM-42D</td>
<td>Reserve Peace Officer Module Level 2</td>
<td>13.5</td>
</tr>
<tr>
<td>CRIM-49A-ZZ</td>
<td>Special Problems in Criminal Justice</td>
<td>¾-3</td>
</tr>
<tr>
<td>CORR-30</td>
<td>Probation and Parole</td>
<td>3</td>
</tr>
</tbody>
</table>
CERTIFICATE
Criminal Justice (21150.CT)

A Certificate of Achievement in Criminal Justice can be obtained by completion of the following classes with a 2.0 GPA or higher in each class taken.

Program Student Learning Outcomes
A. Demonstrate at the entry level an understanding of the fundamental principles, laws, and processes related to the American judicial system and individual constitutional rights.
B. Recognize at the entry level the social, political, economic, and cultural context within the criminal justice system and responsibilities to the community.
C. Demonstrate at the entry level critical thinking skills, the ability to analyze and solve problems using logical and creative methods.
D. Demonstrate at the entry level effective written, verbal and nonverbal communication skills.

CRIM-01 Criminology .................................................. 3

or

CRIM-02 Introduction to Criminal Justice ......................... 3

CRIM-03 Criminal Procedures ....................................... 3

CRIM-04 Criminal Law .................................................... 3

CRIM-05 Community and Human Relations ...................... 3

CRIM-06 Introduction to Evidence .................................. 3

CRIM-08 Introduction to Investigation .............................. 3

CRIM-10 Writing for Criminal Justice ............................... 3

CRIM-35 Narcotics ............................................................ 3

CRIM-37 Communication and Ethics in Law Enforcement ...... 3

CRIM-39 Police Tactics ..................................................... 1

Plus three units from the following classes:

CORR-30 Probation and Parole ........................................... 3

CRIM-30 Juvenile Procedures ........................................... 3

CRIM-33 Family Violence .................................................. 3

CRIM-49A-ZZ Special problems in Criminal Justice ........... \( \frac{1}{2} - 3 \) to 31

P.O.S.T. Modular Training

The first two of three modules of the Modular Police Academy are offered for qualified students. These courses meet the State of California, Commission on Peace Officers Standards and Training (POST) requirements.

CRIM 42C Reserve Peace Officer Module Level 3 .................. 7

CRIM 42D Reserve Peace Officer Module Level 2 ................. 13.5

Recommended Sequence for Criminal Justice

A.A. - Criminal Justice (21150.AA)

Fall 1
CRIM-01 Criminology .................................................. 3

or

CRIM-02 Introduction to Criminal Justice ......................... 3

CRIM-03 Criminal Procedures ....................................... 3

CRIM-04 Criminal Law .................................................... 3

CRIM-05 Community and Human Relations ...................... 3

CRIM-06 Introduction to Evidence .................................. 3

CRIM-10 Writing for Criminal Justice ............................... 3

CRIM-37 Communication and Ethics in Law Enforcement ...... 3

CRIM-08 Introduction to Investigation .............................. 3

CRIM-33 Family Violence .................................................. 3

CRIM-39 Police Tactics ..................................................... 1

Suggested electives:

CRIM-08 Introduction to Investigation .............................. 3

CRIM-33 Family Violence .................................................. 3

CRIM-39 Police Tactics ..................................................... 1

CRIM-42A 832 PC Arrest Methods ................................... 1.5

CRIM-42B 832 PC Firearms ............................................. 1

Spring 1

CRIM-01 Criminology .................................................. 3

or

CRIM-02 Introduction to Criminal Justice ......................... 3

CRIM-03 Criminal Procedures ....................................... 3

CRIM-04 Criminal Law .................................................... 3

CRIM-05 Community and Human Relations ...................... 3

CRIM-06 Introduction to Evidence .................................. 3

CRIM-10 Writing for Criminal Justice ............................... 3

CRIM-37 Communication and Ethics in Law Enforcement ...... 3

Suggested electives:

CRIM-08 Introduction to Investigation .............................. 3

CRIM-33 Family Violence .................................................. 3

CRIM-39 Police Tactics ..................................................... 1

CRIM-42A 832 PC Arrest Methods ................................... 1.5

CRIM-42B 832 PC Firearms ............................................. 1

CRIM-42C Reserve Peace Officer Module Level 3 .................. 7

Recommended Sequence: Certificate - Criminal Justice (21150.CT)

Fall 1
CRIM-01 Criminology .................................................. 3

or

CRIM-02 Introduction to Criminal Justice ......................... 3

CRIM-03 Criminal Procedures ....................................... 3

CRIM-04 Criminal Law .................................................... 3

CRIM-05 Community and Human Relations ...................... 3

CRIM-06 Introduction to Evidence .................................. 3

CRIM-10 Writing for Criminal Justice ............................... 3

CRIM-37 Communication and Ethics in Law Enforcement ...... 3

CRIM-39 Police Tactics ..................................................... 1

Suggested electives:

CRIM-33 Family Violence .................................................. 3

Spring 2

CRIM-01 Criminology .................................................. 3

or

CRIM-02 Introduction to Criminal Justice ......................... 3

CRIM-03 Criminal Procedures ....................................... 3

CRIM-04 Criminal Law .................................................... 3

CRIM-05 Community and Human Relations ...................... 3

CRIM-06 Introduction to Evidence .................................. 3

CRIM-10 Writing for Criminal Justice ............................... 3

CRIM-37 Communication and Ethics in Law Enforcement ...... 3

CRIM-39 Police Tactics ..................................................... 1

Suggested electives:

CRIM-33 Family Violence .................................................. 3

CRIM-30 Probation and Parole .......................................... 3

CRIM-30 Juvenile Procedures .......................................... 3

CRIM-33 Family Violence .................................................. 3
This course is an analysis of the nature and patterning of criminality and theories of criminal behavior. Crime control policies are critically examined regarding linkages among 1) social conflicts and inequalities, 2) criminal laws and enforcement practices, and 3) social deviance. (11/09)

This course pertains to the history and philosophy of criminal justice in America. The course will emphasize the three major components of the system: court, corrections, and law enforcement. It will then examine the role of each. (11/09)

This course covers basic legal processes from pre-arrest through trial, sentencing, and correctional procedures; a review of the history of case and common law; conceptual interpretations of law as reflected in court decisions; a study of case law methodology and case research as the decisions impact upon the procedures of the justice system. (11/09)

This course covers the relationship of criminal justice agents and the public to the maintenance of order. The course also explores crimes against persons, property, and the state. (11/09)

This course covers the relationship of criminal justice agents and the community; causal and symptomatic aspects of community understanding; lack of cooperation and mistrust; study of behavioral causes; and ways to develop and maintain amicable relationships. (11/09)

This course is a study of the origin, development, philosophy and constitutional basis of evidence; constitutional and procedural considerations affecting arrest, search and seizure; kinds and degrees of evidence and rules governing admissibility; judicial decisions interpreting individual rights; and case studies viewed from a conceptual level. (11/09)

This course covers the fundamentals of investigation; techniques of crime scene search and recording; collection and preservation of physical evidence; modus operandi processes; sources of information; interview and interrogation; and follow-up investigation. (11/09)

This course covers the techniques of communicating facts, information, and ideas effectively in a simple, clear, and logical manner in the various types of criminal justice system reports: letters, memoranda, directives, and administrative reports. Emphasis is placed on criminal justice terminology, the use of English, and the organization of information. The student will also receive practical experience in taking and report writing; and the preparation for the presentation of testimony in court. (11/09)

This course relates to the organization, functions, and jurisdiction of juvenile agencies in the criminal justice system. The course will concentrate on detention facilities and the juvenile court process. (12/09)

This course examines criminal law and the psycho-socio dynamics of child abuse, elder abuse, spousal abuse, and sexual assault. (12/09)

This course covers the fundamentals of investigation; techniques of crime scene search and recording; collection and preservation of physical evidence; modus operandi processes; sources of information; interview and interrogation; and follow-up investigation. (11/09)

This course covers the ethical issues created by the congruent and incongruent match of criminal justice philosophy and law enforcement practice. Effective communication styles for courtroom, testimony, interrogation, and verbal judo will be examined, evaluated, and practiced. (11/06)

This course is designed for pre-service and in-service law enforcement personnel and is designed to teach the students defensive tactics. A special emphasis will be placed on disarming assailants, takedowns, and holds. Officer safety and the moral and ethical application of defensive tactics will also be stressed. Student must, at the first class meeting, present to the instructor a physician’s clearance for strenuous physical activity. This course may be repeated 3 times. (12/09)

This course meets the requirements of the State of California, Commission on Peace Officers Standards and Training (POST). It covers topics such as: ethics, professionalism, the criminal justice system, criminal law, property crimes, crime against persons, laws of arrest, laws of search and seizure, investigative report writing, use of force, preliminary investigation, custodial issues, arrest and control methods. In accordance with POST regulations, students missing more than 5% of class time will not be allowed to complete this course. (12/07)
CRIM-42B 832 PC FIREARMS
[CILC area D]
1 unit: 14 total hours lecture, 12 total hours lab.
Limitation on enrollment: 1. Students must be cleared by the California Department of Justice (DOJ) to participate. DOJ clearance is evaluated through the LiveScan fingerprint process. This clearance will reveal a qualifying/disqualifying criminal history background. 2. The absence of medical conditions that would prevent strenuous physical training during arrest and control methods training, use of force, and crimes in progress. Physicians’ clearance indicating good physical health must be presented to the instructor at first class meeting. 3. Student must possess a valid California Drivers’ License. Advisory: ENGL-A.

This course meets the requirements of the State of California, Commission on Peace Officers Standards and Training (POST). It covers topics such as firearms safety, basic firearms operation, ammunition, cleaning and maintenance and principles of shooting accuracy. Students missing more than 5% of class time will not be allowed to complete the class (POST regulations). (12/07)

CRIM-42C RESERVE PEACE OFFICER MODULE LEVEL 3
[CILC area D]
7 units: 108 total hours lecture, 54 total hours lab.
Limitation on enrollment: Students must be cleared by the California Department of Justice (DOJ) to participate. DOJ clearance is evaluated through the LiveScan fingerprint process. This clearance will reveal a qualifying/disqualifying criminal history background. In addition, there must be an absence of medical conditions that would prevent strenuous physical training during arrest and control methods training, use of force, and crimes in progress. A physician’s clearance indicating good physical health must be presented to the instructor at the first class meeting. Students must possess a California Driver’s License. Advisory: ENGL-A.

This course meets the requirements of the State of California Commission on Peace Officer Standards and Training (POST). It covers topics such as: ethics, professionalism, the criminal justice system, criminal law, property crimes, crime against persons, laws of arrest, laws of search and seizure, investigative report writing, vehicle operations, use of force, crimes in progress, traffic enforcement, preliminary investigation, custodial issues, arrest and control methods including baton, first aid, CPR, chemical agents, information systems, and cultural diversity. In accordance with POST regulations, students missing more than 5% of class time will not be certified in this course. (12/06)

CRIM-42D RESERVE PEACE OFFICER MODULE LEVEL 2
[CILC area D]
13.5 units: 234 total hours lecture, 27 total hours lab.
Limitation on enrollment: 1. Students must be cleared by the California Department of Justice (DOJ) to participate. DOJ clearance is evaluated through the LiveScan fingerprint process. This clearance will reveal a qualifying/disqualifying criminal history background. 2. The absence of medical conditions that would prevent strenuous physical training during arrest and control methods training, use of force, and crimes in progress. Physicians’ clearance indicating good physical health must be presented to the instructor at first class meeting. 3. Student must possess a valid California Drivers’ License. Prerequisite: CRIM-42C. Advisory: ENGL-A.

This course satisfies the Level 2 modular format Basic Course training requirements of the Commission on Peace Officer Standards and Training (POST). It covers community relations, victimology, crisis intervention, property crimes, crimes against persons, general criminal statutes, laws of arrest, laws of search and seizure, presentation of evidence, investigative report writing, use of force, patrol techniques, vehicle pullovers, crimes in progress, traffic enforcement, unusual occurrences, preliminary investigation, and arrest and control methods including baton, firearms, chemical agents, persons with disabilities, crimes against the justice system, weapons violations, hazardous materials, cultural diversity, and discrimination issues. Students missing more than 5% of class time will not be allowed to complete the class (POST regulations). (12/07)

CRIM-49A-ZZ SPECIAL TOPICS IN CRIMINAL JUSTICE
0.5 - 5 units: 0.5-8 hours lecture, 0-4 hours lab. Advisory: ENGL-A.
This is a course designed to address special topics in criminal justice to meet the current needs of students. The course will allow pre-service and in-service personnel to maintain the most current training standards in the field. (12/09)
Crop Science
Career and Technical Education

DEGREES
A.A. - Crop Science
A.S. - Crop Science

CERTIFICATE
Crop Science

Program Description
The Crop Science program at Merced College is designed to meet the need for trained personnel in a broad range of occupational opportunities involved with or related to producing crops.

The Merced College Crop Science Program maintains 240 acres of cropland which serve as a laboratory for Crop Science students. Equipment and methods used in the program are of the latest type and follow current trends and practices in crop-oriented production areas. Students take an active part in the farming operations by planning individual as well as group projects. The student not only gains the theoretical knowledge associated with production, but also experiences “hands-on” practical application.

Students of the Merced College Agriculture Division are raising a wide variety of crops including alfalfa, wheat, barley, corn, oats, almonds, and pasture. The operation also includes the raising of onion seed stock crops.

Career Opportunities
Only two out of ten Crop Science graduates are involved with the actual production end of Crop Science. They work as self-employed farmers or in the farming, ranching, or dairy environment. The remaining eight graduates find positions in crop-related occupations such as crop processing and marketing, commodity sales, agriculture chemical sales, irrigation district, U.S. Department of Agriculture, and banking and corporate holdings in Agriculture Management. These jobs are open to people from both urban and rural areas who have gathered their expertise through education in Crop Science.

DEGREE
A.A. - Crop Science (01150.AA)

The Associate in Arts Degree is available upon satisfactory completion of the graduation requirements in addition to 19 units from the following list. The core must be completed for this degree.

Program Student Learning Outcomes
A. With an emphasis on general education, properly plant different varieties of plants and analyze soil conditions and type for testing.
B. With an emphasis on general education, read the instructions, calibrate the equipment, and perform a soil analysis to determine soil type, soil structure and nutrient availability to determine the nutrient deficiencies in the soil.
C. With an emphasis on general education, identify and select the most appropriate plants and soils with the decision based on the environment conditions, plant characteristics and soil conditions.
D. With an emphasis on general education, faced with either a hypothetical or actual problems dealing with plantings and soil conditions and the appropriate references, determine a solution to the problem.

Core: 
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CROP-10</td>
<td>Elements of Cereal Grain Production</td>
<td>3</td>
</tr>
<tr>
<td>CROP-12</td>
<td>Commercial Vegetable and Garden Production</td>
<td>3</td>
</tr>
<tr>
<td>PLSC-12</td>
<td>Weeds</td>
<td>3</td>
</tr>
<tr>
<td>SOIL-10</td>
<td>Soil Science</td>
<td>3</td>
</tr>
<tr>
<td>SOIL-11</td>
<td>Fertilizers and Soil Amendments</td>
<td>3</td>
</tr>
<tr>
<td>MECH-12</td>
<td>Agriculture Equipment</td>
<td>3</td>
</tr>
<tr>
<td>MECH-31</td>
<td>Equipment Safety</td>
<td>1</td>
</tr>
</tbody>
</table>

19 total units

DEGREE
A.S. - Crop Science (01150.AS)

The Associate in Science Degree in Crop Science is available upon satisfactory completion of the graduation requirements in addition to 30 units from the following list. The core must be completed for this degree.

Program Student Learning Outcomes
A. With an emphasis on science, properly plant different varieties of plants and analyze soil conditions and type for testing.
B. With an emphasis on science, read the instructions, calibrate the equipment, and perform a soil analysis to determine soil type, soil structure and nutrient availability to determine the nutrient deficiencies in the soil.
C. With an emphasis on science, identify and select the most appropriate plants and soils with the decision based on the environment conditions, plant characteristics and soil conditions.
D. With an emphasis on science, faced with either a hypothetical or actual problems dealing with planting and soil conditions and the appropriate references, determine a solution to the problem.

Core: 
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CROP-10</td>
<td>Elements of Cereal Grain Production</td>
<td>3</td>
</tr>
<tr>
<td>CROP-12</td>
<td>Commercial Vegetable and Garden Production</td>
<td>3</td>
</tr>
<tr>
<td>PLSC-12</td>
<td>Weeds</td>
<td>3</td>
</tr>
<tr>
<td>SOIL-10</td>
<td>Soil Science</td>
<td>3</td>
</tr>
<tr>
<td>SOIL-11</td>
<td>Fertilizers and Soil Amendments</td>
<td>3</td>
</tr>
<tr>
<td>MECH-12</td>
<td>Agriculture Equipment</td>
<td>3</td>
</tr>
<tr>
<td>MECH-31</td>
<td>Equipment Safety</td>
<td>1</td>
</tr>
</tbody>
</table>

Units: 30

Plus 11 additional units from the following electives:
CERTIFICATE
Crop Science  (01150.CT)

A Certificate of Achievement will be awarded upon satisfactory completion of the 19 unit core and 18 units from the electives below.

Program Student Learning Outcomes
A. Properly plant different varieties of plants and analyze soil conditions and type for testing.
B. Read the instructions, calibrate the equipment, and perform a soil analysis to determine soil type, soil structure and nutrient availability to determine the nutrient deficiencies in the soil.
C. Identify and select the most appropriate plants and soils with the decision based on the environment conditions, plant characteristics and soil conditions.
D. Faced with either a hypothetical or actual problems dealing with plantings and soil conditions and the appropriate references, determine a solution to the problem.

Core: Units
CROP-10  Elements of Cereal Grain Production........................................3
CROP-12  Commercial Vegetable and Garden Production..........................3
PLSC-12  Equipment Safety.........................................................................1
SOIL-10  Soil Science.................................................................................3
SOIL-11  Fertilizers and Soil Amendments..................................................3
MECH-12  Agriculture Equipment..............................................................3
MECH-31  Diesel Engines ...........................................................................4
PLSC-13  Economic Entomology.................................................................3
LAND-16  Plant Propagation........................................................................3

Recommended Sequence: A.A. - Crop Science  (01150.AA)

Fall 1
CROP-10  Elements of Cereal Grain Production........................................3
SOIL-10  Soil Science .................................................................................3

Spring 1
CROP-12  Commercial Vegetable and Garden Production.........................3

Fall 2
SOIL-11  Fertilizers and Soil Amendments..................................................3

Spring 2
CROP-13  Forage Crops ............................................................................3
PLSC-12  Weeds .........................................................................................3

CROP PRODUCTION (CROP)

CROP-10  ELEMENTS OF CEREAL GRAIN PRODUCTION
3 units: 2 hours lecture, 3 hours lab.
Advisories: ENGL-A; MATH-80.
This is a study of production principles, which include botany, taxonomy, soil tillage, fertilization, variety and seed selection, pest management, harvest, processing, storage, and marketing for important fiber, food, and cereal crops in California. Covered crops will include cotton, sugar beets, wheat, rice, barley, sorghum, corn, oats, safflower, legumes for seed, and potatoes. A field trip to a major production area is required. (9/04)

CROP-12  COMMERCIAL VEGETABLE AND GARDEN PRODUCTION
3 units: 2 hours lecture, 3 hours lab.
Advisories: ENGL-A; MATH-80.
This course is a study of vegetable production covering the botany, cultural production, harvesting, processing, growth characteristics, fertility, pests, and marketing of the major warm season and cool season vegetable crops in California. A field trip into a major vegetable production region is required. (9/04)

CROP-13  FORAGE CROPS
3 units: 2 hours lecture, 3 hours lab.
Prerequisite/Advisory: None.
This course will cover production, harvesting, and utilization of principal California forage crops. The importance of forage crops as a supplement to livestock enterprises will also be covered. The use of forage crops as soil enhancers, and irrigated and range pastures, will be discussed.
FRUIT PRODUCTION (FPRO)

FPRO-12 VINEYARD PRODUCTION AND MANAGEMENT
3 units: 2 hours lecture, 3 hours lab.
Advisories: ENGL-A; MATH-80.
The production and management decisions for grapes, berries, and kiwi fruit will be presented. Topics will include climate zones, soil selection, financing, farm organization, irrigation systems, field layout, variety selection, nutritional needs, harvesting, labor management, marketing, and budgeting. Students will be required to prepare a budget and calendar of operations. (12/06)

FPRO-13 FRUIT TREE MAINTENANCE
3 units: 2 hours lecture, 3 hours lab.
Advisories: ENGL-A; MATH-80.
This course is designed to evaluate management decisions for fruit and nut trees. Management topics will include studies of climate zones, soil selection, financing, farm organization, irrigation systems, field layout, varietal selection, nutritional needs, harvesting, labor management, marketing, and budgeting. The student will be required to prepare a budget and calendar of orchard operations. (9/04)

PLANT SCIENCE (PLSC)

PLSC-10 ELEMENTS OF PLANT SCIENCE
(CSU breadth area B2/B3) (IGETC area 5B)
3 units: 2 hours lecture, 3 hours lab.
Advisories: ENGL-A; MATH-80.
This course is designed to provide the students with a working knowledge of fundamental structures and processes of plants. Principles to be applied cover plant structures, physiology, heredity, environmental relationship to growth, adaptation, and management of crops. Techniques of research, exploration of plant growth, and identification of economical crops will be included. (12/06)

PLSC-12 WEEDS
3 units: 3 hours lecture.
Advisory: ENGL-A; MATH-80.
This is a study of classification, identification, and life cycle of common and poisonous weeds in California which are detrimental to cultivated crops, grasslands, animals, and man. Management practices include: prevention, mechanical, biological, and chemical methods. Weed establishment and chemical resistance are also covered. (12/06)

PLSC-13 ECONOMIC ENTOMOLOGY
3 units: 3 hours lecture.
Advisories: ENGL-A; MATH-80.
This course will cover insects and mites of economic importance to agriculture. Morphology, taxonomy, identification, life cycles, hosts, habitat relationships, and control methods will be discussed. Collection and labeling of specimens will be required. (12/06)

PLSC-48 PLANT SCIENCE: PROBLEMS
2 units: 6 hours lab.
Advisories: ENGL-A; MATH-80.
This course will offer students opportunity for investigating a deeper interest in the field of Plant Science. The interest areas will include but not be limited to: crop breeding, propagation, crop production, student projects, greenhouse management, soil management, and soil testing. (12/06)

PLSC-70 A-Z SPECIAL TOPICS IN PLANT SCIENCE
.5 - 4 units: 0.5 - 4 hours lecture, 1.5 - 12 hours lab.
Prerequisite/Advisory: None.
This course is the study of basic principles, processes, and theories of the special topic being presented during this semester.

PLSC-71 A-Z TOPICS IN AGRICULTURAL PEST CONTROL UPDATING
1 unit: 18 total hours lecture.
Prerequisite/Advisory: None.
This mini-course is designed to meet continuing education requirements for Agricultural Pest Control Advisors (P.C.A.), Qualified Agricultural Applicator Licensee (Q.L.), and the Qualified Applicator certificate as set forth by the California Department of Food and Agriculture (C.D.F.A.). Topics to be covered, but not restricted to plant science, are laws and regulations; pesticide management; insects, mites and other invertebrates; defoliation and plant growth regulators; nematodes; plant diseases; vertebrate pest control; and equipment and applicator safety. All topics of the course shall relate to the realm of Integrated Pest Management. This course is continually updated with the changes in laws and practices, and is presented each fall and spring semester. Each course offering must be approved by the regional continuing education accreditation committee and assigned an accreditation number as established by the C.D.F.A. (This course is offered on a credit/no credit basis.)

SOIL SCIENCE (SOIL)

SOIL-10 SOIL SCIENCE
(CSU breadth area B1/B3) (IGETC area 5A)
3 units: 2 hours lecture, 3 hours lab.
Advisories: ENGL-A; MATH-80.
This course provides a basic knowledge of the physical, chemical, and biological properties of soils and their characteristics. The course includes factors of fundamental soil properties, soil and plant relationships, principles of soil formation, fertilizers and soil management, salinity, pH, erosion management, and nonagricultural uses. (12/04)

SOIL-11 FERTILIZERS AND SOIL AMENDMENTS
3 units: 3 hours lecture.
This course will cover the composition, value, selection and use of fertilizer materials and soil amendments. Soil, plant, and fertilizer relationships will be covered. Application practices common to area crops and soils will be discussed. (2/90)
CSU General Education Breadth

A minimum of 39 units from the following:
Students must complete a minimum of 39 units used to satisfy the CSU Transfer Breadth Requirements. Students must receive full certification of the CSU General Education Breadth lower division pattern, which requires a grade of “C” or better in Area A and Area B-4. See the CSU Transfer Breadth requirements patterns listed in the Merced College catalog or consult with a Merced College counselor.

Dairy Husbandry (See Animal Science)
Career and Technical Education

Dean
James Andersen
Phone
(209) 384-6250
Area Office
AG-Office

Counseling
(209) 384-6314
Cooperative Work Experience
(209) 384-6364
DANCE (DNCE)

DNCE-14A DANCE CHOREOGRAPHY (Also: PHED-14A)
1 unit: 0.5 hour lecture, 1.5 hours lab.
Prerequisite/Advisory: None.
This is a course teaching the student of dance how to use the “language of the body” to communicate an idea, theme, or story. Utilizing time, space, and energy, the student learns to conceive, develop, and put movement together. May be repeated three times.

DNCE-14B MODERN DANCE (Also: PHED-14B)
1 unit: 0.5 hour lecture, 1.5 hours lab.
Prerequisite/Advisory: None.
This is a course designed for students to express themselves creatively through various modern dance forms, and to increase skills of body posture, flexibility, coordination and strength. Students will study technical components which include time, effort, and kinetic awareness. May be repeated three times.

DNCE-14C BALLET (Also: PHED-14C)
1 unit: 0.5 hour lecture, 1.5 hours lab.
Prerequisite/Advisory: None.
This is a course designed to teach the basic steps and skills of ballet. Students will have the opportunity to learn and perform routines. History and terminology will also be covered. May be repeated three times.

DNCE-14D1 BEGINNING JAZZ DANCE (Also: PHED-14D1)
1 unit: 0.5 hour lecture, 1.5 hours lab.
Advisories: Good general health; absence of medical conditions that would prevent planned physical activity.
This is a course designed to introduce the basic techniques, rhythms, and combinations of jazz movement. The class will include stretching exercises, coordination exercises, and general body conditioning exercises. This course may not be repeated. (3/06)

DNCE-14D2 INTERMEDIATE JAZZ DANCE (Also: PHED-14D2)
1 unit: 0.5 hour lecture, 1.5 hours lab.
Prerequisite: PHED-14D1. Advisories: Good general health; absence of medical conditions that would prevent planned physical activity.
Students will be introduced to intermediate dance techniques. Basic skills will be reviewed along with an emphasis on conditioning and flexibility. Additional technical study includes double pirouettes, chaîne and piqué turns. Students will be required to develop and perform short routines in class. This course may not be repeated. (3/06)

DNCE-14D3 ADVANCED JAZZ DANCE (Also: PHED-14D3)
1 unit: 0.5 hour lecture, 1.5 hours lab.
Prerequisite: PHED-14D2. Advisories: Good general health; absence of medical conditions that would prevent planned physical activity.
This course emphasizes advanced conditioning, control, stage presence and dance quality performances. Students must be available for rehearsal and performances of productions to which they may be assigned. This course may not be repeated. (3/06)
DEGREES
A.A. - Diesel Equipment Technology
A.S. - Diesel Equipment Technology

CERTIFICATE
Diesel Equipment Technology

Program Description
The Diesel Equipment Technology program at Merced College is designed to meet the need for trained mechanics in all phases of the diesel equipment industry.

This program is based on “hands-on” skill development with course time divided into two segments, 30% classroom sessions and 70% working in a shop atmosphere, while under the supervision of factory trained instructors. Instructional areas include the trucking industry, bus repair, agricultural equipment, construction equipment, and industrial power. Students obtain skills used throughout the entire diesel equipment field in repair and maintenance of equipment. The sequence of courses within the diesel Equipment Technology Program encompass all phases of technical training to insure the success of both experienced and graduating technicians.

Merced College has a spacious shop, equipped with the latest model agriculture equipment and vehicles currently being used in the industry. Since the right tools are essential to proper training, Merced College provides students with state-of-the-art tools required for the repair of most complex machinery. The college also maintains a large inventory of equipment and training aids to allow students maximum “hands-on” experience on both vintage as well as the most current equipment on the market.

Career Opportunities
Employment opportunities for the Diesel Equipment Technician trainee are excellent. A recent survey of the Diesel Equipment Industry in Merced County has shown a need for 125 truck and bus mechanics and 75 agricultural and industrial equipment mechanics per year. In addition, there are jobs available in diesel fuel system shops, hydraulic shops, maintenance shops, and various other related industries.

Graduates from this program have been successfully placed on jobs locally, statewide, and nationally. The following are popular occupations: Diesel Truck Technician, Agriculture Equipment Technician, Field Service Technician, Marine Diesel Technician, Diesel Fuel Specialist, Electrical Specialist, Parts Person, Heavy Equipment Technician, Bus Mechanic, Industrial Equipment Technician, Service Manager, Hydraulic Specialist, Diesel Equipment Sales, and Air Conditioning Specialists

DEGREE (10/04)
A.A. - Diesel Equipment Technology (01200.AA)

The Associate in Arts Degree in Diesel Equipment Technology is available upon satisfactory completion of the graduation requirements and completion of 39 units from the following major requirements.

Program Student Learning Outcomes
A. With an emphasis on general education, explain the basic theory of the subject matter or system for the course of instruction based on industry standards.
B. With an emphasis on general education, analyze a scenario based upon an equipment system failure / problem / complaint.
C. With an emphasis on general education, employ a systematic approach to troubleshooting a system malfunction and prepare a solution.
D. With an emphasis on general education, demonstrate the correct tools/supplies required to diagnose/repair a malfunction.
E. With an emphasis on general education, verify if the path of repair was correct by testing and/or completing a work order/report.

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>MECH-06</td>
<td>Fundamentals of Oxy-Fuel Welding and Shielded Metal Arc Welding</td>
<td>3</td>
</tr>
<tr>
<td>MECH-21</td>
<td>Hydraulics</td>
<td>3</td>
</tr>
<tr>
<td>MECH-22A</td>
<td>Diesel Engines</td>
<td>4</td>
</tr>
<tr>
<td>MECH-22B</td>
<td>Diesel Engines</td>
<td>4</td>
</tr>
<tr>
<td>MECH-23</td>
<td>Diesel Fuel System Diagnostics</td>
<td>2</td>
</tr>
<tr>
<td>MECH-24</td>
<td>Power Trains</td>
<td>4</td>
</tr>
<tr>
<td>MECH-26</td>
<td>Power Equipment Electrical Systems</td>
<td>3</td>
</tr>
<tr>
<td>MECH-30</td>
<td>Equipment Mechanics Skills</td>
<td>2</td>
</tr>
<tr>
<td>MECH-31</td>
<td>Equipment Safety</td>
<td>1</td>
</tr>
<tr>
<td>MECH-32</td>
<td>Applied Electrical and Hydraulic Service</td>
<td>3</td>
</tr>
<tr>
<td>MECH-33</td>
<td>Power Equipment Air Conditioning</td>
<td>2</td>
</tr>
<tr>
<td>MECH-35</td>
<td>Compact Power Equipment</td>
<td>3</td>
</tr>
<tr>
<td>MECH-40</td>
<td>Equipment Repair</td>
<td>2</td>
</tr>
<tr>
<td>MECH-51</td>
<td>Truck Brakes and Chassis</td>
<td>4</td>
</tr>
</tbody>
</table>

39
Program Student Learning Outcomes

A. With an emphasis on science, explain the basic theory of the subject matter or system for the course of instruction based on industry standards.

B. With an emphasis on science, analyze a scenario based upon an equipment system failure/problem/complaint.

C. With an emphasis on science, employ a systematic approach to troubleshooting a system malfunction and prepare a solution.

D. With an emphasis on science, demonstrate the correct tools/supplies required to diagnose/repair a malfunction.

E. With an emphasis on science, verify if the path of repair was correct by testing and/or completing a work order/report.

Recommended Sequence: A.A. - Diesel Equipment Technology (01200.AA); A.S. - Diesel Equipment Technology (01200.AS); Certificate Diesel Equipment Technology (01200.CT)
### DEGREE
A.A. - Computer Aided Drafting

### CERTIFICATES
- Computer-Aided Drafting - Architectural Level II
- Computer-Aided Drafting - Mechanical Level I
- Computer-Aided Drafting - Mechanical Level II

### DEGREE
A.A. - Computer Aided Drafting

An Associate in Arts Degree is available for students who meet the graduation requirements and successfully complete the courses listed below for Computer-Aided Drafting.

#### Program Student Learning Outcomes
A. Create a set of plans using CAD programs.
B. Organize dimensions in a meaningful manner as required by standards.
C. Employ the newest technology related to Architectural drafting/design.

#### Computer-Aided Drafting - Architectural - Level II Option (09101.AA):

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRFT-04A</td>
<td>Computer-Aided Drafting - AutoCAD</td>
<td>3</td>
</tr>
<tr>
<td>DRFT-04B</td>
<td>Computer-Aided Drafting - AutoCAD</td>
<td>3</td>
</tr>
<tr>
<td>DRFT-25</td>
<td>Descriptive Geometry</td>
<td>3</td>
</tr>
<tr>
<td>DRFT-42A</td>
<td>Architectural Drafting - AutoCAD</td>
<td>3</td>
</tr>
<tr>
<td>DRFT-42B</td>
<td>Architectural Drafting - 3D</td>
<td>3</td>
</tr>
<tr>
<td>DRFT-44</td>
<td>Print Reading and Sketching</td>
<td>3</td>
</tr>
<tr>
<td>INDT-38</td>
<td>Industrial Technology Computer Applications and Literacy</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Program Student Learning Outcomes
A. Employ appropriate CAD programs to create a set of plans.
B. Organize dimensions in a meaningful manner as required by standards.
C. Employ the newest technology related to Architectural drafting/design.

#### Computer-Aided Drafting - Mechanical - Level II Option (09102.AA):

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRFT-04A</td>
<td>Computer-Aided Drafting (AutoCAD)</td>
<td>3</td>
</tr>
<tr>
<td>DRFT-04B</td>
<td>Computer-Aided Drafting (AutoCAD)</td>
<td>3</td>
</tr>
<tr>
<td>DRFT-04C</td>
<td>Computer-Aided Drafting (AutoCAD)</td>
<td>3</td>
</tr>
<tr>
<td>DRFT-05</td>
<td>Engineering Graphics</td>
<td>3</td>
</tr>
<tr>
<td>DRFT-25</td>
<td>Descriptive Geometry</td>
<td>3</td>
</tr>
<tr>
<td>DRFT-44</td>
<td>Print Reading and Sketching</td>
<td>3</td>
</tr>
<tr>
<td>INDT-38</td>
<td>Industrial Technology Computer Applications and Literacy</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Program Student Learning Outcomes
A. Create a set of plans using CAD programs.
B. Organize dimensions in a meaningful manner as required by standards.
C. Employ the newest technology related to Mechanical drafting/design.

### CERTIFICATE
**Computer-Aided Drafting - Architectural Level II (09101.CL)**

A Certificate of Achievement will be awarded upon successful completion of the options listed below. For successful completion, a student must complete the requirements with a minimum grade point of 2.0 in each course required for the certificate.

#### Program Student Learning Outcomes
A. Employ appropriate CAD programs to create a set of plans.
B. Organize dimensions in a meaningful manner as required by standards.
C. Employ the newest technology related to Architectural drafting/design.

#### Options:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRFT-04A</td>
<td>Computer-Aided Drafting - AutoCAD</td>
<td>3</td>
</tr>
<tr>
<td>DRFT-04B</td>
<td>Computer-Aided Drafting - AutoCAD</td>
<td>3</td>
</tr>
<tr>
<td>DRFT-42A</td>
<td>Architectural Drafting - AutoCAD</td>
<td>3</td>
</tr>
<tr>
<td>DRFT-42B</td>
<td>Architectural Drafting - 3D</td>
<td>3</td>
</tr>
<tr>
<td>DRFT-44</td>
<td>Print Reading and Sketching</td>
<td>3</td>
</tr>
<tr>
<td>INDT-38</td>
<td>Industrial Technology Computer Applications and Literacy</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Program Student Learning Outcomes
A. Employ appropriate CAD programs to create a set of plans.
B. Organize dimensions in a meaningful manner as required by standards.
C. Employ the newest technology related to Architectural drafting/design.

### CERTIFICATE
**Computer-Aided Drafting - Mechanical Level I (09103.CL)**

A Certificate of Achievement will be awarded upon successful completion of the options listed below. For successful completion, a student must complete the requirements with a minimum grade point of 2.0 in each course required for the certificate.

#### Program Student Learning Outcomes
A. Create a set of plans using CAD programs.
B. Organize dimensions in a meaningful manner as required by standards.
C. Employ the newest technology related to Mechanical drafting/design.

#### Options:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRFT-04A</td>
<td>Computer-Aided Drafting (AutoCAD)</td>
<td>3</td>
</tr>
<tr>
<td>DRFT-04B</td>
<td>Computer-Aided Drafting (AutoCAD)</td>
<td>3</td>
</tr>
<tr>
<td>DRFT-04C</td>
<td>Computer-Aided Drafting (AutoCAD)</td>
<td>3</td>
</tr>
<tr>
<td>DRFT-05</td>
<td>Engineering Graphics</td>
<td>3</td>
</tr>
<tr>
<td>DRFT-44</td>
<td>Print Reading and Sketching</td>
<td>3</td>
</tr>
<tr>
<td>INDT-38</td>
<td>Industrial Technology Computer Applications and Literacy</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Program Student Learning Outcomes
A. Create a set of plans using CAD programs.
B. Organize dimensions in a meaningful manner as required by standards.
C. Employ the newest technology related to Mechanical drafting/design.
CERTIFICATE

Computer-Aided Drafting - Mechanical Level II (09102.CL)

A Certificate of Achievement will be awarded upon successful completion of the options listed below. For successful completion, a student must complete the requirements with a minimum grade point of 2.0 in each course required for the certificate.

Program Student Learning Outcomes
A. Employ appropriate CAD programs to create a set of plans
B. Employ dimensions in a meaningful manner as required by standards
C. Employ the newest technology related to Mechanical drafting/design

Recommended Sequence: A.A. - Computer-Aided Drafting - Mechanical - Level II Option (09102.AA); Certificate Computer-Aided Drafting - Mechanical Level I (09103.CL); Certificate Computer-Aided Drafting - Mechanical Level II (09102.CL)

Fall 1
DRFT-04A Computer-Aided Drafting (AutoCAD)...............................3
INDT-38 Industrial Technology Computer Applications and Literacy........................................3

Spring 1
DRFT-04A Computer-Aided Drafting (AutoCAD)...............................3

Fall 2
DRFT-04B Computer-Aided Drafting (AutoCAD)...............................3
DRFT-05 Engineering Graphics............................................................3

Spring 2
DRFT-04C Computer-Aided Drafting (AutoCAD)...............................3
DRFT-25 Descriptive Geometry.................................................................3

Recommended Sequence: A.A. - Computer-Aided Drafting - Architectural - Level II Option (09101.AA); Certificate Computer-Aided Drafting - Architectural Level II (09101.CL)

Fall 1
DRFT-04A Computer-Aided Drafting (AutoCAD)...............................3
INDT-38 Industrial Technology Computer Applications and Literacy........................................3

Spring 1
DRFT-04A Computer-Aided Drafting (AutoCAD)...............................3

Fall 2
DRFT-04B Computer-Aided Drafting - AutoCAD...............................3
DRFT-25 Descriptive Geometry.................................................................3

Spring 2
DRFT-42A Architectural Drafting - AutoCAD...............................3

DRAFTING TECHNOLOGY (DRFT)

DRFT-04A FUNDAMENTALS OF COMPUTER-AIDED DRAFTING (AutoCAD)
3 units: 2 hours lecture, 3 hours lab.
Limitation on enrollment: Limited to available software licenses.
Advisories: ENGL-81, ENGL-84; MATH-80.
This course uses the current release of AutoCAD. The student will progress through the fundamental and some intermediate commands. Included will be the drawing setup, drawing, editing, drawing text, and dimension practices. The student will also construct multi-view drawings as used in industry. All drawing plates will be plotted in either model space or paper space. (2/09)

DRFT-04B INTERMEDIATE COMPUTER-AIDED DRAFTING (AutoCAD)
3 units: 2 hours lecture, 3 hours lab.
Limitation on enrollment: Limited to available software licenses.
Prerequisite: DRFT-04A. Advisories: ENGL-81, ENGL-84; MATH-80.
This course uses AutoCAD’s most current release. The student will progress through the intermediate commands. Included will be the Mview setup, isometric drawing, editing, and advanced dimension practices. The student will also construct multi-view drawings in paper space with different scales as used in industry. All drawing plates will be plotted in paper space. (2/09)

DRFT-04C INVENTOR
3 units: 2 hours lecture, 3 hours lab.
Limitation on enrollment: Limited to available software licenses.
Advisories: ENGL-81, ENGL-84; MATH-80.
This course uses the latest AutoDesk solid modeling software - Inventor. The student will create, modify, and render solid objects. 3D primitive and 3D regions are generated and manipulated with the program commands and options to produce 3D solids with mass properties. 2D drawings will automatically be created from the 3D models. The 3D models can be used to create assemblies with motion if desired. (2/09)

DRFT-05 ENGINEERING GRAPHICS (Also: ENGR-05)
3 units: 2 hours lecture, 3 hours lab.
Prerequisite: DRFT-04A. Advisories: ENGL-81, ENGL-84; MATH-80 or MATH-83.
This course utilizes computer graphics to prepare engineering drawings including geometric constructions, multi-view drawing, sectioning, auxiliary views, pictorial drawing, and tolerancing. (2/10)

DRFT-25 DESCRIPTIVE GEOMETRY (Also: ENGR-25)
3 units: 2 hours lecture, 3 hours lab.
Prerequisite: DRFT-04A. Advisory: MATH-02.
This course involves the use of computer-aided drafting and hand sketching to solve problems and communicate ideas. The course is also an introduction to descriptive geometry using computers and more traditional methods of problem solving through the auxiliary view and two-view methods. The development of graphical methods in their application to graphs, charts, and spatial and vector geometry will be studied. (2/10)

DRFT-42A ARCHITECTURAL DRAFTING - AutoCAD
3 units: 2 hours lecture, 3 hours lab.
Prerequisite: DRFT-04A.
This course covers the drafting techniques used in the preparation of working drawings for building construction, with special emphasis on house planning, house construction, and building codes and regulations. The course includes the drawing of a short set of house plans, floor plan, plot plan, elevation, and a perspective. (12/02)
DRFT-42B ARCHITECTURAL DRAFTING -- 3D
3 units: 2 hours lecture, 3 hours lab.
Advisory: DRFT-42A.
This course covers the techniques used in the making of working drawings for building construction. The program used creates a 3-D drawing of a house. A detailed cutting list and bill of materials is also generated relative to the drawings. There will be special emphasis on a complete set of house plans adequate for bidding purposes. Also included will be sections, details, interior elevations, foundation plan, heating and air conditioning, specification, and a model. Previous computer aided experience is not a requisite. AutoCAD commands are not used. (2/10)

DRFT-44 PRINT READING AND SKETCHING
3 units: 2 hours lecture, 3 hours lab.
Advisories: ENGL-81, ENGL-84; MATH-80 or MATH-83.
This course is for technical students and other personnel who must be skilled in reading industrial prints. The student will become familiar with industrial prints, industry standards, and current practices. There will be a basic coverage of sketching as it applies to the communication skills of reading prints. (2/10)

DRFT-48A SPECIAL PROBLEMS - ARCHITECTURAL DRAFTING
2 units: 6 hours lab.
Prerequisite: DRFT-42B.
This course is designed to allow the student to gain experience in those areas not covered in the objectives of DRFT-42B. The course will help prepare the student for employment in the architectural trade with necessary computer-aided drafting skills. Techniques and information needed for employment in the trade occupations will receive special emphasis. (1/02)

DRFT-48B SPECIAL PROBLEMS IN CAD - SOFTWARE MODIFICATION
2 units: 6 hours lab.
Prerequisites: DRFT-04C, DRFT-05/ENGR-05.
This course is designed to permit the student to experience those topics not covered in the objectives of DRFT-04ABC and DRFT-05/ENGR-05. The course will help prepare the student for employment in the trade with AutoCAD entry-level skills. Techniques and information needed for employment in the trade occupations will receive special attention. (1/02)

DRFT-48C SPECIAL PROBLEMS IN CAD - TODAY'S TECHNOLOGY
2 units: 6 hours lab.
Prerequisites: DRFT-04C, DRFT-05/ENGR-05.
This course is designed to permit the student to experience those areas not normally covered in the objectives of DRFT-04ABC and DRFT-05/ENGR-05. The course will help prepare the student for employment in the trade with entry-level skills. Techniques and information needed for employment in the trade occupations will receive special attention. (1/02)

DRFT-59 BASIC DRAFTING
3 units: 2 hours lecture, 3 hours lab.
Advisories: ENGL-81, ENGL-84; MATH-80.
This course covers principles of mechanical drawing and drafting. It is designed to help students communicate through sketching and drawing. The communication is covered as a presentation of ideas through drawings. (5/09)
DEGREE
A.A. - Drama

Program Description
These courses are designed to fulfill most lower division degree requirements of four-year colleges and universities. In addition, the Associate in Arts Degree in Drama will prepare the student for pre-professional and community theater.

DEGREE  (12/09)
A.A. - Drama  (10300.AA)

For an Associate in Arts Degree in Drama, students must meet the graduation requirements and complete the following courses.

Program Student Learning Outcomes
A. The student will be able to demonstrate an understanding of theatre as a collaborative art form.
B. The student will be able to perform or participate in a variety of theatrical genres from both contemporary and classical theatre at a level equal to junior level peers at four year institutions and pre-professional certificate programs.
C. The student will demonstrate high artistic standards and professional responsibility with regard to acting or technical proficiency, rehearsal preparation and live performance.
D. The student will be able to apply theatrical knowledge (practical and theoretical) to public performances, as a participant, performer or as an observer.
E. The student will acquire necessary skills in stage lighting design and operation, properties construction and design, and costume construction and design.
F. The student will be able to understand and appreciate diverse artistic styles, different genres, varied cultural performance histories and their origins.
G. The student will have an understanding and working knowledge of how to produce a play on the stage, including an appreciation of all theatre occupations - playwriting, directing, acting, design and technical production.

Units

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRAM-01</td>
<td>Introduction to Theater</td>
<td>3</td>
</tr>
<tr>
<td>DRAM-03</td>
<td>History of Dramatic Literature</td>
<td>3</td>
</tr>
<tr>
<td>DRAM-10</td>
<td>Beginning Acting</td>
<td>3</td>
</tr>
<tr>
<td>DRAM-15</td>
<td>Beginning Theater Crafts</td>
<td>3</td>
</tr>
</tbody>
</table>

Plus required repetition:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRAM-02</td>
<td>Drama Productions</td>
<td>4</td>
</tr>
<tr>
<td>DRAM-04</td>
<td>Actor’s Workshop</td>
<td>4</td>
</tr>
<tr>
<td>DRAM-02L</td>
<td>Drama Productions Lab</td>
<td>2</td>
</tr>
<tr>
<td>DRAM-04L</td>
<td>Actor’s Workshop Lab</td>
<td>2</td>
</tr>
</tbody>
</table>

Plus six units from the following electives:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRAM-09</td>
<td>Voice Production for the Performer</td>
<td>3</td>
</tr>
<tr>
<td>DRAM-11</td>
<td>Intermediate Acting</td>
<td>3</td>
</tr>
<tr>
<td>DRAM-16</td>
<td>Intermediate Theater Crafts</td>
<td>3</td>
</tr>
<tr>
<td>ENGL-08</td>
<td>Shakespeare</td>
<td>3</td>
</tr>
</tbody>
</table>

Recommended Sequence:  A.A. - DRAMA  (10300.AA)

Fall 1
DRAM-01 Introduction to Theater ........................................... 3
DRAM-02 Drama Productions .................................................... 2
DRAM-02L Drama Productions Lab .............................................. 1
DRAM-10 Beginning Acting ..................................................... 3

Spring 1
DRAM-03 History of Dramatic Literature .................................... 3
DRAM-04 Actor’s Workshop ...................................................... 2
DRAM-04L Actor’s Workshop Lab ................................................. 1

Fall 2
DRAM-02 Drama Productions .................................................... 2
DRAM-02L Drama Productions Lab .............................................. 1
DRAM-15 Beginning Theater Crafts .......................................... 3

Spring 2
DRAM-04 Actor’s Workshop ...................................................... 2
DRAM-04L Actor’s Workshop Lab ................................................. 1
DRAM Elective(s)
DRAMA (DRAM)

DRAM-01 INTRODUCTION TO THEATER
(CSU breadth area C1/C2) (IGETC area 3B)
3 units: 3 hours lecture.
Advisory: ENGL-A.
This course is an introduction to the art of theater that delves into the
nature of theatrical presentation, elements of dramatic structure, and the
contributions of the playwright, actor, director, designer, technician, and
audience. (2/07)

DRAM-02 DRAMA PRODUCTIONS
2 units: 2 hours lecture.
Limitation on enrollment: Enrollment by audition or interview,
instructor signature required. One-way corequisite: DRAM-02L.
Advisory: ENGL-A.
This course focuses on preparing students for the practical application
of rehearsal techniques, play promotion, and production towards public
performance using a different work or genre for each subsequent offering.
Stage management, direction, rehearsal procedures, and marketing skills
are stressed. Because a different work or genre is explored in each
subsequent offering, the course may be repeated three times. (12/09)

DRAM-02L DRAMA PRODUCTIONS LAB
1 unit: 3 hours lab.
Limitation on enrollment: Enrollment by audition or interview, instructor
signature required. Advisory: ENGL-A.
This course is the lab portion of Drama Productions in which students put
into practice learned stage skills and techniques, culminating in technical
rehearsal and public performance of a college production. (12/09)

DRAM-03 HISTORY OF DRAMATIC LITERATURE (Also: ENGL-03)
(CSU breadth area C1) (IGETC area 3A)
3 units: 3 hours lecture.
Prerequisite: ENGL-01A. Advisory: ENGL-01B.
This course is a study of dramatic literature as a reflection of theater
history, including the influence of staging, acting styles, scene design,
and culture upon the playwright and his/her work. Classical to contemporary
drama is examined. (11/04)

DRAM-04 ACTOR'S WORKSHOP
2 units: 2 hours lecture.
Limitation on enrollment: Enrollment by audition or interview, instructor
signature required. One-way corequisite: DRAM-04L.
Advisory: ENGL-A.
This course is an individual examination of basic acting techniques as
applied to laboratory scenes and commencing in actual public performance.
Critical evaluation, demonstration, and written reviews are required. Due
to different styles and genres being examined each semester this course
may be repeated three times. (12/09)

DRAM-04L ACTOR'S WORKSHOP LAB
1 unit: 3 hours lab.
Limitation on enrollment: Enrollment by audition or interview, instructor
signature required. Advisory: ENGL-A.
This course focuses on practical application in technical rehearsals and
public performance of rehearsal skills, promotion, production skills and
performance techniques begun in Actor's Workshop. Due to different
styles and genres being examined each semester, this class may be
repeated three times. (12/09)

DRAM-09 VOICE PRODUCTION FOR THE PERFORMER
3 units: 3 hours lecture.
Advisory: ENGL-A.
This course is designed to offer the student formal training in voice for the
stage by providing the opportunity to develop a critical awareness of the
vocal requirements of proper stage diction and projection. (2/07)

DRAM-10 BEGINNING ACTING
3 units: 3 hours lecture.
Advisory: ENGL-A.
This course is designed to serve the needs of the beginning student in
acting. Emphasis will be on stage techniques and character development
for stage performance. The development of scene repertoire is also studied
by choosing scenes to be memorized from various periods of
dramatic literature. Critical evaluation, demonstration, and written reviews
are required. (2/07)

DRAM-11 INTERMEDIATE ACTING
3 units: 3 hours lecture.
Prerequisite: DRAM-10. Advisory: ENGL-A.
This course provides an in-depth application of techniques explored in
Beginning Acting with an emphasis on characterization. Role analysis
and auditioning techniques will also be explored. Critical evaluation,
demonstration, and written reviews are required. (2/07)

DRAM-15 BEGINNING THEATER CRAFTS
3 units: 2 hours lecture, 3 hours lab.
Advisory: ENGL-A.
This course is a study of the physical aspects of theater crafts, including
makeup, stagecraft, lighting, costuming, and sound production. Laboratory
experience is gained in the application of principles of technical theater in
actual productions. (2/07)

DRAM-16 INTERMEDIATE THEATER CRAFTS
3 units: 2 hours lecture, 3 hours lab.
Prerequisite: DRAM-15. Advisory: ENGL-A.
This course provides for a more advanced study of the physical aspects of
theater production. Students are introduced to more advanced elements
designed within technical theater and gain experience through actual
application of design concepts and techniques of a minimum of one drama
production. (2/07)

DRAM-23 INTRODUCTION TO READER'S THEATER
3 units: 3 hours lecture.
Advisory: ENGL-A.
The course is designed to introduce students to the principles and
performance of Reader's Theater. Students will explore diverse forms of
literature and learn to select and analyze material, adapt it to script form,
prepare a script for performance, and use the voice and body effectively
on stage. Scripts will be performed as in-class activities and, finally, in a
public presentation. (2/01)

DRAM-70A-ZZ FINE AND PERFORMING ARTS -- SPECIAL TOPICS
0.5 - 2 units: 0 - 2 hours lecture, 0 - 6 hours lab.
Advisory: ENGL-A.
This is a course covering a variety of topics of current interest to students
of art. Different topics will be emphasized each time the course is offered.
Sections of this course may vary in unit value depending on subject matter,
meeting time, and format. Each letter may be taken only once. (2/01)
ECONOMICS (ECON)  

ECON-01A INTRODUCTION TO MACROECONOMICS  
(CSU breadth area D2) (IGETC area 4B)  
3 units: 3 hours lecture.  
Advisories: ENGL-A; MATH-A.  
ECON-01A is an introductory course in macroeconomic theories including the determination of income, output, employment, and prices in the economy; the monetary system; governmental fiscal, monetary, and income policies; economic growth; international trade; and economic development. (1/06)  

ECON-01B INTRODUCTION TO MICROECONOMICS  
(CSU breadth area D2) (IGETC area 4B)  
3 units: 3 hours lecture.  
Advisories: ENGL-A; MATH-A.  
ECON-01B is an introductory course in microeconomic theories including maximization, benefit versus cost, rational choice, the analysis of demand and supply, the role of price in free markets, consumer behavior, market structure, production cost, competitive business models, and resource pricing. The course examines the nature of production, distribution, market outcomes, and the role of government in the market. (1/06)
EDUCATION (EDUC)

EDUC-47 COLLEGE PLANNING AND LEARNING SYSTEMS
3 units: 3 hours lecture.
Advisory: ENGL-A.
This course is designed to help students improve study techniques for succeeding in college. The course will emphasize effective reading of textbooks, improving concentration and memory, getting the main idea, summarizing and outlining information, taking notes, listening to lectures, preparing for and taking exams, and strengthening vocabulary. (4/07)

EDUC-70A-ZZ SPECIAL TOPICS IN EDUCATION
0.5 - 3 units: 0.5 - 3 hours lecture.
Prerequisite/Advisory: None.
This course is designed to address special topics in education to meet current needs of students. Specific classes will be offered to help students understand the educational environment and their relationship to it. (11/96)

EDUC-87 STUDY SKILLS
3 units: 3 hours lecture.
Advisories: ENGL-80, ENGL-80L.
This course is designed to help improve study skills for succeeding in college. The course will emphasize effective reading of textbooks, improving concentration and memory, getting the main idea, summarizing and outlining information, taking notes, listening to lectures, preparing for and taking exams, and managing time. (4/07)
Electricity-Electronics
Career and Technical Education

DEGREES
A.A. - Computer and Networking Technology
A.A. - Electrical Technology
A.A. - Electronics Technician
A.A. - Industrial Electronics Technology
A.A. - Instrumentation and Process Control Technology

CERTIFICATES
Computer and Networking Technology
Electrical Technology
Electronics Technician
Industrial Electronics Technology
Instrumentation and Process Control Technology

Program Description
The Electronics Department at Merced College is offering cross-disciplinary curricula that prepare students for rewarding entry-level technician positions in various high-tech fields as Electronics, Electrical, Computer Networking and Industrial Electronics, and Instrumentation and Process Control.

These programs introduce students to electrical and electronics tools, components, circuits, energy sources, analog and digital integrated devices that can be found in complex technical equipment. Hands-on laboratory exercises are designed to develop real-world practical skills in using modern test equipment for troubleshooting circuits and repairing various industrial computerized systems and networks, specific to each area of study.

DEGREE (2/09)
A.A. - Computer and Networking Technology (09040.AA)

For an Associate in Arts Degree in Computer and Networking Technology, students must meet the graduation requirements and complete the following required courses.

Program Student Learning Outcomes
A. Exhibit the ability to communicate effectively in accomplishing job related tasks.
B. Demonstrate field related entry level theoretical and practical skills.
C. Recognize an appreciation for life-long learning.
D. Employ the principles of job related safety requirements.

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELCT-30</td>
<td>3</td>
</tr>
<tr>
<td>or ELCT-31</td>
<td>5</td>
</tr>
<tr>
<td>ELCT-31SL</td>
<td>1</td>
</tr>
<tr>
<td>ELCT-32</td>
<td>5</td>
</tr>
<tr>
<td>ELCT-32SL</td>
<td>2</td>
</tr>
<tr>
<td>ELCT-34</td>
<td>3</td>
</tr>
<tr>
<td>ELCT-34SL</td>
<td>3</td>
</tr>
<tr>
<td>ELCT-36</td>
<td>3</td>
</tr>
<tr>
<td>ELCT-40A</td>
<td>3</td>
</tr>
<tr>
<td>ELCT-40B</td>
<td>3</td>
</tr>
<tr>
<td>ELCT-40C</td>
<td>3</td>
</tr>
<tr>
<td>ELCT-40D</td>
<td>3</td>
</tr>
<tr>
<td>ELCT-44</td>
<td>3</td>
</tr>
<tr>
<td>ELCT-51A</td>
<td>3</td>
</tr>
<tr>
<td>ELCT-51B</td>
<td>3</td>
</tr>
<tr>
<td>INDT-38</td>
<td>3</td>
</tr>
</tbody>
</table>

DEGREE (2/08)
A.A. - Electrical Technology (09200.AA)

For an Associate in Arts Degree in Electrical Technology, students must meet the graduation requirements and complete the following required courses.

Program Student Learning Outcomes
A. Exhibit the ability to communicate effectively in accomplishing job related tasks.
B. Demonstrate field related entry level theoretical and practical skills.
C. Recognize an appreciation for life-long learning.
D. Employ the principles of job related safety requirements.

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRFT-44</td>
<td>3</td>
</tr>
<tr>
<td>ELCT-30</td>
<td>3</td>
</tr>
<tr>
<td>or ELCT-31</td>
<td>5</td>
</tr>
<tr>
<td>or ELCT-52</td>
<td>3</td>
</tr>
</tbody>
</table>
For an Associate in Arts Degree in Industrial Electronics Technology, students must meet the graduation requirements and complete the following required courses.

Program Student Learning Outcomes

A. Develop a workforce with a broad understanding of theoretical and practical concepts in the electronics fields.

B. Cultivate independent-thinking, problem-solving workers who can work effectively both in teams and on their own.

C. Develop the lifelong learning skills necessary to think and to act competently in a complex, diverse, and constantly changing technologies.

D. Develop a workforce with an understanding of the workplace skills required in electronics industries.

Program Student Learning Outcomes

A. Provide instructional theory and practical skills training to students for entering into workforce or upgrade the needed skills for working individuals, to install, diagnose, troubleshoot and maintain industrial electronics equipment.

B. Enhance students' experiences through theory, laboratory and shop work activities to understand Programmable Logic Controllers, motors, industrial sensors complex automated systems.

C. Develop the lifelong learning skills necessary to think and to act competently in a complex, diverse, and constantly changing technologies.

D. Train students to understand safety codes and regulations applied to usage of industrial equipment and industrial working environment.

Program Student Learning Outcomes

A. Develop a workforce with a broad understanding of theoretical and practical concepts in the electronics fields.

B. Cultivate independent-thinking, problem-solving workers who can work effectively both in teams and on their own.

C. Develop the lifelong learning skills necessary to think and to act competently in a complex, diverse, and constantly changing technologies.

D. Develop a workforce with an understanding of the workplace skills required in electronics industries.

Program Student Learning Outcomes

A. Provide instructional theory and practical skills training to students for entering into workforce or upgrade the needed skills for working individuals, to install, diagnose, troubleshoot and maintain industrial electronics equipment.

B. Enhance students' experiences through theory, laboratory and shop work activities to understand Programmable Logic Controllers, motors, industrial sensors complex automated systems.

C. Develop the lifelong learning skills necessary to think and to act competently in a complex, diverse, and constantly changing technologies.

D. Train students to understand safety codes and regulations applied to usage of industrial equipment and industrial working environment.

Program Student Learning Outcomes

A. Develop a workforce with a broad understanding of theoretical and practical concepts in the electronics fields.

B. Cultivate independent-thinking, problem-solving workers who can work effectively both in teams and on their own.

C. Develop the lifelong learning skills necessary to think and to act competently in a complex, diverse, and constantly changing technologies.

D. Develop a workforce with an understanding of the workplace skills required in electronics industries.

Program Student Learning Outcomes

A. Provide instructional theory and practical skills training to students for entering into workforce or upgrade the needed skills for working individuals, to install, diagnose, troubleshoot and maintain industrial electronics equipment.

B. Enhance students' experiences through theory, laboratory and shop work activities to understand Programmable Logic Controllers, motors, industrial sensors complex automated systems.

C. Develop the lifelong learning skills necessary to think and to act competently in a complex, diverse, and constantly changing technologies.

D. Train students to understand safety codes and regulations applied to usage of industrial equipment and industrial working environment.
CERTIFICATE (2/09)
Computer and Networking Technology (09040.CT)

A Certificate of Achievement may be earned by the successful completion of the options listed below. A student must complete the requirements with a minimum grade point of 2.0 in each course required for the certificate.

Program Student Learning Outcomes
A. Exhibit the ability to communicate effectively in accomplishing job related tasks.
B. Demonstrate field related entry level theoretical and practical skills.
C. Recognize an appreciation for life-long learning.
D. Employ the principles of job related safety requirements.

ELCT-30 Exploring the World of Electricity and Electronics .... 3
or
ELCT-31 Direct Current and Alternating Current Circuits .... 5
ELCT-31SL DC/AC Electronic Circuits Software Lab .......... 1
ELCT-32 Semiconductors and Integrated Circuits .......... 5
ELCT-32SL Semiconductors and Integrated Circuits Software Lab .... 2
ELCT-34 Digital Logic Circuits and Systems .............. 3
ELCT-34SL Digital Logic Circuits and Systems Software Lab .... 1
ELCT-36 Networking Topologies and Cabling ............ 3
ELCT-40A Networking for Home and Small Businesses .... 3
ELCT-40B Working at a Small-to-Medium Business or ISP .... 3
ELCT-40C Routing and Switching in the Enterprise .... 3
ELCT-40D Designing and Supporting Computer Networks .... 3
ELCT-44 Electronic Shop Practices: Fabrication, Soldering, Rework, and Equipment Repair .......... 3
ELCT-51A Personal Computer Configuration, Assembly and Repair.......................... 3
ELCT-51B A+ Certification Training.......................... 3
INDT-38 Industrial Technology Computer Applications and Literacy........ 3

42-44

CERTIFICATE
Electronics Technician (09250.CT)

A Certificate of Achievement may be earned by the successful completion of the courses listed below. For successful completion, a student must complete the requirements with a minimum grade point of 2.0 in each course required for the certificate.

Program Student Learning Outcomes
A. Develop a workforce with a broad understanding of theoretical and practical concepts in the electronics fields.
B. Cultivate independent-thinking, problem-solving workers who can work effectively both in teams and on their own.
C. Develop the lifelong learning skills necessary to think and to act competently in a complex, diverse, and constantly changing technologies.
D. Develop a workforce with an understanding of the workplace skills required in electronics industries

DRFT-04A Computer-Aided Drafting - AutoCAD ............... 3
ELCT-30 Exploring the World of Electricity and Electronics .... 3
or
ELCT-31 Direct Current and Alternating Current Circuits .... 5
ELCT-31SL DC/AC Electronic Circuits Software Lab .......... 1
ELCT-32 Semiconductors and Integrated Circuits .......... 5
ELCT-32SL Semiconductors and Integrated Circuits Software Lab .... 2
ELCT-34 Digital Logic Circuits and Systems .............. 3
ELCT-34SL Digital Logic Circuits and Systems Software Lab .... 1
ELCT-36 Networking Topologies and Cabling ............ 3
ELCT-43A Industrial Instrumentation and Process Control .... 3
ELCT-43B Graphical Programming for Electronics Data Acquisition.......................... 1.5
ELCT-44 Electronic Shop Practices: Fabrication, Soldering, Rework, and Equipment Repair .......... 3
ELCT-51A PC Configuration, Assembly & Repair ............. 3

35.5-37.5

CERTIFICATE
Industrial Electronics Technology (09500.CT)

A Certificate of Achievement will be awarded upon the satisfactory completion of the 42 units of course work listed below. For successful completion, a student must complete the requirements with a minimum
Program Student Learning Outcomes
A. Provide instructional theory and practical skills training to students for entering into workforce or upgrade the needed skills for working individuals, to install, diagnose, troubleshoot and maintain industrial electronics equipment.
B. Enhance students' experiences gained through theory, laboratory and shop work activities to understand Programmable Logic Controllers, motors, industrial sensors complex automated systems.
C. Develop the lifelong learning skills necessary to think and to act competently in a complex, diverse, and constantly changing technologies.
D. Train students to understand safety codes and regulations applied to usage of industrial equipment and industrial working environment.

COURSEorraine (2/08)
Instrumentation and Process Control Technology (09650.CT)

A Certificate of Achievement will be awarded upon the satisfactory completion of the 41.5 units of course work listed below. For successful completion, a student must complete the requirements with a minimum grade point of 2.0 in each course required for the certificate.

Program Student Learning Outcomes
A. Exhibit the ability to communicate effectively in accomplishing job related tasks.
B. Demonstrate field related entry level theoretical and practical skills.
C. Recognize an appreciation for life-long learning.
D. Employ the principles of job related safety requirements.

ELCT-30 Exploring the World of Electricity and Electronics 3
or
ELCT-31 Direct Current and Alternating Current Circuits 5

ELCT-31SL DC/AC Electronic Circuits Software Lab 1
ELCT-32 Semiconductors and Integrated Circuits 5
ELCT-32SL Semiconductors and Integrated Circuits Software Lab 2
ELCT-34 Digital Logic Circuits and Systems 3
ELCT-34SL Digital Logic Circuits and Systems Software Lab 1
ELCT-41 Industrial Motor and Equipment Control 3
ELCT-42A Programmable Logic Controllers 2
ELCT-42B Advanced Topics in PLC Programming 1
ELCT-43A Industrial Instrumentation and Process Control 3
ELCT-43B Graphical Programming for Electronics Data Acquisition 1.5
ELCT-44 Fabrication, Soldering, and Equipment Repair 3
ELCT-47 Electrical Motors, Generators, Transformers and AC Distribution 1
ELCT-55 Electrical Conduit Bending Theory and Techniques 1
INDT-25 Fluid Power 3

CERTIFICATE (2/08)
Instrumentation and Process Control Technology (09650.CT)

A Certificate of Achievement will be awarded upon the satisfactory completion of the 41.5 units of course work listed below. For successful completion, a student must complete the requirements with a minimum grade point of 2.0 in each course required for the certificate.

Program Student Learning Outcomes
A. Exhibit the ability to communicate effectively in accomplishing job related tasks.
B. Demonstrate field related entry level theoretical and practical skills.
C. Recognize an appreciation for life-long learning.
D. Employ the principles of job related safety requirements.

ELCT-30 Exploring the World of Electricity and Electronics 3
ELCT-31 Direct Current and Alternating Current Circuits 5
ELCT-31SL DC/AC Electronic Circuits Software Lab 1
ELCT-32 Semiconductors and Integrated Circuits 5
ELCT-32SL Semiconductors and Integrated Circuits Software Lab 2
ELCT-34 Digital Logic Circuits and Systems 3
ELCT-34SL Digital Logic Circuits and Systems Software Lab 1
ELCT-35 Microcontrollers, Programming, and Interfacing with Robotics Applications 4

ELCT-41 Industrial Motor and Equipment Control 3
ELCT-42A Programmable Logic Controllers 2
ELCT-42B Advanced Topics in PLC Programming 1
ELCT-43A Industrial Instrumentation and Process Control 3
ELCT-43B Graphical Programming for Electronics Data Acquisition 1.5
ELCT-44 Fabrication, Soldering, and Equipment Repair 3
ELCT-47 Electrical Motors, Generators, Transformers and AC Distribution 1
ELCT-55 Electrical Conduit Bending Theory and Techniques 1
INDT-25 Fluid Power 3

ELCT-30 EXPLORING THE WORLD OF ELECTRICITY AND ELECTRONICS 41.5

This is an overview of electricity and electronics presented in the context of the principles of science. Students will gain an understanding of electronic components and circuits and will learn how to use the scientific method to investigate the physical nature of electricity, magnetism and their applications. Topics such as electronics in biotechnology, communications, consumer electronics, and industrial technology will be addressed, along with the impact and context of the "electronic age" on modern society. (5/07)

ELCT-31 DIRECT CURRENT AND ALTERNATING CURRENT CIRCUITS (FOUNDATIONS OF ELECTRONICS) 5

This is a course in basic electronics/electricity theory that investigates the behavior of resistance, capacitance, inductance, and transformer action in direct and alternating current circuits. Network analysis of series and parallel circuits is accomplished through basic circuit formulas according to Ohm's and Kirchhoff's laws, nodal analysis, loop equations, and by using Thevenin's, Norton's, and superposition theorems. The principles of magnetism, electromagnetic field and the behavior of reactive components as inductors, capacitors, (and resistors) in AC circuits are also studied. (3/06)

ELCT-31A DIRECT CURRENT CIRCUITS (FOUNDATIONS OF ELECTRONICS) 3

This course in basic electronics/electricity theory investigates the behavior of resistance in direct current circuits. Network analysis of series, parallel, and series-parallel circuits is accomplished through basic circuit formulas using Ohm’s and Kirchoff’s laws, nodal analysis, loop equations, and by using the Thevenin’s, Norton’s, and superposition theorems. Circuit construction techniques and the utilization of electronic equipment in circuit construction and troubleshooting are also covered. The use of electronics circuit simulation software for direct current circuit analysis is an integral part of this course. (3/06)

ELCT-31SL DC/AC ELECTRONIC CIRCUITS SOFTWARE LAB 1

This course is designed to supplement electronics course ELCT-31, but can be taken by any student desiring instruction in the use of computer-aided instruction (CAI) software for AC/DC circuit simulation and virtual instrumentation. This course may be repeated once. (3/06)

ELCT-31B ALTERNATING CURRENT CIRCUITS (FOUNDATIONS OF ELECTRONICS) 3

This course in AC electronics/electricity theory that investigates the behavior of resistance, inductance, and capacitance in alternating current circuits, including transformer action and AC test equipment. Also covered are AC circuit construction techniques and the utilization of electronic...
ELCT-32 SEMICONDUCTORS AND INTEGRATED CIRCUITS (FOUNDATIONS OF ELECTRONICS)
5 units: 2 hours lecture, 9 hours lab.
Prerequisite: ELCT-31. Advisories: ENGL-A; MATH-80.
This course introduces students to fundamentals of semiconductor devices and analog integrated circuits. The course covers circuit analysis of diodes, BJTs, FETs, and MOSFETs transistors with emphasis on their practical applications as rectifiers, single and multiple stage amplifiers, oscillators and power amplifiers. Integrated circuits as operational amplifiers, timers, instrumentation amplifiers, active filters, digital-to-analog (ADC) and analog-to-digital (DAC) converters are also covered. Laboratory activities equip students with real job skills in the utilization of various electronic test equipment during circuit construction and troubleshooting. (3/06)

ELCT-32SL SEMICONDUCTORS AND INTEGRATED CIRCUITS SOFTWARE LAB
2 units: 6 hours lab.
This course is designed to supplement the electronics course ELCT-32 but can be taken concurrently or after ELCT-32 by any student desiring instruction in the use of computer-aided instruction (CAI) software for semiconductors and integrated circuits, circuit simulation, and virtual instrumentation. (3/06)

ELCT-34 DIGITAL LOGIC, CIRCUITS, AND SYSTEMS (FOUNDATIONS OF ELECTRONICS)
3 units: 2 hours lecture, 3 hours lab.
Advisories: ENGL-A; MATH-80.
The course covers the theory of digital logic circuits and systems. Analog and digital conversion circuits, number systems and codes, Boolean algebra, Karnaugh maps, logic gates, counters, multi-vibrators, registers, decoders, counters, memories, and clock and timing circuits are also studied. Programmable logic devices and microprocessors will be introduced. (3/06)

ELCT-34SL DIGITAL LOGIC CIRCUITS AND SYSTEMS SOFTWARE LAB
1 unit: 3 hours lab.
On-way corequisite: ELCT-34. Advisory: ENGL-A.
This course is designed to supplement digital electronics course ELCT-34 but can be taken by any student desiring instruction in use of computer-aided instruction (CAI) software for digital logic circuit and digital system simulation and virtual instrumentation. The course may be repeated once. (3/06)

ELCT-35 MICROCONTROLLERS, PROGRAMMING, AND INTERFACING WITH ROBOTICS APPLICATIONS (FOUNDATIONS OF ELECTRONICS)
4 units: 2 hours lecture, 6 hours lab.
Prerequisite: ELCT-34. Advisory: ENGL-A.
This course covers basic constructing and programming 8-bit Programmable Intelligent Computer (PICmicro) microcontrollers found in computerized systems with emphasis on robotics applications. Characteristics, capabilities, and limitations of other microcontrollers are discussed. RISC (Reduced Instructions Set Computing), hardware structure, programming, and interfacing methods are also covered. (3/06)

ELCT-36 NETWORKING TOPOLOGIES AND CABLELING (FOUNDATIONS OF ELECTRONICS)
3 units: 2 hours lecture, 3 hours lab.
Advisories: ENGL-A; MATH-80.
This is a course designed to provide the student with information and knowledge to prepare for the industry-standard Building Industry Consulting Service International (BICSI) Register installer. Level I exam, and employment as a telecommunications cable installer. Students will gain an understanding of the cabling industry, U.S. and international standards, basic networking, signal transmission, copper cabling, fiber optics, installation, safety, structured cabling system basics, cable management, cable testing, and emerging technologies. Students will also be prepared to read network design documentation, architectural blueprints, set up part parts lists, purchase components, pull and mount cable, choose wiring closets, install jacks, and perform cable testing. This course is repeatable three times. (3/06)

ELCT-40A NETWORKING FOR HOME AND SMALL BUSINESSES
(Also: CPSC-40A)
3 units: 2 hours lecture, 3 hours lab.
Advisories: ENGL-81, ENGL-84; MATH-80.
This curriculum helps students develop the skills needed to obtain entry-level networking jobs. It provides a hands-on approach to networking education that allows students to gain practical experience working on PC’s, their components and applications. Students complete instructional labs to understand the general theory needed to build networks and connect them to the internet. Basic security and wireless concepts are covered. It is for students with basic PC usage skills. (1/09)

ELCT-40B WORKING AT A SMALL-TO-MEDIUM BUSINESS OR ISP
(Also: CPSC-40B)
3 units: 2 hours lecture, 3 hours lab.
Prerequisite: ELCT-40A.
This course prepares students for jobs as network technicians. It also helps students develop additional skills required for computer technicians and help desk technicians. It provides a basic overview of routing and remote access, addressing, and security. It also familiarizes students with servers that provide e-mail services, Web space, and authenticated access. Students also learn about soft skills required for help desk and customer service positions. Network monitoring and basic troubleshooting skills are taught in context. (1/09)

ELCT-40C ROUTING AND SWITCHING IN THE ENTERPRISE (Also: CPSC-40C)
3 units: 2 hours lecture, 3 hours lab.
Prerequisite: ELCT-40B.
This course familiarizes students with the equipment applications and protocols installed in enterprise networks, with a focus on switched networks, IP Telephony requirements, and security. It also introduces advanced routing protocols such as Enhanced Interior Gateway Routing Protocol (EIGRP) and Open Shortest Path First (OSPF) Protocol. Hands-on exercises include configuration, installation, and troubleshooting. (1/09)

ELCT-40D DESIGNING AND SUPPORTING COMPUTER NETWORKS
(Also: CPSC-40D)
3 units: 2 hours lecture, 3 hours lab.
Prerequisite: ELCT-40C.
This course introduces students to network design processes using two examples; a large stadium enterprise network and a medium-sized film company network. Students follow a standard design process to expand and upgrade each network, which includes requirements gathering, proof-of-concept, and project management. Lifecycle services, including upgrades, competitive analyses, and system integration, are presented in the context of pre-sale support. In addition to the Packet Tracer and lab exercises found in the previous courses, there are many pen-and-paper and role-playing exercises that students complete while developing their network upgrade proposals. (1/09)
ELCT-41 INDUSTRIAL MOTOR AND EQUIPMENT CONTROL
(APPLICATIONS OF ELECTRONICS)
3 units: 2 hours lecture, 3 hours lab.
Advisories: ENGL-81, ENGL-84; ELCT-31 or ELCT-52.
This course is designed to present the principles and applications of electrical motor and equipment control techniques used in industry. Ladder logic diagrams, contactors, motor starters, and electronic controls and sensors are among the subjects to be studied. Lectures, demonstrations, and laboratory experiments will be the methods used to present and enrich the material to be learned. (01/07)

ELCT-42A PRINCIPLES AND APPLICATIONS OF PROGRAMMABLE LOGIC CONTROLLERS (APPLICATIONS OF ELECTRONICS)
2 units: 1 hour lecture, 3 hours lab.
Advisories: ELCT 41; ENGL-81, ENGL-84.
This course provides electrical and industrial electronic students with basic skills and technical exposure to programmable logic controllers (PLCs). The subjects studied include terminology, programming methods, and operation of the programmable logic controller. The students will program and operate modern PLCs as a part of laboratory assignments. (5/07)

ELCT-42B ADVANCED TOPICS IN PLC PROGRAMMING (APPLICATIONS OF ELECTRONICS)
2 unit: 1 hour lecture, 3 hours lab.
Advisory: ELCT-42A.
This course provides exposure to advanced industrial Programmable Logic Controllers (PLC). The course is addressed to electrical and industrial electronic students interested in understanding and programming Allen Bradley types of PLC. The subjects studied include terminology, hardware configuration, programming methods, and operation of modern programmable logic controller. The students will learn how to set up a PLC and develop various industry-like programs as a part of laboratory assignments. (2/08)

ELCT-43A INDUSTRIAL INSTRUMENTATION AND PROCESS CONTROL (APPLICATIONS OF ELECTRONICS)
3 units: 2.5 hours lecture, 1.5 hours lab.
Advisories: ELCT-31 or ELCT-31B or ELCT-52; ENGL-A.
This course is designed to study instrumentation sensors and controls that are used in industrial process control and automation. The course includes the study of the principles of operation and the practical applications of instrumentation in industry. Topics such as decibels, micro-controllers, levers, friction, clutches and brakes, tooth rotor tachometers, vision sensors, dynamic braking of DC motors, and flux vector AC drives will be addressed. (2/02)

ELCT-43B GRAPHICAL PROGRAMMING FOR ELECTRONICS DATA ACQUISITION
1.5 units: 0.5 hours lecture, 3 hours lab.
Advisories: CPSC-01; ELCT-43A; MATH-C or MATH-D (preferred).
This course is designed to teach the basic functionality of analysis and instrumentation programming software using National Instruments graphics software package, LabVIEW™. This software not only reinforces basic scientific, mathematical, and engineering principles but also provides students with theoretical knowledge necessary to develop their own instrumentation and data acquisition solutions. LabVIEW™ is a real-world, hands-on experience in graphical programming for industrial and scientific applications. (2/02)

ELCT-44 ELECTRONIC SHOP PRACTICES: TECHNIQUES OF FABRICATION, SOLDERING, REWORK AND EQUIPMENT REPAIR
3 units: 2 hours lecture, 3 hours lab.
Advisories: ENGL-81, ENGL-84.
This course provides students with a basic understanding of the fabrication, soldering, rework, and repair techniques necessary to prepare them for entry-level employment in the fields of electronic fabrication, assembly, and repair. There will be emphasis on techniques needed for a broad range of non-destructive electronic repairs once the diagnostic procedures have been completed. This course emphasizes techniques commonly used in industry. (2/02)

ELCT-47 ELECTRICAL MOTORS, GENERATORS, TRANSFORMERS, AND AC DISTRIBUTION (APPLICATIONS OF ELECTRONICS)
3 units: 2 hours lecture, 3 hours lab.
Advisories: ELCT-31 or ELCT-52, ELCT-41; ENGL-81, ENGL-84.
This course covers principles of AC and DC motors, generators, transformers, three-phase generation, and AC distribution systems. The course content will include lecture, demonstration, and laboratory projects using motors and transformers. (01/07)

ELCT-51A PERSONAL COMPUTER CONFIGURATION, ASSEMBLY AND REPAIR
3 units: 2 hours lecture, 3 hours lab.
Advisories: ENGL-81, ENGL-84.
This is a course addressed to students with any previous knowledge of personal computers (PC). The course introduces students to the fundamentals of desktop computer installation through simple, step-by-step instruction based on the most recent CompTIA®A+ exam objectives. The course will cover the basic principles of PC operation, maintenance and troubleshooting techniques through various hands-on activities. (2/08)

ELCT-51B A+ CERTIFICATION TRAINING
[CILC area A]
3 units: 2 hours lecture, 3 hours lab.
Advisory: ELCT-51A.
This course provides the electronics student with advanced knowledge of the system hardware and software available for personal computers (PCs). The course will cover the principles of operation, standards for maintaining compatibility between computer systems, the use of advanced diagnostic software and hardware, various types of operating systems, and standard troubleshooting techniques. The course will also cover networking principles, and software and hardware as they apply to the personal computer. (3/01)

ELCT-52 INTRODUCTION TO ELECTRICITY AND ELECTRONICS
3 units: 2.5 hours lecture, 1.5 hours lab.
Advisories: ENGL-81, ENGL-84; MATH-80.
This is an introductory course in basic electronics/electricity theory and covers resistance, inductance, capacitance in the series, parallel, and series-parallel circuits with DC and AC power sources. Circuit analysis is accomplished through basic circuit formulas according to Ohm’s and Kirchoff’s laws. Fundamentals of magnetism, DC and AC motors, diodes, transistors and integrated circuits, and the utilization of basic test equipment in electrical circuit construction and troubleshooting are also covered. (3/06)

ELCT-55A-Z ELECTRICAL CONDUIT BENDING THEORY AND TECHNIQUES
1 unit: 0.5 hour lecture, 1.5 hours lab.
Advisories: ENGL-81, ENGL-84; MATH-B.
This course provides a comprehensive overview of conduit bending, fabrication procedures and methods. It will develop basic competencies in electrical apprentices and beginning learners. It will discuss hand bending for 90° bends, offsets and kicks, saddles and corner offsets, segmented bends, threaders, benders and other conduit types. These conduit types will include electrical metallic tubing (EMT), galvanized rigid conduit (GRC), rigid aluminum, intermediate metallic conduit (IMC), various poly-vinyl chloride (PVC), and flexible plastic and metallic conduit. Wiring in accordance with the National Electrical Code (NEC) will be stressed. (5/07)

ELCT-71A-Z ELECTRONICS/INDUSTRIAL ELECTRONICS TECHNOLOGY SPECIAL TOPICS
0.5 - 4 units: 1.5 - 12 hours lab.
Prerequisite/Advisory: None.
This course is the study of principles, processes, and theories of the special topic being presented. (3/96)
CERTIFICATE
Emergency Medical Technician

Web site
www.mccd.edu/alliedhealth/

CERTIFICATE
Emergency Medical Technician (12100.CO)

Emergency Medical Technology is designed to prepare future workers for emergency medical care services. The curriculum in Emergency Medical Technology includes.

Program Student Learning Outcomes

A. Compose a concise written and radio report to communicate the essential details of a patient’s illness/injury to the hospital base station.

B. Distinguish and differentiate between the roles and legal responsibilities of ambulance personnel plus demonstrate safe techniques for ambulance operation.

C. Appraise the nature and seriousness of a patient’s illness/injuries and perform the corrective action in such a way to minimize discomfort and further injury.

<table>
<thead>
<tr>
<th>Units</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALLH-50</td>
<td>Emergency Medical Technician I............................... 6</td>
</tr>
<tr>
<td>ALLH-51</td>
<td>Emergency Medical Technician I, Ambulance........... 7</td>
</tr>
</tbody>
</table>

These courses meet the requirements of Title 22, Division of California Administrative Code. Students successfully completing the courses are eligible to take the EMT-1 certifying exam from any EMS agency within the State of California.

Limitations on enrollment for both ALLH-50 and ALLH-51:
Participants must have a current CPR card based on American Red Cross or American Heart Association that includes one- and two-rescuer CPR plus infant CPR; negative TB skin test or negative chest X-ray for TB.

Advisories: ENGL-84; ALLH-67; a first aid course equivalent to the course offered by the Red Cross.

ALLH-50 and ALLH-51 should be taken concurrently in order to verify that the student has met all EMT I course requirements.

ALLIED HEALTH (ALLH)

ALLH-50 EMERGENCY MEDICAL TECHNICIAN I
6 units: 5 hours lecture, 3 hours lab.
Limitation on enrollment: Negative TB skin test or negative chest x-ray for TB within the last four years; a CPR course based on American Red Cross or American Heart Association that includes one- and two-rescuers CPR plus infant CPR. Advisories: ALLH-67; ENGL-84; a first-aid course equivalent to the course offered by the American Red Cross.

This beginning course is designed to teach basic emergency medical procedures and responsibilities, including stabilization of the sick and injured for transportation to medical facilities, care during transport, communication with base-hospital personnel, and transfer of the injured to the base-hospital emergency room. This course meets the requirements of Title 22, Division of California Administrative Code. Students successfully completing ALLH-50 and ALLH-51 are eligible to take the EMT I certifying exam from any EMS Agency within the State of California. It is recommended that the student take ALLH-50 and ALLH-51 concurrently.

(4/05)

ALLH-51 EMERGENCY MEDICAL TECHNICIAN I, AMBULANCE
1 unit: 18 total hours lecture, plus 8 hours of field experience.
Limitation on enrollment: Valid California driver’s license; negative TB skin test or negative chest x-ray for TB; a CPR course based on American Red Cross or American Heart Association that includes one- and two-rescuer CPR plus infant CPR. Two-way corequisite: ALLH-50. Advisories: ALLH-67; ENGL-84; First Aid: Be able to perform first aid based on the course offered by the Red Cross or its equivalent a) recognize when emergency has occurred; b) follow emergency action steps in any emergency; c) provide basic care for injury and or sudden illness until the victim can receive professional medical help.

This course provides the ambulance module of the EMT I certification program. Topics for the course include the roles and responsibilities of ambulance personnel, legal aspects of ambulance operation, radio communications, maintenance of medical equipment and supplies, driver licensing requirements. This course with ALLH-50 satisfies the California Administrative Code requirements for eligibility for certification as an EMT 1. (11/09)
DEGREES
A.A. - Engineering
A.S. - Engineering
A.S. - Engineering Technology

Program Description
Widely diversified professional engineering programs are available at California universities. Merced College offers the first two years of engineering to prepare students for transfer at the junior class level into a bachelor’s degree program.

Students must be aware that completion of the course selection does not necessarily satisfy all lower division requirements as specified by the Engineering Liaison Committee. The program is listed in such a way as to permit sufficient flexibility for students transferring to a variety of institutions. Students must work closely with their counselors to assure a smooth transition to the four-year institution of their choice.

Engineering Technology is that part of the technological field which requires the application of scientific and engineering knowledge and methods combined with technical skills in support of engineering activities; it lies in the occupational spectrum between the craftsman and the engineer.

Engineering Technology prepares the student for junior class standing at California State University at Pomona, San Jose, San Luis Obispo, and Sacramento, and Northrop Institute of Technology in most specialized fields of engineering technology. This program leads to a Bachelor’s in Science Degree and classification as an engineering technologist.

DEGREE
A.A. - Engineering (09300.AA)

An Associate in Arts Degree in Engineering is designed for students investigating the area of engineering and who have sufficient units to graduate but lack specific prerequisites to advance to junior class standing in engineering. It must be noted that an A.A. in engineering does not necessarily satisfy entry requirements to four-year engineering curricula.

For an A.A. Degree in Engineering, students must meet the graduation requirements, and complete 18 units from the courses listed below.

Program Student Learning Outcomes
A. Understand the physical and mechanical principles required in engineering analyses.
B. Apply these principles and techniques to systems of importance in engineering.
C. Identify the material properties that must be optimized of a candidate material for particular applications by analyzing its composition and structure.
D. Compare and contrast the different fields of engineering.
E. Make an appropriate use of available technology.

Complete 5 to 8 units from the following:
- ENGR-10 Engineering Materials ...........................................3
- ENGR-15 Elementary Mechanics (Statics)..........................3
- ENGR-30 Introduction to Engineering ..................................2

Complete the remaining 10 to 13 units from the following courses:
- CHEM-04B General Chemistry ...........................................5
- ENGR-12 FORTRAN Programming ....................................3
- ENGR-14 C++ Programming ............................................3
- ENGR-18 Electrical Circuits Analysis ....................................3
- ENGR-25 Descriptive Geometry .........................................3
- MATH-04B Analytical Geometry and Calculus ....................4
- MATH-04C Analytical Geometry and Calculus ....................4
- MATH-06 Elementary Differential Equations .......................3
- MATH-08 Linear Algebra ..................................................3
- PHYS-04A Physics .........................................................4
- PHYS-04B Physics .........................................................4
- PHYS-04C Physics .........................................................4

18
DEGREE (1/07)

A.S. - Engineering (09300.AS)

For an Associate in Science Degree in Engineering, students must meet the graduation requirements (MATH-04A, CHEM-04A, and a life science course are suggested to satisfy breadth requirements in the science area) and complete the courses listed below.

Program Student Learning Outcomes
A. Demonstrate understanding of the physical, mechanical, and electrical principles required in engineering analyses.
B. Apply these principles and techniques to systems of importance in engineering.
C. Identify the material properties that must be optimized of a candidate material for particular applications by analyzing its composition and structure.
D. Solve mathematical problems applied in engineering analyses.

Units

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGR-10</td>
<td>Engineering Materials</td>
<td>3</td>
</tr>
<tr>
<td>ENGR-15</td>
<td>Elementary Mechanics (Statics)</td>
<td>3</td>
</tr>
<tr>
<td>ENGR-18</td>
<td>Electrical Circuits Analysis</td>
<td>4</td>
</tr>
<tr>
<td>ENGR-30</td>
<td>Introduction to Engineering</td>
<td>2</td>
</tr>
<tr>
<td>MATH-04B</td>
<td>Analytical Geometry and Calculus</td>
<td>4</td>
</tr>
<tr>
<td>MATH-04C</td>
<td>Analytical Geometry and Calculus</td>
<td>4</td>
</tr>
<tr>
<td>MATH-06</td>
<td>Differential Equations</td>
<td>3</td>
</tr>
</tbody>
</table>

A minimum of seven additional units from the following list of courses is required for an A.S. Degree. Care should be taken in selecting courses appropriate to the area of engineering, and the student's intended transfer institution:

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM-04B</td>
<td>General Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>ENGR-12</td>
<td>FORTRAN Programming</td>
<td>3</td>
</tr>
<tr>
<td>or ENGR-14</td>
<td>C++ Programming</td>
<td>3</td>
</tr>
<tr>
<td>ENGR-25</td>
<td>Descriptive Geometry</td>
<td>3</td>
</tr>
<tr>
<td>MATH-08</td>
<td>Linear Algebra</td>
<td>3</td>
</tr>
<tr>
<td>PHYS-04A</td>
<td>Physics</td>
<td>4</td>
</tr>
<tr>
<td>PHYS-04B</td>
<td>Physics</td>
<td>4</td>
</tr>
<tr>
<td>PHYS-04C</td>
<td>Physics</td>
<td>5</td>
</tr>
</tbody>
</table>

30

DEGREE

A.S. - Engineering Technology (09350.AS)

For an Associate in Science Degree in Engineering Technology, students must meet the basic graduation requirements (PHYS-04A and a life science course should be taken for science breadth) and complete the 30-unit curriculum listed below.

Program Student Learning Outcomes
A. Demonstrate understanding of the physical, mechanical, and electrical principles required in engineering analyses.
B. Apply these principles and techniques to systems of importance in engineering.
C. Identify the material properties that must be optimized of a candidate material for particular applications by analyzing its composition and structure.
D. To become skillful with the mathematical expressions applied in engineering.
E. Solve and analyze graphical problems utilizing AutoCAD program.

Units

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM-04A</td>
<td>General Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>ENGR-10</td>
<td>Engineering Materials</td>
<td>3</td>
</tr>
<tr>
<td>ENGR-12</td>
<td>FORTRAN Programming</td>
<td>3</td>
</tr>
<tr>
<td>ENGR-15</td>
<td>Elementary Mechanics (Statics)</td>
<td>3</td>
</tr>
<tr>
<td>ENGR-25</td>
<td>Descriptive Geometry</td>
<td>3</td>
</tr>
<tr>
<td>ELCT-31</td>
<td>Direct Current and Alternating Current Circuits</td>
<td>5</td>
</tr>
<tr>
<td>MATH-04A</td>
<td>Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>PHYS-04B</td>
<td>Physics</td>
<td>4</td>
</tr>
<tr>
<td>MATH-02</td>
<td>Precalculus</td>
<td>4</td>
</tr>
<tr>
<td>PHYS-04A</td>
<td>Physics</td>
<td>4</td>
</tr>
</tbody>
</table>

Suggested electives include:

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGR-30</td>
<td>Introduction to Engineering</td>
<td>2</td>
</tr>
<tr>
<td>MATH-02</td>
<td>Precalculus</td>
<td>4</td>
</tr>
<tr>
<td>PHYS-04A</td>
<td>Physics</td>
<td>4</td>
</tr>
</tbody>
</table>

Recommended Sequence: A.S. - Engineering Technology (09350.AS)

Additional units can be taken as breadth and/or elective courses.

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course</th>
<th>Description</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>CHEM-04A</td>
<td>General Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>MATH-04A</td>
<td>Calculus I</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>ENGR-12</td>
<td>FORTRAN Programming</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Spring</td>
<td>ELCT-31</td>
<td>Direct Current and Alternating Current Circuits</td>
<td>5</td>
</tr>
<tr>
<td>MATH-04B</td>
<td>Analytical Geometry and Calculus</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>PHYS-04A</td>
<td>Physics</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Fall</td>
<td>ENGR-15</td>
<td>Elementary Mechanics (Statics)</td>
<td>3</td>
</tr>
<tr>
<td>MATH-04C</td>
<td>Analytical Geometry and Calculus</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>ENGR-10</td>
<td>Engineering Materials</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Spring</td>
<td>ENGR-18</td>
<td>Electrical Circuits Analysis</td>
<td>4</td>
</tr>
<tr>
<td>MATH-06</td>
<td>Differential Equations</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

Suggested Sequence: A.S. - Engineering Technology (09350.AS)

Additional units can be taken as breadth and/or elective courses.

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course</th>
<th>Description</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>CHEM-04A</td>
<td>General Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>MATH-04A</td>
<td>Calculus I</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>ENGR-12</td>
<td>FORTRAN Programming</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Spring</td>
<td>ELCT-31</td>
<td>Direct Current and Alternating Current Circuits</td>
<td>5</td>
</tr>
<tr>
<td>MATH-04B</td>
<td>Analytical Geometry and Calculus</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>PHYS-04A</td>
<td>Physics</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Fall</td>
<td>ENGR-15</td>
<td>Elementary Mechanics (Statics)</td>
<td>3</td>
</tr>
<tr>
<td>MATH-04C</td>
<td>Analytical Geometry and Calculus</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>ENGR-10</td>
<td>Engineering Materials</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>
ENGR-05 ENGINEERING GRAPHICS (Also: DRFT-05)
3 units: 2 hours lecture, 3 hours lab.
Prerequisite: DRFT-04A. Advisories: ENGL-81, ENGL-84; MATH-80 or MATH-83.
This course utilizes computer graphics to prepare engineering drawings including geometric constructions, multi-view drawing, sectioning, auxiliary views, pictorial drawing, and tolerancing. (2/10)

ENGR-10 ENGINEERING MATERIALS
3 units: 3 hours lecture.
Prerequisites: CHEM-04A; PHYS-04A. Advisory: ENGL-A.
This course is an introduction to the atomic and microscopic structure of modern engineering materials. The effects of structure and manufacturing processes on the mechanical, electrical, and other physical properties of materials are studied. Metals, alloys, ceramics, polymers, and composites are explored. (1/07)

ENGR-12 FORTRAN PROGRAMMING (Also: CPSC-12 and MATH-12)
3 units: 2 hours lecture, 3 hours lab.
Prerequisite: MATH-02, or MATH-25 and MATH-26. Advisory: ENGL-A.
This course teaches students to use the FORTRAN programming language to solve problems in a wide variety of areas. Programming design, problem-solving, and debugging techniques are emphasized throughout the course. (1/07)

ENGR-14 C++ PROGRAMMING (Also: MATH-14)
3 units: 2 hours lecture, 3 hours lab.
One-way corequisite: MATH-02, or MATH-25 and MATH-26. Advisory: ENGL-A.
This is the entry-level comprehensive concepts course for computer science majors, and recommended for science and math majors. Algorithm design, logic diagrams, problem-solving, coding, and debugging are emphasized using a structured language such as C++. (1/07)

ENGR-15 ELEMENTARY MECHANICS (STATICS)
3 units: 3 hours lecture.
Prerequisite: PHYS-04A. One-way corequisite: MATH-04C. Advisory: ENGL-A.
This course is the study of rigid bodies when acted upon by forces and couples in 2-D and 3-D space. Included are trusses, frames, machines, beams, friction, centroids, centers of mass, and moments of inertia. (2/08)

ENGR-18 ELECTRICAL CIRCUITS ANALYSIS
4 units: 3 hours lecture, 3 hours lab.
Prerequisite: PHYS-04B. One-way corequisite: MATH-04C. Advisory: ENGL-A.
This course covers basic circuit analysis emphasizing resistive circuits, natural and forced response of inductive and capacitive circuits, phasor analysis, and semiconductor elements. Lab involves construction and measurement of circuits using power supplies, breadboards, multimeters, oscilloscopes, and function generators. (2/08)

ENGR-25 Descriptive Geometry (Also: DRFT-25)
3 units: 2 hours lecture, 3 hours lab.
Prerequisite: DRFT-04A. Advisory: MATH-02.
This course involves use of computer-aided drafting and hand sketching to solve problems and communicate ideas. The course is also an introduction to descriptive geometry, using computers and more traditional methods of problem solving through the auxiliary view and two-view methods. The development of graphical methods in their application to graphs, charts, and spatial and vector geometry will be studied. (2/10)
English
English, Basic Skills and Child Development

DEGREE
A.A. - English

Program Description
The English curriculum prepares the student in written and analytical skills and acquaints the student with a wide range of literature. An English major qualifies a student for employment in educational institutions, business and industry, and communications. It is a frequently recommended major for students interested in pre-law, journalism, or library work.

Career Opportunities
- Advertising
- Interpreter
- Librarian
- Public Relations
- Columnist

- Editor
- Teacher
- Publisher
- Attorney
- Manager

Highlights
The English cohort offers its literature classes on a rotating schedule. If students carefully plan their course work, they should be able to take the classes necessary to earn an English degree in two years. Below is the schedule for the upcoming years:

Fall 2010: ENGL-03, ENGL-06A, ENGL-18
Spring 2011: ENGL-05, ENGL-06B, ENGL-08

Fall 2011: ENGL-04A, ENGL-10, ENGL-14
Spring 2012: ENGL-04B, ENGL-11, ENGL-07

Fall 2012: ENGL-03, ENGL-06A, ENGL-18
Spring 2013: ENGL-05, ENGL-06B, ENGL-08

Other courses, such as ENGL-47 and ENGL-22, are offered less frequently, and some courses, such as ENGL-02 and ENGL-31, are scheduled by other departments. See the Area Dean or English Faculty Lead for more information.

DEGREE (4/10)
A.A. - English (15200.AA)

For an Associate in Arts Degree in English, the student must complete the graduation requirements and the 21-unit curriculum listed below. All courses that count toward the associate degree major or area of emphasis must be “satisfactorily completed” with grades of A, B, C or P (pass). All degree requirements, including general education, must be completed with an overall grade point average of 2.0 or better.

Program Student Learning Outcomes
A. Write a full-length essay of appointed number of words—most likely 1500-1750 words—relatively free from English usage errors, on any given subject.
B. Write a full-length documented essay using the MLA format and style (seventh ed.).
C. Read sophisticated material critically followed by writing critical or evaluative essays on the reading material.
D. Recognize literary periods and their distinguishing characteristics and show proficiency by way of exam, a series of exams or extensive writings.
E. Write full-length essays—most likely 1500-1750 words—on literary subjects from poetry, novels, or short stories.

Units

| ENGL-01B | Introduction to Literature ........................................ 3 |
| ENGL-03 | The History of Dramatic Literature ................................. 3 |
| ENGL-04A | Introduction to World Literature: Ancients to 1650 .......... 3 |
| ENGL-04B | Introduction to World Literature: 1650 to Present ....... 3 |
| ENGL-05 | Introduction to Fiction .................................................. 3 |
| ENGL-06A | Major English Writers ..................................................... 3 |
| ENGL-06B | Major English Writers ..................................................... 3 |
| ENGL-07 | Studies in Literature - Poetry .......................................... 3 |
| ENGL-08 | Shakespeare ................................................................. 3 |
| ENGL-10 | American Literature - Beginnings to Civil War .............. 3 |
| ENGL-11 | American Literature - Civil War to Present .................... 3 |
| ENGL-12 | Creative Writing ............................................................ 3 |
| ENGL-13 | Critical Reasoning and Writing ......................................... 3 |
| ENGL-14 | Introduction to Film ....................................................... 3 |
| ENGL-18 | African and African-American Literature ....................... 3 |
| ENGL-22 | Research and Bibliography .............................................. 1 |
| ENGL-31 | Children’s Literature ..................................................... 3 |
| ENGL-47 | Special Topics in Language and Literature ...................... 3 |
| PHIL-13 | Critical Reasoning and Writing ......................................... 3 |

Suggested electives to meet applicable A.A./A.S. Breadth Requirements:

| ART-01 | Art History - Ancient through Gothic ............................ 3 |
| ART-02 | Art History - Renaissance Through Modern .................... 3 |
| Foreign Languages | History of Civilization: Parts I & II .................. 6 |
| HIST-04AB | History of Civilization: Parts I & II .................. 6 |
| HUM-01 | Studies in Humanities - Ancient Through Renaissance .... 3 |
| or HUM-01H | Honors Studies in Humanities - Ancient Through Renaissance ............. 3 |
### ENGL - English

#### ENGL-A FOUNDATIONS IN ACADEMIC LITERACY
[CILC area G]
4 units: 4 hours lecture.
Prerequisites: ENGL-81, ENGL-84. Two-way corequisite: ENGL-AL.
This course serves specific needs for students who do not qualify for college-level composition and reading course. Also, students who desire a review of the conventions of academic written communication may choose to take this course. This course offers a review of grammar and English usage in conjunction with composition assignments. Reading assignments cover a variety of subjects for class discussion and provide a means for increasing reading comprehension and analysis. Ultimately, this course includes an introduction to library research skills. (12/08)

#### ENGL-AL Academic Literacy LAB
1 unit: 3 hours lab.
Two-way corequisite: ENGL-A. Advisory: AOM-50A.
This academic literacy lab is required of all students registered in English-A. This is a computer-based lab designed to improve reading and writing skills through a variety of modalities, including individualized instruction and assistance. (12/08)

#### ENGL-B INTRODUCTION TO APPLIED WRITING
3 units: 3 hours lecture.
Prerequisite: ENGL-81, ENGL-84. Advisory: LRNR-30.
This course is designed for students who desire to learn or polish skills in writing for the workplace or public arena. Writing assignments include reports, inter-office memos, public relations letters, public announcements, and other workplace documents for a variety of vocational occupations and public situations. (11/04)

#### ENGL-L WRITING PRACTICE AND IMPROVEMENT
1 unit: 3 hours lab.
Advisories: ENGL-A; LRNR-30; AOM-50B.
This course provides computer-assisted writing instruction designed to improve writing skills. (1/05)

#### ENGL-01A COLLEGE COMPOSITION AND READING
(CSU breadth area A2) (IGETC area 1A) [CILC area G]
4 units: 4 hours lecture.
Prerequisite: ENGL-A. Advisory: LRNR-30.
This course focuses on critical reading, scholarly composition, and research applications at the college-level. Students write expository and argumentative essays--at least one of which is fully annotated--based on class readings and discussions. The English department expects students to understand and apply basic English skills upon entering the course. Students will acquire sophisticated reading and imposing skills throughout the term. Students will learn to apply critical thinking skills to all reading and writing assignments. (12/08)

#### ENGL-01B INTRODUCTION TO LITERATURE
(CSU breadth area C2) (IGETC area 3B)
3 units: 3 hours lecture.
Prerequisite: ENGL-01A.
This is a course in writing and literary analysis based upon reading and studying major literary types: short story, novel, drama, and poetry. Writers of various countries and periods are read in order to encourage an appreciation of literature's range, artistry, and insight into the human experience. (5/06)

#### ENGL-02 ORAL INTERPRETATION (Also: COMM-02)
3 units: 3 hours lecture.
Prerequisite: ENGL-A.
This course is designed to help students understand, appreciate, and convey the power of the written word. A variety of writings will be analyzed in their rhetorical, historical, and cultural contexts and be brought to life through performance. (2/08)

#### ENGL-03 HISTORY OF DRAMATIC LITERATURE (Also: DRAM-03)
(CSU breadth area C1) (IGETC area 3A)
3 units: 3 hours lecture.
Prerequisite: ENGL-01A. Advisory: ENGL-01B.
This course is a study of dramatic literature as a reflection of theater history, including the influence of staging, acting styles, scene design, and culture upon the playwright and his/her work. Classical to contemporary drama is examined. (11/04)

#### ENGL-04A INTRODUCTION TO WORLD LITERATURE: ANCIENTS TO 1650
(CSU breadth area C2) (IGETC area 3B)
3 units: 3 hours lecture.
Prerequisite: ENGL-01A. Advisory: ENGL-01B.
This course examines the origins and subsequent developments of world literatures and cultures from the ancients to 1650 through various literary genres and cultural traditions. Primary focus will fall on major works of certain periods and of geographic origins. Students will engage in comparative analysis and evaluation of the literary works as well as close study of the works in addition to the study of each text's merits. (5/05)

#### ENGL-04B INTRODUCTION TO WORLD LITERATURE: 1650 TO PRESENT
(CSU breadth area C2) (IGETC area 3B)
3 units: 3 hours lecture.
Prerequisite: ENGL-01A. Advisory: ENGL-01B.
This course examines the origins and subsequent developments of world literatures and cultures from 1650 to the present through various literary genres and cultural traditions. Primary focus will fall on major works of certain periods and of geographic origins. Students will engage in comparative analysis and evaluation of the literary works as well as close study of the works in addition to the study of each text's merits. (5/05)
ENGL-05 INTRODUCTION TO FICTION
(CSU breadth area C2) (IGETC area 3B)
3 units: 3 hours lecture.
Prerequisite: ENGL-01A. Advisory: ENGL-01B.
This course traces the origins and subsequent developments of short fiction and longer fiction (novels), and signals the specific characteristics of respective genres. Students will read a number of books of short fiction and three to five novels in order to study the various developments of style, form, structure, and other artistic choices associated with the history of fiction. (12/04)

ENGL-06A MAJOR ENGLISH WRITERS
(CSU breadth area C2) (IGETC area 3B)
3 units: 3 hours lecture.
Prerequisite: ENGL-01A. Advisory: ENGL-01B.
This course introduces students to the history and variety of English literature from its beginnings to the early 18th century. Representative works of major authors are read as examples of the various genres, literary trends, and historical eras in which they were written. (12/04)

ENGL-06B MAJOR ENGLISH WRITERS
(CSU breadth area C2) (IGETC area 3B)
3 units: 3 hours lecture.
Prerequisite: ENGL-01A. Advisory: ENGL-01B.
This course introduces students to the history and variety of English literature from the eighteenth to the twentieth, to the twenty-first centuries. Representative works of major authors are read as examples of the various genres, literary trends, and historical eras in which they were written. (12/04)

ENGL-07 STUDIES IN LITERATURE: POETRY
(CSU breadth area C2) (IGETC area 3B)
3 units: 3 hours lecture.
Prerequisite: ENGL-01A. Advisory: ENGL-01B.
This course traces origins and developments of the poem as a major literary genre. Assignments include an intensive study of the poetic process. Poems from ancient times to the present are analyzed in terms of form, idea, and language. (1/05)

ENGL-08 INTRODUCTION TO SHAKESPEARE
3 units: 3 hours lecture.
Prerequisite: ENGL-01A. Advisory: ENGL-01B.
Introduction to Shakespeare is a course of literary analysis based on reading and studying the major works of William Shakespeare. The course focuses on a number of Shakespeare's plays, especially the most widely-known ones, from the categories Comedy, History, and Tragedy, as well as a survey of his non-dramatic poetry. As this course is an introductory course, students will receive the opportunity to learn about Elizabethan England -- the England of the time of Shakespeare. (12/04)

ENGL-10 AMERICAN LITERATURE FROM BEGINNINGS TO CIVIL WAR
(CSU breadth area C2) (IGETC area 3B)
3 units: 3 hours lecture.
Prerequisite: ENGL-01A. Advisory: ENGL-01B.
This course is designed to introduce students to the history and variety of literature from American Literature's beginnings to the Civil War. Representative works are read as examples of various genres, literary trends, and historical eras. (11/04)

ENGL-11 AMERICAN LITERATURE FROM POST-CIVIL WAR TO PRESENT
(CSU breadth area C2) (IGETC area 3B)
3 units: 3 hours lecture.
Prerequisite: ENGL-01A. Advisory: ENGL-01B.
This is a course designed to introduce students to the history and variety of American literature from the end of 1865 to the present. Representative works are read as examples of various genres, literary trends, and historical eras. (11/04)

ENGL-12 CREATIVE WRITING
3 units: 3 hours lecture.
Prerequisite: ENGL-01A. Advisory: ENGL-01B.
This is a course designed to provide experience in the writing of poetry, drama, fiction, and essay and to aid the student in becoming aware of the craft of writing as described and/or demonstrated by professional writers. The class is conducted primarily as a workshop in which students read their materials for constructive criticism. (11/04)

ENGL-13 CRITICAL REASONING AND WRITING (Also: PHIL-13)
(CSU breadth area A3) (IGETC area 1B) [CILC area G]
3 units: 3 hours lecture.
Prerequisite: ENGL-01A.
ENGL-13/PHIL-13 meets the IGETC critical thinking/composition requirement. The course emphasizes the development of critical thinking skills through instruction in reading and writing arguments. Readings feature mostly non-fictional essays and books that reflect diverse cultural and gender perspectives on a variety of contemporary political and social issues, especially those involving race, ethnicity, and gender. (5/06)

ENGL-13H HONORS CRITICAL REASONING AND WRITING (Also: PHIL-13H)
(CSU breadth area A3) (IGETC area 1B) [CILC area G]
3 units: 3 hours lecture.
Limitation on enrollment: Enrollment in the Honors Program. Prerequisite: ENGL-01A.
This course emphasizes the development of critical thinking skills through instruction in reading and writing arguments. Readings feature mostly non-fictional essays and books that reflect diverse cultural and gender perspectives on a variety of contemporary political and social issues, especially those involving race, ethnicity, and gender. (5/06)

ENGL-14 INTRODUCTION TO FILM
(CSU breadth area C1) (IGETC area 3A)
3 units: 2 hours lecture, 3 hours lab.
Prerequisite: ENGL-01A. Advisory: ENGL-01B.
This course includes critical and popular approaches to film. Students will study film form, genre, style, criticism, and history. They will read screenplays and film criticism and theory, and view the films under consideration to obtain a better understanding of the film discipline. (1/03)

ENGL-18 AFRICAN AND AFRICAN AMERICAN LITERATURE (Also: HUM-18)
(CSU breadth area C2) (IGETC area 3B)
3 units: 3 hours lecture.
Prerequisite: ENGL-01A. Advisory: ENGL-01B.
This is an introductory course in African literature written in English or translated from African languages or French into English. It will present a survey of major works from colonial and post-colonial literature to introduce students to African works of merit, cultural relevance, and universal application. In addition to enabling students to view African works within a global context, its goal will be to show the connection of themes, issues, and styles between African and African-American literature and experience as well. Works studied will include epics and narratives, poetry and song lyrics, short fiction, novels, essays, films, and drama in an effort to assist students in acquiring an appreciation of important literary voices that have heretofore been neglected in literature studies. (10/07)

ENGL-22 RESEARCH, COMPOSITION, AND BIBLIOGRAPHY
1 unit: 1 hour lecture.
Advisory: ENGL-A.
This course introduces students to the research and composing processes of the discipline-specific writing conventions of their fields. Students will be introduced to Internet search engines, library catalogs, indices, abstracts, bibliographies, reference books, and specialized sources. Research and writing include an annotated bibliography and an article-length essay. (11/04)
ENGL-23 READING ACROSS THE DISCIPLINES
3 units: 3 hours lecture.
Advisory: ENGL-A.
This course in college reading is to practice reading efficiency for academic, career, and personal growth, professionally, and academically. The focus of the class is to apply comprehension, analysis and interpretation skills to a range of challenging readings, including texts and primary-source materials from one or more disciplines. This course may be linked with courses in other transfer level or vocational disciplines. (12/08)

ENGL-31 CHILDREN'S LITERATURE
3 units: 3 hours lecture.
Prerequisite: ENGL-01A.
This course explores children's literature as a special topic of English literature. Students will read and write about children’s literature, exploring a range of cultures for both literary elements and structural features. The class will identify themes derived from cultural patterns and symbols from rituals, mythologies, and traditions by identifying and evaluating structural and organizational devices in prose and poetry. Students will read various literary genres, including but not limited to novels, short stories, folk and fairy tales, and poetry. (5/05)

ENGL-47ABCD SPECIAL TOPICS IN LANGUAGE AND LITERATURE
(Also: HUM-47ABCD)
3 units: 3 hours lecture.
Prerequisite: ENGL-A.
This course engages students in the study of language and literature, and topics will vary from semester to semester. (1/05)

ENGL-80 BASIC READING TACTICS I
3 units: 3 hours lecture.
Prerequisite: ENGL-90 or ESL-91. Two-way corequisite: ENGL-80L.
This course is designed to diagnose reading deficiencies and improve basic reading skills, primarily comprehension. This course is for students who already have a basic understanding of phonics and basic spelling and vocabulary skills. It will also cover basic writing skills. It will also cover basic spelling and vocabulary levels to improve their sentence structure. The program is basically self-paced. (4/04)

ENGL-83 BASIC WRITING I - SENTENCE TO PARAGRAPH
5 units: 5 hours lecture.
Prerequisite: ENGL-90 or ESL-94. Advisories: Concurrent enrollment in ENGL-80, ENGL-80L.
This course is devoted to developing competency in basic English grammar, sentence construction, and paragraph development. The student will have practice in constructing original sentences and paragraphs which demonstrate comprehension and application of basic grammatical concepts and patterns of standard English sentences and paragraphs. (2/04)

ENGL-83L SENTENCE STRUCTURE
1 unit: 3 hours lab.
Advisory: ENGL-83.
This course is a laboratory experience to help students at developmental levels to improve their sentence structure. The program is basically self-paced. (4/04)

ENGL-84 BASIC WRITING SKILLS II - PARAGRAPHS TO ESSAYS
5 units: 5 hours lecture.
Prerequisite: ENGL-83. Advisory: Concurrent enrollment in ENGL-81.
This course is devoted to developing competency in writing paragraphs and short essays by means of intensive practice in writing, including paragraph structure and development, focusing on short essays. (1/07)

ENGL-86L SPELLING
1 unit: 3 hours lab.
Advisory: ENGL-90 or ENGL-94B.
This course is designed to provide additional instruction or reinforcement for students who have difficulty in spelling. This course is generally tailored to the individual student’s needs and is basically self-paced. (4/04)

ENGL-87L VOCABULARY
1 unit: 3 hours lab.
Advisory: ENGL-90 or ESL-91.
This course is a laboratory experience to help students at developmental levels to enlarge their vocabularies. This program is basically self-paced. (4/04)

ENGL-89ABCD COMMUNICATION SKILLS LABORATORY
0.5 - 2 units: 1.5 - 6 hours lab.
Advisory: ENGL-80 or ENGL-83. (Note: The letter designation indicates unit value, “A” being for 0.5 unit, “B” for 1 unit, etc., in 0.5-unit increments.)
This course is a laboratory experience primarily to help students who have taken a writing class but who still need additional work before they progress to the next writing class. It is designed to provide individualized assistance and assignments to improve a student’s deficient areas. The number of hours and the number of assignments vary based on the units enrolled in. Each letter (i.e., A, B, C, or D) may be taken only once. (4/04)

ENGL-90 BASIC LANGUAGE AND LEARNING SKILLS
4 units: 4 hours lecture.
Prerequisite/Advisory: None.
This course is to assist language skill development of students. Instruction will place emphasis on phonics, fundamental reading comprehension, and basic sentence writing skills. It will also cover basic spelling and vocabulary skills. (2/00)
Program Description
This three-level ESL program helps students whose primary language is not English to acquire the English language skills and cultural awareness necessary to begin a program of study that prepares them to succeed in college level courses. Separate courses in grammar and linguistic competence, pronunciation and speaking, reading, and paragraph development prepare students to enter developmental reading and writing classes and do not count toward graduation. Because credit ESL courses begin on an intermediate level, it is recommended that students have three years of prior instruction in ESL, or speak, read, and write English regularly in their daily lives.

ENGLISH AS A SECOND LANGUAGE (ESL)

ESL-92A ESL READING AND WRITING 1
5 units: 5 hours lecture.
Advisory: Student has completed non-credit ESL Level 5 or at least three years of the study of ESL/ELD in high school or adult school program or Student 1) has the ability to use complete English sentences to carry on a conversation with a native speaker, 2) is able to read English magazines and newspapers, and 3) is able to write complete sentences (although they may have some grammatical errors).

This is an intermediate writing and reading course for students whose native language is not English (ESL). This course focuses on reading strategies to improve fluency, vocabulary, and comprehension. Students will write about reading by using a step-by-step process to compose well-ordered paragraphs. (12/09)

ESL-92B ESL READING AND WRITING 2
5 units: 5 hours lecture.
Prerequisite: ESL-92A.
This is an intermediate writing and reading course for students whose native language is not English (ESL). This course focuses on reading strategies to improve vocabulary development and comprehension. Students will write about reading by using a step-by-step process to compose well-ordered paragraphs and short essays with a variety of sentence structures. (12/09)

ESL-95 INTERMEDIATE ESL GRAMMAR
3 units: 3 hours lecture.
Advisories: Student has completed Non-credit ESL Level 5 or at least three years of the study of ESL/ELD in a high school or adult school program; OR the student 1) has the ability to use complete English sentences to carry on a telephone conversation with a native speaker, 2) is able to read English magazines and newspapers, and 3) is able to write complete sentences (although they may have some grammatical errors).

This is an intermediate English grammar course (ESL) for students whose native language is not English. Focusing on the simple sentence, this course deals with five basic sentence patterns. It also deals with nouns, pronouns, verb tense and form, adjectives, and adverbs. It is recommended that this course be taken concurrently with ESL-93. (4/09)
DEGREE
A.S. - Environmental Technologies

CERTIFICATE
Environmental Technologies

Program Description
Environmental Technologies is a program designed to train and educate technicians for employment in business, industry, and governmental agencies to assist in compliance with federal, state, and local regulations.

DEGREE
A.S. - Environmental Technologies (03301.AS)

For an Associate in Science Degree in Environmental Technologies, students must meet the basic graduation requirements and complete the courses listed below.

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL-01*</td>
<td>4</td>
</tr>
<tr>
<td>or</td>
<td></td>
</tr>
<tr>
<td>BIOL-04A</td>
<td>4</td>
</tr>
<tr>
<td>or</td>
<td></td>
</tr>
<tr>
<td>BIOL-04AH</td>
<td>4</td>
</tr>
<tr>
<td>BIOL-06</td>
<td>4</td>
</tr>
<tr>
<td>BIOL-08</td>
<td>4</td>
</tr>
<tr>
<td>CHEM-02A</td>
<td>4</td>
</tr>
<tr>
<td>CHEM-08</td>
<td>4</td>
</tr>
<tr>
<td>ENTC-30</td>
<td>3</td>
</tr>
<tr>
<td>ENTC-32</td>
<td>3</td>
</tr>
<tr>
<td>ENTC-34</td>
<td>3</td>
</tr>
<tr>
<td>ENTC-36</td>
<td>4</td>
</tr>
<tr>
<td>ENTC-38</td>
<td>4</td>
</tr>
<tr>
<td>ENTC-40</td>
<td>4</td>
</tr>
<tr>
<td>ENTC-40</td>
<td>4</td>
</tr>
</tbody>
</table>

The following courses are suggested to fulfill general education requirements/and or recommended as electives:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL-16</td>
<td>4</td>
</tr>
<tr>
<td>or</td>
<td></td>
</tr>
<tr>
<td>BIOL-50</td>
<td>3</td>
</tr>
<tr>
<td>COMM-01</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td></td>
</tr>
<tr>
<td>COMM-05</td>
<td>3</td>
</tr>
<tr>
<td>CPSC-30</td>
<td>3</td>
</tr>
<tr>
<td>ECON-01A</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td></td>
</tr>
<tr>
<td>PSYC-01A</td>
<td>3</td>
</tr>
<tr>
<td>ENGL-01A</td>
<td>4</td>
</tr>
<tr>
<td>GEOL-01</td>
<td>4</td>
</tr>
</tbody>
</table>

- Environmental Technologies  •

MATH-C Intermediate Algebra.................................4
NUTR-10 Nutrition........................................3
POSC-01 Essentials of the American Political System ....3
A Technical Writing Course...................................3

*A student may not take BIOL-01 for credit after having taken BIOL-04A or BIOL-04AH.

CERTIFICATE
Environmental Technologies (03301.CT)

A Certificate of Achievement will be awarded upon the satisfactory completion of the major courses listed below.

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL-01*</td>
<td>4</td>
</tr>
<tr>
<td>or</td>
<td></td>
</tr>
<tr>
<td>BIOL-04A</td>
<td>4</td>
</tr>
<tr>
<td>or</td>
<td></td>
</tr>
<tr>
<td>BIOL-04AH</td>
<td>4</td>
</tr>
<tr>
<td>BIOL-06</td>
<td>4</td>
</tr>
<tr>
<td>CHEM-02A</td>
<td>4</td>
</tr>
<tr>
<td>CHEM-08</td>
<td>4</td>
</tr>
<tr>
<td>ENTC-30</td>
<td>3</td>
</tr>
<tr>
<td>ENTC-32</td>
<td>3</td>
</tr>
<tr>
<td>ENTC-34</td>
<td>3</td>
</tr>
<tr>
<td>ENTC-36</td>
<td>4</td>
</tr>
<tr>
<td>ENTC-38</td>
<td>4</td>
</tr>
<tr>
<td>ENTC-40</td>
<td>4</td>
</tr>
</tbody>
</table>

The following courses are suggested to fulfill general education requirements/and or recommended as electives:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL-16</td>
<td>4</td>
</tr>
<tr>
<td>or</td>
<td></td>
</tr>
<tr>
<td>BIOL-50</td>
<td>3</td>
</tr>
<tr>
<td>COMM-01</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td></td>
</tr>
<tr>
<td>COMM-05</td>
<td>3</td>
</tr>
<tr>
<td>CPSC-30</td>
<td>3</td>
</tr>
<tr>
<td>ECON-01A</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td></td>
</tr>
<tr>
<td>PSYC-01A</td>
<td>3</td>
</tr>
<tr>
<td>ENGL-01A</td>
<td>4</td>
</tr>
<tr>
<td>GEOL-01</td>
<td>4</td>
</tr>
</tbody>
</table>

- Environmental Technologies  •

MATH-C Intermediate Algebra.................................4
NUTR-10 Nutrition........................................3
POSC-01 Essentials of the American Political System ....3
A Technical Writing Course...................................3

*A student may not take BIOL-01 for credit after having taken BIOL-04A or BIOL-04AH.
ENTC-30 INTRODUCTION TO ENVIRONMENTAL TECHNOLOGY
3 units: 3 hours lecture.
Advisory: ENGL-A.
This course will provide the student with an overview of the history and effects of pollution, and an examination of the early legislation that was formulated in attempts to clean up the environment. The course provides students with an introduction to ecological principles and an overview of the biological effects on humans and other organisms of toxins and other pollutants. The course focuses on two approaches to resolving environmental issues, attacking the problems through the legal process by application of regulations and by use of scientific control and clean-up techniques through modern technology. This course will provide an introduction to the basic scientific principles as they relate to monitor pollution control equipment. Students will be introduced to techniques of monitoring and sampling the three regions of the environment and the importance of working toward compliance as guided by federal, state, and local regulations. (12/02)

ENTC-32 INDUSTRIAL PROCESSES AND WASTE STREAM MANAGEMENT
3 units: 3 hours lecture.
One-way corequisite: CHEM-02A. Advisories: ENGL-A; MATH-A or MATH-B.
In this course students will study a variety of processes used by the industry in the production of goods and the provision of services. Early legislation will be examined in its historical setting as the Federal government responded to ecological catastrophes in attempts to halt pollution and protect environmental systems. Treatment technologies will be examined as methods to reduce hazardous waste, and issues of pollution (P2) will be examined. Students will view industrial operations with visits to local manufacturing and waste reduction facilities. A minimum of four specific industries will be examined, following the process of conversion of raw materials into finished products with special attention to the generation of waste, and the Best Available Technology (BAT) for minimizing impact on air, land, and water resources. (3/06)

ENTC-34 HEALTH EFFECTS OF HAZARDOUS MATERIALS
3 units: 3 hours lecture.
Prerequisite: ENTC-30. Advisory: ENGL-A.
This course covers the acute and chronic health effects produced by exposure to chemical, physical, and biological agents. Emphasis will be on those hazardous materials commonly associated with industrial operations, waste disposal, and remediation sites. Topics will include routes of entry, toxic effects, risk evaluation, permissible exposure limits, medical surveillance, control methods for reducing exposure, and understanding Material Safety Data Sheets (MSDS). (1/07)

ENTC-36 HAZARDOUS WASTE MANAGEMENT APPLICATIONS
4 units: 3 hours lecture, 3 hours lab.
Prerequisite: ENTC-30. Advisories: BIOL-06; CHEM-02B; ENGL-A.
This course provides an overview of hazardous waste regulation with emphasis in generator compliance, site investigation and remediation, permitting, enforcement, and liability. The lecture portion of the course explains the hazardous waste regulatory framework, introduces the student to the wide variety and types of environmental resources available, and develops research skills in the hazardous waste area. The laboratory portion of the course complements the lectures by providing hands-on application of regulations at the technician level. Proper methods of preparing a hazardous waste manifest, labeling of storage containers, sampling and analysis, preparing a Phase I Environmental Audit, and selecting environmental consultants are among the many skills developed in the laboratory. (1/07)

ENTC-38 SAFETY AND EMERGENCY RESPONSE
4 units: 3 hours lecture, 3 hours lab.
Prerequisites: ENTC-30, ENTC-34. Advisory: ENGL-A.
This course is designed to provide students with hands-on instruction in safety and emergency response to chemical and physical exposures in industrial and field settings. Topics include: hazard analysis, contingency planning, housekeeping and safety practices, including proper use and selection of PPE, site control and evaluation, handling drums and containers, field sampling and monitoring, proper use of instruments, incident response planning, emergency response including field exercises in the use of PAPR and SCBA, and an understanding of the ICS system. This course, along with ENTC-34, satisfies the requirements for 40-hour employee training under OSHA[1910.120]. (1/07)

ENTC-40 HAZARDOUS MATERIALS MANAGEMENT APPLICATIONS
4 units: 3 hours lecture, 3 hours lab.
Prerequisite: ENTC-30. Advisories: BIOL-06; CHEM-02B; ENGL-A.
This course is a study of requirements and applications of federal, state, and local laws relating to hazardous materials. The course will emphasize compliance with Department of Transportation, OSHA Hazard Communication, SARA Title III Community Right-to-Know, Underground Tank, Asbestos, Proposition 65, and Air Toxics Regulations. The lecture portion of the course will provide the student with an understanding of the legal framework of hazardous materials laws; the laboratory portion will focus on applications of these laws, such as proper labeling, shipping and handling of hazardous materials, obtaining and interpreting MSDSs, permitting and monitoring functions, as well as planning and reporting functions. (1/07)
DEGREE
A.A. - Fire Technology

CERTIFICATE
Fire Technology

Program Description
The Fire Technology Program is composed of three goal areas: an Associate Degree and / or Certificate of Achievement, Fire Fighter I Academy, and professional growth. With successful completion of the AA or Certificate program, a fire academy, and possession of an EMT certification, the student will possess the basic qualifications for entry level fire service application at most fire prevention and suppression departments.

Career Opportunities
Fire prevention and suppression offers many career opportunities including positions in municipal fire departments, county departments, fire protection districts, and California Fire agencies. There are also employment opportunities in correctional institutions, military bases, and numerous federal agencies. Specialists are in demand by industry.

Highlights
Academic and hands on experiences

DEGREE
A.A. - Fire Technology (21400.AA)

For an Associate in Arts in Fire Technology, students must meet the graduation requirements and complete the following required courses with a 2.0 GPA or higher in each class.

Program Student Learning Outcomes
A. Demonstrate effective written communication skills.
B. Demonstrate effective verbal and nonverbal communication skills.
C. At a basic level apply the principles of fire technology.
D. Demonstrate an appreciation of lifelong learning.
E. Demonstrate the ability to evaluate and adhere to ethics and compassionate treatment of patients and victims.
F. At a basic level demonstrate the ability to evaluate information and incorporate it into appropriate tasks.
G. At a basic level demonstrate the ability to analyze and solve problems using logical and creative methods.

CERTIFICATE
Fire Technology (21400.CT)

A Certificate of Achievement will be awarded upon the satisfactory completion of 30 units of course work in this area of study, which must include the first five courses listed for the A.A. Degree in Fire Technology. A 2.0 GPA or higher must be earned in each class.

Program Student Learning Outcomes
A. Demonstrate effective written communication skills.
B. Demonstrate effective verbal and nonverbal communication skills.
C. At a basic level apply the principles of fire technology.
D. Demonstrate an appreciation of lifelong learning.
E. Demonstrate the ability to evaluate and adhere to ethics and compassionate treatment of patients and victims.
F. At a basic level demonstrate the ability to evaluate information and incorporate it into appropriate tasks.
G. At a basic level demonstrate the ability to analyze and solve problems using logical and creative methods.

Units
FIRE-30 Fire Protection Organization .................................................3
FIRE-31 Fire Behavior and Combustion .............................................3
FIRE-32 Fire Prevention Technology .................................................3
FIRE-33 Fire Protection Equipment and Systems ..................................3
FIRE-34 Building Construction for Fire Protection ...............................3
Plus 15 additional FIRE units ..........................................................15
30
Program Student Learning Outcomes
A. Demonstrate effective written communication skills.
B. Demonstrate effective verbal and nonverbal communication skills.
C. At a basic level apply the principles of fire technology.
D. Demonstrate an appreciation of lifelong learning.
E. Demonstrate the ability to evaluate and adhere to ethics and compassionate treatment of patients and victims.
F. At a basic level demonstrate the ability to evaluate information and incorporate it into appropriate tasks.
G. At a basic level demonstrate the ability to analyze and solve problems using logical and creative methods.

FIRE-63A Basic Firefighter I, Academy ................. 8
FIRE-6AB Basic Firefighter I, Academy ................. 8
FIRE-64 Basic Firefighter II, Academy .................. 4

FIRE TECHNOLOGY (FIRE)

FIRE-30 FIRE PROTECTION ORGANIZATION
3 units: 3 hours lecture.
Advisory: ENGL-A.
This course provides an introduction to fire protection; career opportunities in fire protection and related fields; philosophy and history of fire protection; fire loss analysis; organization and function of public and private fire protection services; fire departments as part of local government; laws and regulations affecting the fire service; fire service nomenclature; specific fire protection functions; basic fire chemistry and physics; introduction to fire protection systems; and introduction to fire strategy and tactics. (11/04)

FIRE-31 FIRE BEHAVIOR AND COMBUSTION
3 units: 3 hours lecture.
This course presents the theory and fundamentals of how and why fires start, spread, and are controlled; an in-depth study of fire chemistry and physics; fire characteristics of materials; extinguishing agents; and fire control techniques. (11/04)

FIRE-32 FIRE PREVENTION TECHNOLOGY
3 units: 3 hours lecture.
This course provides fundamental information regarding the history and philosophy of fire prevention, organization and operation of a fire prevention bureau, use of fire codes, identification and correction of fire hazards, and the relationship of fire prevention with fire safety education and detection and suppression systems. (11/04)

FIRE-33 FIRE PROTECTION EQUIPMENT AND SYSTEMS
3 units: 3 hours lecture.
This course provides information relating to features of design and operation of fire detection and alarm systems, heat and smoke control systems, special protection and sprinkler systems, water supply for fire protection, and portable fire extinguishers. (11/04)

FIRE-34 BUILDING CONSTRUCTION FOR FIRE PROTECTION
3 units: 3 hours lecture.
This course is the study of components of building construction that relate to fire safety. The elements of construction and design of structures are shown to be key factors when inspecting buildings, preplanning fire operations, and operating at fires. The development and evolution of building and fire codes will be studied in relationship to past fires in residential, commercial, and industrial occupancies. (11/04)
This Emergency Medical Technician Training and Certificate program is designed to prepare fire service personnel to render pre-hospital basic life support services under field emergency conditions, and to extradite and prepare victims for transport to an acute care hospital. In contrast to other EMS Authority-approved programs, the EMT-1 NA/FS program emphasizes those skills most used in the fire service, including extrication skills. (12/04)

FIRE-63A BASIC FIREFIGHTER I, ACADEMY
8 units: 7 hours lecture, 3 hours lab.
Limitation on enrollment: Physician's clearance for strenuous activity.
Prerequisite: FIRE-30. Advisory: ENGL-A.
This course provides manipulative and technical training in basic concepts of fire department organization, miscellaneous equipment and tools, fire behavior and extinguishment theory, fire fighter safety, self-contained breathing apparatus, and portable fire extinguishers. The course also provides training in ropes, knots, hitches, hoses, nozzles, appliances, ground ladders, forcible entry, and confined space rescue. The student is responsible for obtaining an EMT or first responder rating. Students must supply instructor-approved personal protective equipment (required instructional material). (10/08)

FIRE-63B BASIC FIREFIGHTER I, ACADEMY
8 units: 7 hours lecture, 3 hours lab.
Limitation on enrollment: Physician's clearance for strenuous activity.
Prerequisite: FIRE-63A. Advisory: ENGL-A.
This course provides manipulative and technical training in basic concepts of ventilation, fire control, salvage and overhaul operations, fire protection water systems, fire protection systems, fire prevention and investigation, communications, vehicle extrication, wildland fire fighting, urban interface, and hazardous materials. The student is responsible for obtaining an EMT or first responder rating. Students must supply instructor-approved personal protective equipment (required instructional supply). (10/08)

FIRE-64 BASIC FIREFIGHTER II, ACADEMY
4 units: 3.5 hours lecture, 1.5 hours lab.
Prerequisite: FIRE-63B. Advisory: ENGL-A.
The Firefighter II course emphasizes inspection and maintenance of fire department stations and equipment, laws and regulations of fire service, fire prevention, fire characteristics, water supplies, apparatus and equipment inspection, and the use of apparatuses and heavy equipment. (12/04)

FIRE-65C WILDLAND FIREFIGHTING STRATEGY AND TACTICS
1 unit: 1 hour lecture.
Prerequisite: FIRE-30 or current volunteer, paid call, or seasonal or full-time firefighter for a certified fire protection department. Advisory: ENGL-A.
This course stresses the fundamentals of initial-attack wildland fire fighting and how to apply wildland fire fighting strategy and tactics during the suppression effort. The course also includes live fire control. Students must have instructor-approved fire protective gear. (12/04)

FIRE-65D WILDLAND FIREFIGHTING CONTROL
3 units: 3 hours lecture.
Prerequisite: FIRE-30 or current volunteer, paid call, or seasonal or full-time firefighter for a certified fire protection department. Advisory: ENGL-84.
This course provides fundamental principles of wildland fire control and management. Topics to be covered include firefighter safety, wildland fire behavior, strategy and tactics, wildland-urban interface fires, the Incident Command System, and large fire organization. Special attention will be focused on the role fulfilled by individual engine companies during fire control operations. (12/04)
FIRE-65E INTRODUCTION TO HAZARDOUS MATERIALS AWARENESS
0.5 unit: 0.5 hour lecture.
Prerequisite: FIRE-30 or current volunteer, paid call, or seasonal or full-time firefighter for a certified fire protection department.
This course is a general introduction to hazardous materials awareness with emphasis on placards, identification and recognition, decision-making in emergencies, detecting hazardous materials presence, and estimating the likely harm without intervention. (12/04)

FIRE-65F HAZARDOUS MATERIALS – FIRST RESPONDER OPERATIONS (HAZ MAT FRO)
1 unit: 20 total hours lecture.
Advisories: ENGL-A; FIRE-30 or currently a paid call, seasonal, of full-time firefighter.
This course covers how hazardous materials can harm people, the environment, and property, and how the first responder may use clues to recognize a hazardous materials incident and implement actions to protect themselves and the public. (11/05)

FIRE-65G FIRST RESPONDER OPERATIONS – DECONTAMINATION (DECON FRO)
0.5 unit: 0.5 hour lecture.
Advisories: FIRE-30, FIRE-65F.
This course covers how to safely and competently perform “Fully/Primary” decontamination in at least “Level B” personal protective equipment based on agency or generic Decon SOP. This course builds upon FRO competencies to perform decontamination functions within the contamination reduction zone. (11/05)

FIRE-66A VOLUNTEER FIREFIGHTER BASIC SKILLS
2.5 units: 2.5 hours lecture.
Advisories: ENGL-84.
This course provides the firefighter with basic knowledge of fire behavior and control and basic skills to safely perform essential fire ground tasks with minimal supervision. Students must supply instructor-approved personal protective equipment (a required instructional supply). (12/04)

FIRE-66B ADVANCED INCIDENT COMMAND SYSTEM (I-400)
2.5 units: 2.5 hours lecture.
Prerequisite: FIRE-68B. Advisory: ENGL-84.
This course is designed for the entry-level and veteran firefighter. The subject matter relates to principles and features of ICS, organization, incident facilities, incident resources, and responsibilities associated with ICS assignments. (12/04)

FIRE-66C INCIDENT COMMAND SYSTEM - INTERMEDIATE (I-300)
1.5 units: 1.5 hours lecture.
Prerequisite: FIRE-68C. Advisory: ENGL-A.
This is an advanced course in Incident Command System. (01/05)

FIRE-66D EQUIPMENT OPERATOR FOR VOLUNTEER FIREFIGHTERS
2 units: 2 hours lecture.
Limitation on enrollment: Must possess a current valid CPR card in Basic Life Support of Health Care Providers (or equivalent) as outlined by the American Heart Association. Prerequisite: FIRE-69A. Advisory: ENGL-84.
This course is designed to meet the state re-certification requirements for emergency medical personnel. The course relates to patient assessment, cardiovascular systems, fractures, splinting, childbirth, and environmental emergencies. (11/05)

FIRE-66E FIRST RESPONDER RE-CERTIFICATION
1.5 units: 1.5 hours lecture.
Limitation on enrollment: Must possess a current valid CPR card in Basic Life Support of Health Care Providers (or equivalent) as outlined by the American Heart Association. Prerequisite: FIRE-69A. Advisory: ENGL-84.
This course is designed to meet the state re-certification requirements for emergency medical personnel. The course relates to patient assessment, cardiovascular systems, fractures, splinting, childbirth, and environmental emergencies. This course may be repeated three times. (12/04)

FIRE-67A ROPE RESCUE
1 unit: 1 hour lecture.
Prerequisite: FIRE-30. Advisory: ENGL-84.
This course is designed to introduce the novice to the basics of equipment nomenclature, rope design and construction, care and maintenance, and knots and webbing as they apply to rope rescue emergencies. (12/04)

FIRE-67B AUTO EXTRICATION
0.5 unit: .5 hours lecture.
Advisories: ENGL-A; FIRE-30 or currently a paid call, seasonal, of full-time firefighter.
This course provides classroom instruction of vehicle rescue concepts. It introduces students to common vehicle rescue tools and hands-on practice of basic techniques used to free persons entrapped in vehicles as a result of traffic collisions. To successfully complete the skills portion, students must have the ability to lift tools that may weigh in excess of 50 pounds and perform other rigorous physical tasks. Students must supply instructor-approved personal protective equipment (required instructional material) equivalent to that of a structural firefighting ensemble. This shall, at a minimum, include a helmet with face shield and/or goggles, leather gloves, turnout coat and pants, and turnout boots (or steel-toed lace-up leather boots at least 8” in height with lugged soles). This course is repeatable three times. (11/05)

FIRE-67C FIRST RESPONDER OPERATIONS – DECONTAMINATION (FRO)
1 unit: 1 hour lecture.
Limitation on enrollment: Must have instructor-verified ICS (I-100) completion.
This course is designed for the entry-level and veteran firefighter. The subject matter relates to principles and features of ICS, organization, incident facilities, incident resources, and responsibilities associated with ICS assignments. (12/04)

FIRE-68A FIRST RESPONDER
2.5 units: 2.5 hours lecture.
Prerequisite: FIRE-30 or currently a paid call, seasonal, or full-time firefighter. Advisory: ENGL-A.
This course is designed to meet the state requirements for emergency medical personnel. The course relates to patient assessment, cardiovascular systems, fractures, splinting, childbirth, and environmental emergencies. (11/05)

FIRE-68B BASIC INCIDENT COMMAND SYSTEM (I-200)
1 unit: 1 hour lecture.
Limitation on enrollment: Must have instructor-verified ICS (I-100) completion.
This course is designed for the entry-level and veteran firefighter. The subject matter relates to principles and features of ICS, organization, incident facilities, incident resources, and responsibilities associated with ICS assignments. (12/04)

FIRE-68C INCIDENT COMMAND SYSTEM - INTERMEDIATE (I-300)
1.5 units: 1.5 hours lecture.
Prerequisite: FIRE-68C. Advisory: ENGL-A.
This is an advanced course in Incident Command System. (01/05)

FIRE-68D ADVANCED INCIDENT COMMAND SYSTEM (I-400)
2 units: 2 hours lecture.
Prerequisite: FIRE-68C. Advisory: ENGL-A.
This course is designed to cover all subject matter necessary to organize and administer a fire department. (12/04)
FIRE-71B FIRE INSTRUCTOR I -- MODULE B
2 units: 2 hours lecture.
Prerequisite: FIRE-71A.
This course is designed for the fire company officer who conducts in-service training programs. The course provides instruction in the use of visual aids, test construction, and teaching demonstrations. The successful completion of this course and the State Fire Marshal's examination will result in State certification. (12/04)

FIRE-72A FIRE COMMAND I -- MODULE A
2 units: 40 total hours lecture.
Prerequisite: FIRE-35. Advisory: ENGL-84.
This course is designed to provide the fire company officer with information and experience in command and control techniques at the scene of an emergency. (12/04)

FIRE-72B FIRE COMMAND I -- MODULE B
2 units: 40 total hours lecture.
Prerequisite: FIRE-72A. Advisory: ENGL-A.
This course is designed to provide the fire company officer with information and experience in command and control techniques at the scene of a hazardous materials emergency. (12/04)

FIRE-73A FIRE PREVENTION I -- MODULE A
2 units: 40 total hours lecture.
Prerequisite: FIRE-30 or current volunteer, paid call, or seasonal or full-time firefighter for a certified fire protection department. Advisory: ENGL-84.
This course will provide instruction in basic fire prevention management for company officers and fire prevention personnel. The students will learn responses to a variety of fire prevention situations in a professional and effective manner. This course will prepare the first-level fire officer to deal with responsibilities of fire prevention in his/her jurisdiction. (12/04)

FIRE-73B FIRE PREVENTION I -- MODULE B
2 units: 40 total hours lecture.
Prerequisite: FIRE-73A. Advisory: ENGL-84.
This course will provide instruction in basic fire prevention management for company officers and fire prevention personnel. It will teach the response to a variety of fire prevention situations in a professional and effective manner. The course will prepare first-level fire officers to deal with responsibilities of fire prevention in his/her jurisdiction. (12/04)

FIRE-75 FIRE MANAGEMENT I
2 units: 40 total hours lecture.
Prerequisite: FIRE-30 or current volunteer, paid call, or seasonal or full-time firefighter for a certified fire protection department. Advisory: ENGL-84.
This course will provide instruction to improve the student's managerial effectiveness and will require demonstration of growth and development in the use of managerial skills. The course will stress resource identification and utilization. (12/04)

FIRE-76A FIRE APPARATUS DRIVER/OPERATOR 1A (EMERGENCY VEHICLE OPERATIONS)
2 units: 40 total hours lecture.
Limitation on enrollment: Must possess a valid California Drivers License, Class B, firefighter restricted (minimum); must be physically fit per department standards; must not have a hearing loss of 25 decibels or more in 3 of 4 frequencies; must have vision better than, or corrected to, far visual acuity of 20/30 with contact lenses or spectacles; and must be a paid call, volunteer, or full-time firefighter at a certified fire protection agency. Prerequisites: FIRE-63A, FIRE-63B. Advisory: ENGL-A.
This course will provide fire service personnel with knowledge of the laws and requirements that pertain to emergency vehicle operation, basic maintenance and troubleshooting, and documentation of fire apparatus. (1/05)

FIRE-76B FIRE APPARATUS DRIVER/OPERATOR 1B (EMERGENCY VEHICLE OPERATIONS)
2 units: 40 total hours lecture.
Limitation on enrollment: Must possess a valid California Drivers License, Class B, firefighter restricted (minimum); must be physically fit per department standards; must not have a hearing loss of 25 decibels or more in 3 of 4 frequencies; must have vision better than, or corrected to, far visual acuity of 20/30 with contact lenses or spectacles; and must be a paid call, volunteer, or full-time firefighter at a certified fire protection agency. Prerequisite: FIRE-76A. Advisories: ENGL-A.
This course will provide fire service personnel with information on pump construction, theory of pump operation, and methods of performing basic hydraulics. Further, students will receive information and techniques on basic inspections, documentation, maintenance, and troubleshooting fire pumps. This course will provide fire service personnel with the knowledge of the laws and requirements that pertain to emergency vehicle operation and basic maintenance, troubleshooting, and documentation of fire apparatus. (1/05)
Foods and Nutrition
Allied Health, Business and Public Safety

DEGREE
A.A. - Foods and Nutrition

CERTIFICATES
Foods and Nutrition
Dietetic Service Supervisor

Program Description
Food Service is one of the fastest growing industries. Schools, hospitals, prisons, universities and the hospitality industry are always in need of trained food service professionals. Merced College provides Foods and Nutrition courses that are designed to provide knowledge and skills to ensure a strong foundation for students. The areas of study are as follows:

Career Opportunities
Employment of Registered dietitians is expected to grow about as fast as the average for all occupations because of increased emphasis on disease prevention, a growing and aging population and public interest in nutrition. Growth is anticipated in nursing homes, residential care facilities and physicians clinics. There are always opportunities for all levels of Food service.
Dietary Service Supervisor
Foods and Nutrition
Registered Dietitian

Off-Site Resources:
American Dietetic Association: www.eatright.org
Programs with internships: www.calstatefresno.org

DEGREE (2/08)
A.A. - Foods and Nutrition (13160.AA)

For an Associate of Arts Degree in Foods and Nutrition, students must meet the graduation requirements and complete the following courses.

Program Student Learning Outcomes
A. Create a detailed menu utilizing resources and following restrictions for a particular client group.
B. Internalize, practice and direct food safety and sanitation techniques.
C. Demonstrate ability to oversee and prepare/plan meals for large quantities.
D. Apply supervisory skills in a food service setting.

Core:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>NUTR-10 Nutrition</td>
<td>3</td>
</tr>
<tr>
<td>NUTR-20 Principles of Foods</td>
<td>3</td>
</tr>
<tr>
<td>NUTR-36 Nutrition and Food Service Supervised Field Experience</td>
<td>2.5</td>
</tr>
<tr>
<td>NUTR-42 Quantity Food Preparation</td>
<td>3</td>
</tr>
<tr>
<td>NUTR-44 Food Safety and Sanitation</td>
<td>2</td>
</tr>
<tr>
<td>NUTR-45 Introduction to Therapeutic Diets</td>
<td>2</td>
</tr>
<tr>
<td>MGMT-50-52 Management 50 Series</td>
<td>1.5</td>
</tr>
</tbody>
</table>

Plus seven units from the following courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPSC-30 Computer Applications</td>
<td>3</td>
</tr>
<tr>
<td>NUTR-26ABC Independent Study in Foods and Nutrition</td>
<td>1-3</td>
</tr>
<tr>
<td>NUTR-39 Nutrition for Young Children</td>
<td>3</td>
</tr>
<tr>
<td>NUTR-40 Menu Design</td>
<td>3</td>
</tr>
<tr>
<td>NUTR-41 Infant and Toddler Feeding</td>
<td>1</td>
</tr>
<tr>
<td>NUTR-43 Children and Weight Concerns</td>
<td>1</td>
</tr>
<tr>
<td>NUTR-70A-ZZ Special Topics in Foods and Nutrition</td>
<td>1-3</td>
</tr>
</tbody>
</table>

CERTIFICATE (2/08)
Foods and Nutrition (13160.CL)

A Certificate of Achievement will be awarded upon the satisfactory completion of the curriculum listed below.

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>NUTR-10 Nutrition</td>
<td>3</td>
</tr>
<tr>
<td>NUTR-20 Principles of Foods</td>
<td>3</td>
</tr>
<tr>
<td>NUTR-36 Nutrition and Food Service Supervised Field Experience</td>
<td>2.5</td>
</tr>
<tr>
<td>NUTR-42 Quantity Food Preparation</td>
<td>3</td>
</tr>
<tr>
<td>NUTR-44 Food Safety and Sanitation</td>
<td>2</td>
</tr>
<tr>
<td>NUTR-45 Introduction to Therapeutic Diets</td>
<td>2</td>
</tr>
<tr>
<td>MGMT-50-52 Management 50 Series</td>
<td>1.5</td>
</tr>
</tbody>
</table>

Plus seven units from the following courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPSC-30 Computer Applications</td>
<td>3</td>
</tr>
<tr>
<td>NUTR-26ABC Independent Study in Foods and Nutrition</td>
<td>1-3</td>
</tr>
<tr>
<td>NUTR-39 Nutrition for Young Children</td>
<td>3</td>
</tr>
<tr>
<td>NUTR-40 Menu Design</td>
<td>3</td>
</tr>
<tr>
<td>NUTR-41 Infant and Toddler Feeding</td>
<td>1</td>
</tr>
<tr>
<td>NUTR-43 Children and Weight Concerns</td>
<td>1</td>
</tr>
<tr>
<td>NUTR-70A-ZZ Special Topics in Foods and Nutrition</td>
<td>1-3</td>
</tr>
</tbody>
</table>

24
CERTIFICATE  (2/08)
Dietetic Service Supervisor (13180.CE)

Upon satisfactory completion of the 17-unit core listed below, students meet the California Department of Health licensing requirements for Dietetic Service Supervisor.

Program Student Learning Outcomes
A. Demonstrates ability to provide safe, satisfying and nutritionally adequate food for patients/clients with appropriate staff, space, equipment and supplies with consideration to budget.
B. Assist in the development of planned menus to meet nutritional needs of the population and ensure that menus are followed.

Core: Units
NUTR-10 Nutrition ......................................................... 3
NUTR-20 Principles of Foods ........................................... 3
NUTR-36 Nutrition and Food Service Supervised Field Experience ......................................................... 2.5
NUTR-42 Quantity Food Preparation .................................. 3
NUTR-44 Food Safety and Sanitation .................................... 2
NUTR-45 Introduction to Therapeutic Diets ........................... 2
MGMT-50-52 Management 50 Series .................................. 1.5

Total Units: 17

Recommended Sequence: A.A. - Foods and Nutrition (13160.AA); Certificate Foods and Nutrition (13160.CL)

Fall 1
NUTR-10 Nutrition ......................................................... 3
NUTR-42 Quantity Food Preparation .................................. 3
NUTR-44 Food Safety and Sanitation .................................... 2
MGMT-50-52 Management 50 Series .................................. 1.5

Spring 1
NUTR-10 Nutrition ......................................................... 3
NUTR-20 Principles of Foods ........................................... 3
NUTR-36 Nutrition and Food Service Supervised Field Experience ......................................................... 2.5
NUTR-45 Introduction to Therapeutic Diets ........................... 2
MGMT-50-52 Management 50 Series .................................. 1.5

Summer 1
NUTR-10 Nutrition ......................................................... 3
MGMT-50-52 Management 50 Series .................................. 1.5

NUTR-10 NUTRITION
(CSU breadth area E)
3 units: 3 hours lecture.
Advisory: ENGL-A.
This course provides information on scientific concepts of nutrition relating to functioning of nutrients in basic life processes. It includes special needs during stages of the life-cycle as well as food sources of nutrients, assessment of diets, special diets for health problems, and current nutritional issues. (12/04)

NUTR-20 PRINCIPLES OF FOODS
3 units: 2 hours lecture, 3 hours lab.
Advisories: ENGL-A; MATH-91; NUTR-44.
This course will study the scientific principles of food preparation techniques. Emphasis is on nutrient values of foods, food preservation, food and equipment safety and sanitation, product evaluation, and quality control. (11/04)

NUTR-26ABC INDEPENDENT STUDY IN FOODS AND NUTRITION
1-3 units: 3-9 hours lab.
Prerequisite: NUTR-20.
This course is a supervised study in the area of foods and nutrition. A special program in the student’s area of interest will be planned, arranged, and carried out with approval and supervision of the instructor. Each student will submit a report or project upon completion. (3/05)

NUTR-36 NUTRITION AND FOOD SERVICE SUPERVISED FIELD EXPERIENCE
2.5 units: 1 hour lecture, 4.5 hours lab.
Limitation on enrollment: Students must have a negative result on a TB test within the past six months. Prerequisite: NUTR-44. One-way corequisites: NUTR-42, NUTR 45. Advisories: ENGL-A; MATH-91
This course is designed to help students learn problem solving and communication skills. The student is engaged in on-the-job learning activities under the supervision of a food service work site supervisor and a college nutrition instructor. Learning objectives are established based on dietary service supervisor functions. Students rotate through experiences in health care facilities, schools and own work site if applicable. Students will be required to follow dress standards required by the facility in which they work. This work is recommended at or near the completion of the Dietary Service Supervisory Program. (11/07)

NUTR-39 NUTRITION FOR YOUNG CHILDREN (Also: CLDV-39)
3 units: 3 hours lecture.
Advisory: ENGL-A.
This course offers a study of nutrients and their function with an emphasis on the needs of children -- birth through adolescence. Cultural and socioeconomic influences on food practices, and methods of teaching good nutrition to children will be covered. Emphasis will be on improving the nutritional status of children. This course is designed for Early Childhood Education majors to fulfill state requirements for a Children’s Learning Center permit. The course is also for parents who wish to become more knowledgeable about nutrition for their children and for food service workers in child care programs. (11/06)

NUTR-40 MENU PLANNING
3 units: 3 hours lecture.
Advisories: ENGL-81, ENGL-84; NUTR-10 or NUTR-39.
This course covers principles of menu planning for a variety of food services including child, school, and elder care, and restaurants. Emphasis is on development, types and uses, organization and significance of the menu, and cost and pricing of menu items. (12/04)

NUTR-41 INFANT AND TODDLER FEEDING
1 unit: 1 hour lecture.
Advisory: ENGL-A.
This course focuses on feeding typical and atypical developing infants beginning at birth with breast milk, formulas, and first foods, and progresses to textures and foods appropriate for the toddler. The course focuses on how to feed a baby, prevent baby bottle tooth decay, and choking prevention. Students will learn about appropriate snacks, food safety aspects, and food preparation for children with varying needs. Finally, students will have the opportunity to design a menu meeting the Child Care Food Program Guidelines. This course is recommended for ECE and Early Intervention students. (11/05)

NUTR-42 QUANTITY FOOD PREPARATION
3 units: 2.5 hours lecture, 1.5 hours lab.
Prerequisites: NUTR-10, NUTR-44. Advisories: ENGL-A; MATH-91; NUTR-20.
This quantity food service course is designed for child care, school food service, catering, and Health care facilities. This class includes food production, use of small and large equipment, sanitation and safety, record keeping, work improvement, supervisor’s role, and a nutrition component which includes modified diets for quantity food preparation. (11/07)
NUTR-43 CHILDREN AND WEIGHT CONCERNS
1 unit: 1 hour lecture.
Advisory: ENGL-A.
This course is designed to provide an overview of the problem of childhood obesity. Students will explore reasons for the recent epidemic in our country and review the trends. Factors including pressure by the media and the connection to eating disorders will be studied. Finally, students will look at the role of the family, school, and community in addressing childhood obesity. This course is recommended for ECE students. (11/04)

NUTR-44 FOOD SAFETY AND SANITATION
2 units: 2 hours lecture.
Advisory: ENGL-A.
This course offers basic principles of personal and institutional sanitation and application of these principles to food preparation, sanitation, food allergies, HACCP, and sanitary facilities including accident prevention, regulations, and pest management. An emphasis is placed on the supervisor’s role in maintaining high standards for these principles. This course meets the California Retail Food Code requirement section numbers 113947.1 through 113947.6. This course is required by the Dietary Service Supervisory Program and is highly recommended to those interested in working in food service. (11/07)

NUTR-45 INTRODUCTION TO THERAPEUTIC DIETS
2 units: 2 hours lecture.
Prerequisite: NUTR-10; Advisory: ENGL-A.
This course is designed to acquaint students with therapeutic and modified diets used in health care facilities. Topics include nutrition for disease states as well as normal nutrition needs. Students will role play on how to interview patients to obtain food preferences, become familiar with assistive feeding devices, and be able to develop menus to meet the nutritional needs of patients. Cultural considerations and the management of long term care residents will be emphasized. This course is required for the student planning a career in food service supervision especially in health care institutions and recommended for nursing students. (11/07)

NUTR-70A-ZZ SPECIAL TOPICS IN FOODS AND NUTRITION
1-3 units: 1-3 hours lecture, 0-9 hours lab. Prerequisite/advisory: None.
This is a course designed to address special topics in Foods and Nutrition to meet current needs of students. Specific classes will be offered to help them cope with the rapidly-changing environment and its effect on everyday living. (12/04)
Foresstry
Career and Technical Education

FORESTRY (FORS)
FORS-10 ELEMENTS OF FORESTRY
3 units: 2 hours lecture, 3 hours lab.
Prerequisite/Advisory: None.
This course provides the student with an understanding of complexities of
the forest industry and management. Fire protection, the lumber industry,
nursery and planting practices, and parks and recreation will be studied.

Foster Care Education

CERTIFICATE
Foster Care Education Certificate of Specialization

CERTIFICATE
Foster Care Education Certificate of Specialization (13200.CO)

A Certificate of Specialization in Foster Care Education will be awarded
upon the satisfactory completion of 15 units from the following courses.

<table>
<thead>
<tr>
<th>Units</th>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>CLDV-02</td>
<td>Child, Family and Community</td>
</tr>
<tr>
<td>3</td>
<td>CLDV-09</td>
<td>Human Development</td>
</tr>
<tr>
<td>3</td>
<td>CLDV-01</td>
<td>Child Growth and Development</td>
</tr>
<tr>
<td>3</td>
<td>NUTR-10</td>
<td>Nutrition</td>
</tr>
<tr>
<td>3</td>
<td>NUTR-39</td>
<td>Nutrition for Young Children</td>
</tr>
<tr>
<td>2</td>
<td>CLDV-82A-Z</td>
<td>Foster Care Education</td>
</tr>
<tr>
<td>2</td>
<td>COMM-04</td>
<td>Small Group Discussion and Problem Solving</td>
</tr>
<tr>
<td>3</td>
<td>COMM-05</td>
<td>Interpersonal Communication</td>
</tr>
<tr>
<td>2</td>
<td>CLDV-35</td>
<td>Infant and Toddler Care</td>
</tr>
<tr>
<td>2</td>
<td>CLDV-35L</td>
<td>Infant and Toddler Care Lab</td>
</tr>
<tr>
<td>3</td>
<td>PSYC-01A</td>
<td>Introduction to Psychology</td>
</tr>
</tbody>
</table>

Total Units: 15
French
Social Sciences, Humanities and Fine Arts

DEGREE
A.A. - French

Program Description
Studies in foreign languages provide specialists to work in areas such as anthropology, economics, political science, literature, international business, and the travel industry. While teaching is one of the principal areas of employment, other careers may be found in interpreting, translating, research, diplomacy, libraries, publishing, and the service industries.

DEGREE
A.A. - French (11200.AA)

For an Associate in Arts Degree in French students should meet the graduation requirements and complete the 26-unit curriculum as listed below. The courses listed below must be in addition to the basic graduation requirements.

Program Student Learning Outcomes
A. Speaking: Initiate, minimally sustain, and close in a simple way basic communicative tasks.
B. Listening: Distill information from such discourse and demonstrate understanding.
C. Writing: Compose a simple narrative and meet practical needs.
D. Culture: Recognize pervasive values of the culture.
E. Reading: Understand main ideas.

<table>
<thead>
<tr>
<th>Units</th>
<th>French (FREN)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>FREN-01 Elementary French</td>
</tr>
<tr>
<td>5</td>
<td>FREN-02 Elementary French</td>
</tr>
<tr>
<td>5</td>
<td>FREN-03 Intermediate French</td>
</tr>
<tr>
<td>5</td>
<td>FREN-04 Intermediate French</td>
</tr>
<tr>
<td>3</td>
<td>HIST-04A History of Civilization Part I</td>
</tr>
<tr>
<td>3</td>
<td>HIST-04B History of Civilization: Part II</td>
</tr>
<tr>
<td></td>
<td>Total Units: 26</td>
</tr>
</tbody>
</table>

Recommended Sequence: A.A. - French (11200.AA)

Fall 1
FREN-01 Elementary French                          5
HIST-04A History of civilization part I            3

Spring 1
FREN-02 Elementary French                          5
HIST-04B History of civilization part II           3

Fall 2
FREN-03 Intermediate French                        5

Spring 2
FREN-04 Intermediate French                        5

FREN-01 ELEMENTARY FRENCH  
(CSU breadth area C2)  
5 units: 5 hours lecture.  
Advisory: ENGL-84.  
This is a beginner's course. The course will focus on the development of listening, speaking, reading, and writing in a cultural context, with primary emphasis on communicative competency. Students will learn how to express in French the most basic functions of everyday life. This course is not recommended for native speakers. (10/06)

FREN-02 ELEMENTARY FRENCH  
(CSU breadth area C2) (IGETC area 6)  
5 units: 5 hours lecture.  
Prerequisite: FREN-01 or 1 year of high school French.  
Fren-02 is the continuation of Fren-01. This course will focus on the further development of listening, speaking, reading, and writing in a cultural context, with primary emphasis on communicative competency. Students will learn how to express in French basic functions of everyday life. (10/06)

FREN-03 INTERMEDIATE FRENCH  
(CSU breadth area C2) (IGETC area 3B/6)  
5 units: 5 hours lecture.  
Prerequisite: FREN-02 or two years of high school French. Advisory: LRNR-30.  
FREN-03 is a continuation of FREN-02. This course reviews and further develops grammatical concepts introduced in FREN 01 and FREN 02, as well as introduces the student to new concepts. Through varied readings, composition, and discussion, the student will increase with his or her vocabulary and cultural knowledge. (10/06)

FREN-04 INTERMEDIATE FRENCH  
(CSU breadth area C2) (IGETC area 3B/6)  
5 units: 5 hours lecture.  
Prerequisite: FREN-03. Advisory: LRNR-30.  
This course is thorough review of the fundamentals of reading, writing, speaking and understanding French, designed to aid the student in preparing for advanced studies in French composition, grammar, and conversation as well as literature and French, history and culture. (10/06)

FRENCH (FREN)

FREN-01 ELEMENTARY FRENCH  
(CSU breadth area C2)  
5 units: 5 hours lecture.  
Advisory: ENGL-84.  
This is a beginner's course. The course will focus on the development of listening, speaking, reading, and writing in a cultural context, with primary emphasis on communicative competency. Students will learn how to express in French the most basic functions of everyday life. This course is not recommended for native speakers. (10/06)

FREN-02 ELEMENTARY FRENCH  
(CSU breadth area C2) (IGETC area 6)  
5 units: 5 hours lecture.  
Prerequisite: FREN-01 or 1 year of high school French.  
Fren-02 is the continuation of Fren-01. This course will focus on the further development of listening, speaking, reading, and writing in a cultural context, with primary emphasis on communicative competency. Students will learn how to express in French basic functions of everyday life. (10/06)

FREN-03 INTERMEDIATE FRENCH  
(CSU breadth area C2) (IGETC area 3B/6)  
5 units: 5 hours lecture.  
Prerequisite: FREN-02 or two years of high school French. Advisory: LRNR-30.  
FREN-03 is a continuation of FREN-02. This course reviews and further develops grammatical concepts introduced in FREN 01 and FREN 02, as well as introduces the student to new concepts. Through varied readings, composition, and discussion, the student will increase with his or her vocabulary and cultural knowledge. (10/06)

FREN-04 INTERMEDIATE FRENCH  
(CSU breadth area C2) (IGETC area 3B/6)  
5 units: 5 hours lecture.  
Prerequisite: FREN-03. Advisory: LRNR-30.  
This course is thorough review of the fundamentals of reading, writing, speaking and understanding French, designed to aid the student in preparing for advanced studies in French composition, grammar, and conversation as well as literature and French, history and culture. (10/06)
Program Description
Geography is the study of the physical aspects of the planet. Topics studied include population pressures, food supply, and resource availability. Physical Geography is a natural science about weather, climate, and earth processes creating different landforms, while World Geography is a social science of how mankind utilizes earth resources to create different cultures and standards of living. The study of Geography enables a student to better understand world problems and events; it prepares a student for a career as a planner, teacher, journalist, earth scientist, and for other occupations.

GEOGRAPHY (GEOG)
Lower division preparation for transfer students intending to major in geography should include:

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTH-02</td>
<td>Cultural Anthropology</td>
<td>3</td>
</tr>
<tr>
<td>ENGL-01A</td>
<td>College Composition and Reading</td>
<td>4</td>
</tr>
<tr>
<td>ENGL-01B</td>
<td>Introduction to Literature</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-01</td>
<td>Physical Geography</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-01L</td>
<td>Physical Geography Lab</td>
<td>1</td>
</tr>
<tr>
<td>GEOG-02</td>
<td>World Geography</td>
<td>3</td>
</tr>
<tr>
<td>GEOL-01</td>
<td>Physical Geology</td>
<td>4</td>
</tr>
</tbody>
</table>

Other pertinent courses are:

- ECON-01A  Introduction to Macroeconomics            3
- BIOL-01   General Biology for Non-Majors             4
- HIST-04AB History of Civilization: Parts I & II     6
- PHSC-01   Physical Science Survey                   3

GEOG-01 PHYSICAL GEOGRAPHY
(CSU breadth area B1) (IGETC area 5A)
3 units: 3 hours lecture.
Advisory: ENGL-A.
In this course, the basic physical elements of the world are presented. Topics to be covered include topographic maps, earth-sun relationships, and time. Weather processes and climates are correlated to human environments. The forces creating and shaping landforms including volcanism, earthquakes, water, ice, wind, and wave erosion are also topics covered in the class. The location of major physical and cultural places in the world will also be studied. (12/09)

GEOG-01L PHYSICAL GEOGRAPHY LABORATORY
(CSU breadth area B3) (IGETC area 5A)
1 unit: 3 hours lab.
One-way corequisite: GEOG-01. Advisory: ENGL-A.
This course focuses on the development of skills and analytic thinking in explaining landform processes, weather phenomena, climate patterns, and vegetation patterns. Exercises include contour map drawing, analysis of data and drawing graphs, study of weather maps, stereo photo interpretation, and landform processes. (5/03)

GEOG-02 WORLD GEOGRAPHY
(CSU breadth area D5) (IGETC area 4E)
3 units: 3 hours lecture.
Advisory: ENGL-A.
GEOG-02 is a survey of the geography of the world’s regions. The study includes the ways in which environmental resources are utilized to satisfy the needs of mankind. There is emphasis on economic development, population, and food problems. Knowledge of the cultural and economic interaction between regions will enable the student to better understand contemporary world problems and potentials. (5/03)
DEGREE
A.S. - Geology

Program Description
The Geology curriculum is suggested for those students interested in any branch of earth science. This curriculum is designed to meet the lower division requirements of most universities offering a major in the earth sciences. This curriculum could lead to careers in fields such as paleontology, mineralogy, geophysics, hydrology, marine geology, and geochemistry, as well as general geology. People trained in these disciplines are employed in research companies as well as by companies associated with mining and petroleum industries.

DEGREE (5/09)
A.S. - Geology (19400.AS)

For an Associate in Science Degree in Geology, the student must complete the graduation requirements (PHYS-02A or PHYS-04A and ARCH-01 are suggested to satisfy the breadth requirements in the science area), and complete the courses listed below.

Program Student Learning Outcomes
A. A student will, organize, analyze, and interpret, report observations and predictions about the local geology using Geological Society of America conventions and standards.
B. A student will identify and describe common rocks and minerals and relate them to their origin and physical properties.
C. A student will be able to explain, interpret and predict geological structures and landforms within the context of plate tectonic theory.
D. A student will be able to place the events of earth's history within the geological timescale.

Units

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL-01*</td>
<td>General Biology for Non-Majors</td>
<td>4</td>
</tr>
<tr>
<td>BIOL-02*</td>
<td>Human Biology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL-04A</td>
<td>Fundamentals of Biology: The Cell and Evolution</td>
<td>4</td>
</tr>
<tr>
<td>BIOL-04AH</td>
<td>Honors Fundamentals of Biology: The Cell and Evolution</td>
<td>4</td>
</tr>
<tr>
<td>CHEM-04A</td>
<td>General Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>CHEM-04B</td>
<td>General Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>GEOL-01</td>
<td>Physical Geology</td>
<td>4</td>
</tr>
<tr>
<td>PHYS-02B</td>
<td>General Physics</td>
<td>4</td>
</tr>
<tr>
<td>PHYS-04B</td>
<td>Physics</td>
<td>4</td>
</tr>
</tbody>
</table>

The student must also select at least eight units from the following list (depending on the choice of four-year institution):

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGR-25</td>
<td>Descriptive Geometry</td>
<td>3</td>
</tr>
<tr>
<td>GEOL-02</td>
<td>Historical Geology</td>
<td>3</td>
</tr>
</tbody>
</table>

MATH-04A | Calculus I | 4 |
MATH-04B | Analytical Geometry and Calculus | 4 |
MATH-04C | Analytical Geometry and Calculus | 4 |
MATH-12 | FORTRAN Programming | 3 |
MATH-14 | C++ Programming | 3 |
PHYS-04C | Physics | 4 |

*Suggested Sequence: A.S. - Geology (19400.AS)

Additional units can be taken as breadth and/or elective courses.

Fall 1
- BIOL-04A | Fundamentals of Biology: The Cell and Evolution | 4 |
- MATH-04A | Calculus I | 4 |
- GEOL-01 | Physical Geology | 4 |

Spring 1
- CHEM-04B | General Chemistry | 5 |
- MATH-04B | Analytical Geometry and Calculus | 4 |
- PHYS-04A | Physics | 4 |

Fall 2
- MATH-04C | Analytical Geometry and Calculus | 4 |
- PHYS-04B | Physics | 4 |

Spring 2

Additional units can be taken as breadth and/or elective courses.

GEOLOGY (GEOL)

GEOL-01 PHYSICAL GEOLOGY
(CSU breadth area B1/B3) (IGETC area 5A)
4 units: 3 hours lecture, 3 hours lab.
Advisory: ENGL-A.
This is a beginning course in geology stressing the beneficial and destructive forces of nature and their causes. The course includes a study of the development of landscapes, origin of minerals and rocks, geologic work of ground water, the phenomena of earthquakes, volcanism, metamorphism, and other fundamental concepts of geology. Lab work includes the identification and study of rocks and minerals, study of topographic and geologic maps and aerial photographs, and an introduction to cross-section and profiles of topographic maps. (2/08)

GEOL-02 HISTORICAL GEOLOGY
(CSU breadth area B1) (IGETC area 5A)
3 units: 3 hours lecture.
Prerequisite: GEOL-01. Advisory: ENGL-A.
This course covers the geological history of the earth and the development of plant and animal life as traced through the rock and fossil records. The correlation between geologic changes through time, the uses of the fossil record in determining geologic history, and the formation of economic mineral deposits is emphasized throughout the course. A field trip is required for this course. (3/08)
German
Social Sciences, Humanities and Fine Arts

DEGREE
A.A. - German

Program Description
Studies in foreign languages provide specialists to work in areas such as anthropology, economics, political science, literature, international business, and the travel industry. While teaching is one of the principal areas of employment, other careers may be found in interpreting, translating, research, diplomacy, libraries, publishing, and the service industries.

DEGREE
A.A. - German (11400.AA)

For an Associate in Arts Degree in German students should meet the graduation requirements and complete the 26-unit curriculum as listed below. The courses listed below must be in addition to the basic graduation requirements.

Program Student Learning Outcomes
A. Speaking: Initiate, minimally sustain, and close in a simple way basic communicative tasks.
B. Listening: Distill information from such discourse and demonstrate understanding.
C. Writing: Compose a simple narrative and meet practical needs.
D. Culture: Recognize pervasive values of the culture.
E. Reading: Understand main ideas.

GERM-01 ELEMENTARY GERMAN
(CSU breadth area C2) (IGETC area 6)
5 units: 5 hours lecture.
Advisory: ENGL-84.
This is a beginner's course. The course will focus on the development of listening, speaking, reading, and writing in a cultural context, with primary emphasis on communicative competency. Students will learn how to express in German the most basic functions of everyday life. (2/10)

GERM-02 ELEMENTARY GERMAN
(CSU breadth area C2) (IGETC area 3B/6)
5 units: 5 hours lecture.
Prerequisite: GERM-01 or two years of high school German.
GERM-02 is a continuation of GERM-01. This course will focus on the further development of listening, speaking, reading, and writing in a cultural context, with primary emphasis on communicative competency. Students will learn how to express in German basic functions of everyday life. (11/03)

GERM-03 INTERMEDIATE GERMAN
(CSU breadth area C2) (IGETC area 3B/6)
5 units: 5 hours lecture.
Prerequisite: GERM-02. Advisory: LRNR-30.
GERM-03 is a continuation of GERM-02. This course reviews and further develops grammatical concepts introduced in GERM-01 and GERM-02, as well as introduces the student to new concepts. Through varied readings, composition, and discussion, the student will increase his or her vocabulary and cultural knowledge. (11/03)

GERM-04 INTERMEDIATE GERMAN
(CSU breadth area C2) (IGETC area 3B/6)
5 units: 5 hours lecture.
Prerequisite: GERM-03. Advisory: LRNR-30.
This course is a review of the fundamentals of reading, writing, speaking, and understanding German, designed to aid the student in preparing for advanced studies in German composition, grammar, and conversation, as well as literature in German, history, and culture. (11/03)

GERM-39 ADVANCED GERMAN
1 unit: .5 hour lecture, 1.5 hours lab.
Prerequisite: GERM-04. Advisory: LRNR-30.
This course is designed to acquaint the advanced student with specific items of the German language, literature, and culture, including history, political thought, and sociological change. The student will engage in activities that will reinforce knowledge of these areas and critical analysis of current German intellectual and social thinking. This course may be repeated three times. (9/04)

Recommended Sequence: A.A. - German (11400.AA)

Fall 1
GERM-01 Elementary German..............................................5
HIST-04A History of Civilization: Part I..................................3

Spring 1
GERM-02 Elementary German..............................................5
HIST-04B History of Civilization: Part II.................................3

Fall 2
GERM-03 Intermediate German............................................5

Spring 2
GERM-04 Intermediate German............................................5
GUIDANCE (GUID)

GUID-30 FOUNDATIONS AND STRATEGIES FOR COLLEGE SUCCESS
(12/05)
3 units: 3 hours lecture.
Advisory: ENGL-A. This course provides the foundation for college and employment by assisting the student in obtaining information necessary for success in college and on the job. This course is designed to address special topics in guidance to meet the needs of students. Specific classes will be offered to help students understand and develop personal, social, and academic skills useful in the educational environment. (11/05)

GUID-48 LIFE AND CAREER PLANNING
3 units: 3 hours lecture.
Advisory: ENGL-A. This is a structured sequential course in life and career planning. Experiences are provided that encompass education, occupation, and job trends. The total individual is explored; issues such as role, values, goals, life style, preferences, coping skills, and personal barriers as they relate to decisions are covered. (4/03)

GUID-48A CAREER SELF-ASSESSMENT
1 unit: 1 hour lecture.
Advisory: ENGL-A. In this course students will learn to appraise their self-esteem, values, skills and personality, and understand the implication of these factors in the selection of a vocational/educational goal. (4/03)

GUID-48B CAREER RESEARCH
1 unit: 1 hour lecture.
Advisory: ENGL-A. Research is a necessary component in career decision making. In this course the student will develop an understanding of a wide assortment of career information resources, both written and computer-assisted. The focus of the course is to introduce the student to the use of the most recent career-related technologies. (4/03)

GUID-48C EMPLOYMENT SEARCH AND READINESS SKILLS
1 unit: 1 hour lecture.
Advisory: ENGL-A. In this course the student will be introduced to the importance and preparation of job applications, resume types, cover letters, interviewing techniques, and other strategies for successfully obtaining employment. (4/03)

GUID-49A- ZZ SPECIAL TOPICS IN GUIDANCE
0.5 - 3 units: 0.5 - 3 hours lecture, 0-9 hours lab.
Advisory: ENGL-A. This course is designed to address special topics in guidance to meet the needs of students. Specific classes will be offered to help students understand and develop personal, social, and academic skills useful in the educational environment. (11/05)

GUID-52 COLLEGE SUCCESS STRATEGIES FOR STUDENT ATHLETES
3 units: 3 hours lecture.
Advisories: ENGL-81, ENGL-84. This course provides the student athlete with an opportunity to cultivate the skills, values, and attitudes necessary to become a confident, capable, and successful student and athlete. The student will identify his/her educational and athletic goals and will develop an appropriate plan for achieving those goals. Through learning and study strategy inventories the student will assess his/her attitude, motivation, time management skills, basic study skills, test anxiety, etc. Each student will develop an individualized action plan to remediate problem areas. Students will examine the roles of procrastination, self-responsibility, and multiple intelligences and will be introduced to various problem solving and decision-making strategies. Appropriate classroom behavior and personal conduct will be stressed and behavior modification techniques will be studied. National Collegiate Athletic Association and National Association for Intercollegiate Athletics eligibility and transfer rules will be discussed, as will the California Community College Athletic eligibility rules. This course is strongly recommended for all student athletes. (11/05)

GUID-54 FOUNDATIONS AND STRATEGIES FOR ACADEMIC RECOVERY
3 units: 3 hours lecture.
Advisories: ENGL-81, ENGL-81L, ENGL-84. This course is appropriate for students wishing to improve their academic standing. In this course the students will have an opportunity to cultivate the skills, values, and attitudes necessary to become confident, capable students. Each student will identify his/her educational goal and develop an appropriate plan for achieving that goal. Using a learning and study strategies inventory, each student will assess his/her attitude, motivation, time management skills, test anxiety, etc., and will develop an action plan to remediate problem areas. Students will examine the roles of procrastination, multiple intelligences, self-responsibility and health and wellness related to academic success. Academic policies will be addressed and strategies to get off and stay off probation, such as, informed decision-making, problem solving, classroom behavior, and behavior modification will also be studied. This course is recommended for all students on academic and/or progress probation. (2/10)

GUID-70A- ZZ SPECIAL TOPICS IN GUIDANCE
0.5 - 3 units: 0.5 - 3 hours lecture, 0-9 hours lab.
Advisory: ENGL-A. This course is designed to address special topics in guidance to meet the needs of students. Specific classes will be offered to help students understand and develop personal, social, and academic skills useful in the educational environment. (11/05)

GUID-80 COLLEGE SURVIVAL
1 unit: 1 hour lecture.
Advisories: ENGL-80, ENGL-83. College Survival is a course designed to increase the student’s success in college and/or employment by assisting the student in obtaining information and skills necessary to reach his/her educational or employment objectives. (12/05)
GUID-85 FIRST YEAR SUCCESS
.50 unit: .50 hour lecture.
Advisories: ENGL-80, ENGL-83.
This course is designed to introduce first year students to strategies for college success through an exploration of college policies, programs, services and academic expectations. Students will learn about Merced College’s academic programs, student services, academic expectations and policies, student rights and responsibilities, and campus activities. Students will receive a brief introduction to academic success strategies such as time management, goal setting, and study skills. Pass/no pass only. (2/10)

Health
Allied Health, Business, and Public Safety

HEALTH (HLTH)

HLTH-10 CONTEMPORARY HEALTH
(CSU breadth area E)
3 units: 3 hours lecture.
Advisory: ENGL-A.
This course surveys the human condition from birth to death. Emphasis is placed on the impact of personal choice throughout life. Mental health, stress, alcohol, drugs, tobacco, disease processes, nutrition, fitness, sexuality, aging, environmental issues, and other related topics are studied and examined. The student is challenged to assume responsibility for his or her own health, well being, and lifestyle. (5/07)

HLTH-11 ADVANCED FIRST AID AND EMERGENCY CARE
3 units: 3 hours lecture.
Advisory: ENGL-A.
This is a class designed to teach theory and practice in the techniques of administering first aid to victims of accidents and illness. This class fulfills requirements for Advanced First Aid and Emergency Care, Red Cross Certificates, and CPR Certification. (12/06)

HLTH-15 DRUGS, ALCOHOL, AND TOBACCO
3 units: 3 hours lecture.
Advisory: ENGL-A.
This course will give students a basic understanding of the psycho-physiological effects of drugs, alcohol, and tobacco. Included in the study will be use patterns, individual and societal problems that arise from abuse, and the medicinal effects. Personal coping skills will be included that can help individuals develop drug-free lifestyles. (12/06)

HLTH-16 HEALTH EDUCATION
(CSU breadth area E)
1 unit: 1 hour lecture.
Advisory: ENGL-A.
This course covers the basics of physiological and sociological effects of alcohol, tobacco, narcotics, and drug use. Basic nutrition will also be covered. (1/06)
Health Sciences
Math, Science and Engineering

Dean
Doug Kain

Counseling
(209) 384-6314

Phone
(209) 384-6183

Cooperative Work Experience
(209) 384-6364

Area Office
SCI-134

Degree
A.A. - Health Sciences

Degree (11/08)
A.A. - Health Sciences (12300.AA)

The Associate in Arts Degree in Health Sciences is intended for students planning to transfer into an Allied Health program. To earn the degree, a student must complete the basic graduation requirements (CHEM-02A is recommended for science breadth) and the courses listed below.

Program Student Learning Outcomes
A. Understand and describe the basic fundamental principles of body structure and function in health and disease and communicate this knowledge in both written and oral form.
B. Understand and implement the scientific method.
C. Research, comprehend and analyze etiologic factors; and then communicate the evaluation supported by a documented review of relevant literature.
D. Use critical thinking skills based on a chemical, structural, and functional foundation to gather and critically analyze, describe, and disseminate quantitative and qualitative information.

<table>
<thead>
<tr>
<th>Units</th>
<th>Course Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>BIOL-01 General Biology for Non-Majors</td>
</tr>
<tr>
<td></td>
<td>or</td>
</tr>
<tr>
<td>4</td>
<td>BIOL-02 Human Biology</td>
</tr>
<tr>
<td>4</td>
<td>CHEM-02B Introduction to Chemistry</td>
</tr>
<tr>
<td>3</td>
<td>NUTR-10 Nutrition</td>
</tr>
</tbody>
</table>

And select eight units from the following:

<table>
<thead>
<tr>
<th>Units</th>
<th>Course Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>BIOL-16 General Human Anatomy</td>
</tr>
<tr>
<td>4</td>
<td>BIOL-18 Principles of Physiology</td>
</tr>
<tr>
<td>4</td>
<td>BIOL-20 Microbiology</td>
</tr>
</tbody>
</table>

Suggested Course Sequence: A.A. - Health Sciences (12300.AA)

Additional units can be taken as breadth and/or elective courses.

Fall 1
BIOL-02 Human Biology........................................4
CHEM-02A Introductory Chemistry.............................4
NUTR-10 Nutrition...............................................3

Spring 1
CHEM-02B Introduction to Chemistry..........................4

Additional units can be taken as breadth and/or elective courses.

Fall 2

Additional units can be taken as breadth and/or elective courses.

Spring 2

Additional units can be taken as breadth and/or elective courses.
HVAC Technology
Career and Technical Education

DEGREES
A.A. - Commercial Refrigeration Technician
A.A. - HVAC Technician

CERTIFICATES
Commercial Refrigeration Technician
HVAC Technician

Program Description
The Heating, Ventilation, and Air conditioning / Refrigeration (HVAC/R) Program at Merced College is a comprehensive training program. The student will become knowledgeable in Refrigeration Systems, Basic Electrical Concepts, Air Systems & Air Conditioning Fundamentals, Heating Systems, and Commercial Refrigeration. The students will learn from lecture as well as laboratory experience. The instructor has practical experience in the field and the formal education to provide the students with the necessary skills as well as equip them for HVAC/R employment. Students will use the College HVAC/R Simulators during classroom training. Successful completion of the class will result in attainment of a Merced College Certificate of Completion.

The Heating, Ventilation, Air Conditioning / Refrigeration Program are designed to meet the increasing need within the local Business Community for trained technicians.

Career Opportunities
An Advisory Board was formed with the Private Industry Training Department and local businesses to offer internship opportunities to students in the program. This program prepares students for a variety of different fields: Heating and Air Conditioning Technician, Industrial Maintenance where heating, air conditioning, and ventilation is a requirement, Commercial Refrigeration Technician, HVAC specialist or maintenance in food processing industries as Refrigeration technicians, heating and air conditioning sales, entry level skills into HVAC Union apprenticeship, schools, hospitals, hotel / motel.

DEGREE
A.A. - Commercial Refrigeration Technician
(09401.AA)

An Associate in Arts Degree in Commercial Refrigeration Technician is available for students who meet the graduation requirements, and complete the options listed below.

Program Student Learning Outcomes
A. Explain the basic theory of the subject matter or HVAC/R system for the course of instruction based on industry standards.
B. Analyze a scenario based upon an HVAC/R equipment system failure/problem/complaint.
C. Employ a systematic approach to troubleshooting a HVAC/R system malfunction and prepare an effective repair solution.
D. Analyze component failures to determine the root cause of

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELCT-41</td>
<td>Industrial Motor and Equipment Control</td>
</tr>
<tr>
<td>ELCT-42</td>
<td>Programmable Logic Controllers</td>
</tr>
<tr>
<td>ELCT-47</td>
<td>Electrical Motors, Generators, Transformers, and AC Distribution</td>
</tr>
<tr>
<td>ELCT-52</td>
<td>Introduction to Electricity and Electronics</td>
</tr>
<tr>
<td>INDT-40</td>
<td>Commercial Refrigeration Design, Installation, and Service</td>
</tr>
<tr>
<td>INDT-49</td>
<td>Electrical Codes and Ordinances</td>
</tr>
<tr>
<td>INDT-51</td>
<td>Ventilation and Air Conditioning</td>
</tr>
<tr>
<td>MATH-B</td>
<td>Applied Mathematics</td>
</tr>
<tr>
<td>WELD-06</td>
<td>Fundamentals of Oxy-Fuel &amp; Shielded Metal Arc Welding</td>
</tr>
<tr>
<td>WELD-07</td>
<td>Fundamentals of T.I.G. and M.I.G. Welding</td>
</tr>
</tbody>
</table>

34
**DEGREE**

A.A. - HVAC Technician (09400.AA)

An Associate in Arts Degree in HVAC Technician is available for students who meet the graduation requirements, and complete the options listed below.

Program Student Learning Outcomes
A. Explain the basic theory of the subject matter or HVAC/R system for the course of instruction based on industry standards.
B. Analyze a scenario based upon an HVAC/R equipment system failure/problem/complaint.
C. Employ a systematic approach to troubleshooting a HVAC/R system malfunction and prepare an effective repair solution.
D. Analyze component failures to determine the root cause of the component failure.
E. Verify if the path of repair was correct by testing and/or completing a work order/report.
F. Demonstrate the correct usage of tools/supplies required to diagnose/repair a malfunction.

**CERTIFICATE**

Commercial Refrigeration Technician (09401.CT)

A Certificate of Achievement will be awarded upon successful completion of the full certificate options listed below. For successful completion, a student must complete the requirements with a minimum grade point of 2.0 in each course required for the certificate.

Program Student Learning Outcomes
A. Explain the basic theory of the subject matter or HVAC/R system for the course of instruction based on industry standards.
B. Analyze a scenario based upon an HVAC/R equipment system failure/problem/complaint.
C. Employ a systematic approach to troubleshooting a HVAC/R system malfunction and prepare an effective repair solution.
D. Analyze component failures to determine the root cause of the component failure.
E. Verify if the path of repair was correct by testing and/or completing a work order/report.
F. Demonstrate the correct usage of tools/supplies required to diagnose/repair a malfunction.
History
Social Sciences, Humanities and Fine Arts

DEGREE
A.A. - History

Program Description
The following history program is designed for the first two years of work required for students majoring in history who are interested in obtaining either a secondary or elementary teaching credential. Students should work with their counselor for specific transfer requirements.

DEGREE
A.A. - History (22300.AA)

For an Associate in Arts Degree in History, students must meet the graduation requirements and complete the 18-unit curriculum from the two lists below (3-12 units from the first list, and 6-15 units from the second list). The courses listed below must be in addition to the basic graduation requirements.

Program Student Learning Outcomes
A. Analyze historical processes that shape individuals and communities, drawing on detailed knowledge about the history of the United States and other parts of the world.
B. Research and think critically about varieties of experience found in the historical record, exploring diversity as a critical component of history.
C. Develop and define historical arguments, understanding the philosophical assumptions of historical interpretation.
D. Articulate their understanding of the past clearly and convincingly.
E. Incorporate new digital and multimedia formats in the practice and presentation of history.
F. Apply historical analysis as a framework to further both lifelong learning and civic engagement.

Students must select a minimum of three units from the following (depending on the student's choice of four-year institution):

<table>
<thead>
<tr>
<th>Units</th>
<th>3-12 units from this list:</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>HIST-04A History of Civilization: Part I                      3</td>
</tr>
<tr>
<td>3</td>
<td>HIST-04B History of Civilization: Part II                     3</td>
</tr>
<tr>
<td>3</td>
<td>HIST-17A Political and Social History of the United States   3</td>
</tr>
<tr>
<td>3</td>
<td>HIST-17B Political and Social History of the United States   3</td>
</tr>
<tr>
<td>6</td>
<td>HIST-05 History of Europe Since 1901                          3</td>
</tr>
<tr>
<td>3</td>
<td>HIST-08A History of the Americas                              3</td>
</tr>
<tr>
<td>3</td>
<td>HIST-08B History of the Americas                              3</td>
</tr>
<tr>
<td>3</td>
<td>HIST-09A Introduction to East Asian Civilization: China      3</td>
</tr>
<tr>
<td>3</td>
<td>HIST-09B Introduction to East Asian Civilization: Japan      3</td>
</tr>
<tr>
<td>3</td>
<td>HIST-21 History of Minorities -- Ethnic Groups, 19th Century to the Present 3</td>
</tr>
<tr>
<td>3</td>
<td>HIST-22 History of Minorities - Black Emphasis               3</td>
</tr>
<tr>
<td>3</td>
<td>HIST-23 History of Hispanic-Americans in the Southwest U.S 3</td>
</tr>
<tr>
<td>3</td>
<td>HIST-24 History of the Native American                       3</td>
</tr>
<tr>
<td>3</td>
<td>HIST-29 History of California                                 3</td>
</tr>
<tr>
<td>3</td>
<td>or HIST-39ABC Exploring California's Past                    3</td>
</tr>
</tbody>
</table>

| 18    | Total Units: 18 |

Recommended Sequence: A.A. - History (22300.AA)

Fall 1
HIST-04A History of Civilization: Part I 3
History Elective 3

Spring 1
HIST-04B History of Civilization: Part II 3
History Elective 3

Fall 2
HIST-17A Political and Social History of the United States 3
History Elective 3

Spring 2
HIST-17B Political and Social History of the United States 3

HISTORY (HIST)

HIST-04A HISTORY OF CIVILIZATION: PART I
(CSU breadth area C2/D6) (IGETC area 3B)
3 units: 3 hours lecture.
Advisory: ENGL-A.
This course provides a broad historical survey of humanity’s social, political, economic, and intellectual experiences for all major world civilizations from pre-history through approximately 1650. (11/09)

HIST-04B HISTORY OF CIVILIZATION: PART II
(CSU breadth area C2/D6) (IGETC area 3B)
3 units: 3 hours lecture.
Advisory: ENGL-A.
This course provides a broad historical survey of humanity’s social, political, economic and intellectual experiences for all major world civilizations from the 17th century to the present. (2/06)

HIST-05 HISTORY OF EUROPE FROM 1901 TO THE PRESENT
3 units: 3 hours lecture.
Advisory: ENGL-A.
HIST-05 is a one-semester survey course on 20th century and early 21st century European history (1901 to the present). The political, economic, cultural, and social development of 20th century and recent European history will be covered. There will be emphasis on the dramatic changes brought about by political realignment, colonialism, war, revolution, and economic upheaval. (12/06)

HIST-06A HISTORY OF THE AMERICAS PART I: PREHISTORY TO INDEPENDENCE
(CSU breadth area C2/D3/D6) (IGETC area 3B/4C)
3 units: 3 hours lecture.
Advisories: ENGL-A; LRNR-30; PHIL-10.
This course provides a broad historical survey of Latin America from pre-history to independence. The course covers pre-Columbia Amerindian civilizations and cultures; Iberian background, New World conquests, and New World occupation; and colonial development of Latin America’s Hispanic cultures and institutions. (12/03)
HIST-09B HISTORY OF THE AMERICAS PART II: INDEPENDENCE TO THE PRESENT
(CSU breadth area C2/D6) (IGETC area 3B/4F)
3 units: 3 hours lecture.
Advisories: ENGL-A; LRNR-30; PHIL-10.
This course provides a broad historical survey of modern American nations with emphasis on Latin America from 1821 to the present. Special emphasis is given to the political evolution of these nations and the social and economic institutions that characterize the region. (2/06)

HIST-09A INTRODUCTION TO EAST ASIAN CIVILIZATION: CHINA
(CSU breadth area C2) (IGETC area 3B)
3 units: 3 hours lecture.
Advisories: ENGL-A; LRNR-30; PHIL-10.
This course provides a broad historical survey of China, the Far East’s oldest civilization, from prehistoric times to the present, with emphasis on China’s cultural achievements and contributions to both Eastern and Western civilizations. (12/03)

HIST-09B INTRODUCTION TO EAST ASIAN CIVILIZATION: JAPAN
(CSU breadth area C2) (IGETC area 3B)
3 units: 3 hours lecture.
Advisories: ENGL-A.
This course provides a broad historical survey of Japan from pre-historic times to the present. The course includes the study of traditional and modern Japan’s significant institutions, cultural achievements, and contributions to both Eastern and Western civilizations. (9/08)

HIST-17A UNITED STATES HISTORY AND UNITED STATES CONSTITUTION
(CSU breadth area C2/D6) (IGETC area 3B/4F)
3 units: 3 hours lecture.
Advisories: ENGL-A.
This is an extensive survey course of United States history from the period of exploration to the Reconstruction Period. The course covers the social, political, economic, and constitutional development of the nation. (4/05)

HIST-17AH HONORS UNITED STATES HISTORY AND UNITED STATES CONSTITUTION
(CSU breadth area C2/D6) (IGETC area 3B/4F)
3 units: 3 hours lecture.
Limitation on enrollment: Enrollment in the Honors Program. (See the college catalog for a description of enrollment requirements.)
Advisories: ENGL-01A; PHIL-13H/ENGL-13H.
This course covers the social, political, economic and constitutional development of the nation. There will be an emphasis on academic rigor, analytical research, writing, critical thinking, and collaborative learning. (11/03)

HIST-17B UNITED STATES HISTORY AND CALIFORNIA STATE AND LOCAL GOVERNMENT
(CSU breadth area C2/D6) (IGETC area 3B/4F)
3 units: 3 hours lecture.
Advisories: ENGL-01A.
This course is a continuation of HIST-17A from the end of the Reconstruction Period in 1877 to the present. It examines our national, state, and local history and government from the late 19th century to the present. The course covers the social, political, economic, and constitutional development of the nation. (4/05)

HIST-17BH HONORS UNITED STATES HISTORY AND CALIFORNIA STATE AND LOCAL GOVERNMENT
(CSU breadth area C2/D6) (IGETC area 3B/4F)
3 units: 3 hours lecture.
Limitation on enrollment: Enrollment in the Honors Program. (See the college catalog for a description of enrollment requirements.)
Advisories: ENGL-01A; PHIL-13H/ENGL-13H.
This course examines our national, state, and local history and government from the late 19th century to the present. There will be an emphasis on academic rigor, analytical research, writing, critical thinking, and collaborative learning. (11/03)

HIST-21 THE HISTORY OF MINORITIES IN AMERICA -- ETHNIC GROUPS, 19TH CENTURY TO PRESENT
(CSU breadth area D3/D6) (IGETC area 4C/4F)
3 units: 3 hours lecture.
Advisories: ENGL-01A.
This course surveys the historical and legal position of ethnic groups 1800 to the present in America. Emphasis is placed on the role of minorities in American society, the development of ethnic identity, and the contributions of minority Americans. (1/06)

HIST-22 HISTORY OF MINORITIES -- BLACK EMPHASIS
(CSU breadth area D3/D6) (IGETC area 4C/4F)
3 units: 3 hours lecture.
Advisories: ENGL-A; LRNR-30; PHIL-10.
This course is a political and social history of African American and American society as seen from the Black perspective. It is a survey course covering the period from 1600 to the present. This course presents in-depth the historical background and development of American institutions and ideals. (11/03)

HIST-23 THE HISTORY OF HISPANIC-AMERICANS IN THE SOUTHWEST U.S.
(CSU breadth area D3/D6) (IGETC area 4C/4F)
3 units: 3 hours lecture.
Advisory: ENGL-A.
This course is an introduction to the history of the Mexican-American, and is designed to examine the contributions of Hispanics to the U.S. Emphasis will be placed upon the exploration, settlement, and ideology of Hispanics throughout the U.S. The course has pragmatic and relevant historical coverage that includes pre-Columbian to Hispanic civil rights movements. (4/06)

HIST-24 HISTORY OF THE NATIVE AMERICAN
(CSU breadth area D6) (IGETC area 4C/4F)
3 units: 3 hours lecture.
Advisories: ENGL-01A.
This course is an ethnic historical survey of Native Americans. Special emphasis will be placed on major Native American groups, the impact of European contact, social-cultural patterns and organizations, government policies, reservation status, Native American contributions to the development of American societies, and contemporary issues and problems. (1/06)

HIST-29 HISTORY OF CALIFORNIA
(CSU breadth area D6)
3 units: 3 hours lecture.
Advisory: ENGL-A.
This course surveys the historical development of California from pre-Columbian Indians through Spanish, Mexican, and American rule to the present. (12/08)

HIST-39A EXPLORING CALIFORNIA’S PAST: PART A
1 unit: 18 total hours.
Prerequisite/Advisory: None.
“Exploring California’s Past” is a series of three one-unit internet courses surveying California’s history from before European contact to the 20th century. HIST-39A explores California’s peoples, cultures, and historical developments from before European contact through the Mexican-American War. This course requires internet literacy and an actual visit to a California historic site. (4/08)

HIST-39B EXPLORING CALIFORNIA’S PAST: PART B
1 unit: 18 total hours.
Prerequisite/Advisory: None.
“Exploring California’s Past” is a series of three one-unit internet courses surveying California’s history from before European contact to the 20th century. HIST-39B explores California’s peoples, cultures, and historical developments from California’s gold rush to the completion of the transcontinental railroad. This course requires internet literacy and an actual visit to a California historic site. (4/08)
“Exploring California’s Past” is a series of three one-unit internet courses surveying California’s history from before European contact to the 20th century. HIST-39C explores California’s peoples, cultures, and historical developments from the 1870’s to modern times. This course requires internet literacy and an actual visit to a California historic site. (4/08)

HIST-80AB BASIC AMERICAN HISTORY
3 units: 3 hours lecture.
Prerequisite/Advisory: None.
This course is a basic American history course for non-transfer students. HIST-80A includes the period from the discovery of America to the Reconstruction Period. HIST-80B covers the period from Reconstruction to the present.

HMONG (HMNG)

HMNG-01 ELEMENTARY HMONG
(CSU breadth area C2) (IGETC area 6)
5 units: 5 hours lecture.
Advisory: ENGL-84.
This course is a study of the fundamentals of pronunciation, audio-lingual training, and phonology; syllabication; appreciation of basic elements of the Hmong culture; use of the most frequent words in Hmong; basic sentences in conversation; reading and mastery of verb forms; practical vocabulary through conversation and practice in class and at home; elementary composition. (3/06)

HMNG-02 ELEMENTARY HMONG*
(CSU breadth area C2) (IGETC area 6)
5 units: 5 hours lecture.
Prerequisite: HMNG-01.
This course is a continuation of HMNG-01. The focus will be on the further development of listening, speaking, reading, and writing in a cultural context. There will be intensive use of Hmong grammar, written composition, and oral communication. Selections from Hmong literature and history will be read and discussed in Hmong. Stress is given to reading, writing, speaking, and understanding Hmong as these communication skills apply to practical situations. (1/02)

*Offered in the spring semester only.
TAKING THE HONORS CHALLENGE
Honors Classes at Merced College are designed to provide learning environments that foster creative thinking and critical discussion. The purpose of Honors Classes is to offer challenging assignments and learning activities that will spark intellectual curiosity, while sharpening the skills required for transfer and career success.

Any new student with a 3.5 cumulative grade point average, or any continuing student with a 3.25 cumulative grade point average, may enroll in honors classes. Students who do not meet one of these enrollment requirements may also enroll in individual honors classes by successfully completing the challenge process. Inquiries regarding the Honors Program should be directed to Dr. Max Hallman, Honors Program Coordinator, at (209) 384-6327 or at hallman.m@mccd.edu.

Advantages of Taking Honors Classes:
- Smaller classes that provide the opportunity for more individualized instruction and more stimulating discussion.
- Honors recognition on transcripts to underscore achievement.
- Special academic advising.
- Opportunities to attend a variety of seminars, cultural events, and conferences.
- Eligibility to apply for McConnell Honors Scholarships.

2010-2011 Projected Honors Course Offerings

<table>
<thead>
<tr>
<th>Term</th>
<th>CourseCode</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall 2010</td>
<td>COMM-01H</td>
<td>Honors Fundamentals of Speech</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>HIST-17AH</td>
<td>Honors United States History and United States Constitution</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>HNRS-40</td>
<td>Honors Seminar</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>PHIL-01H</td>
<td>Honors Introduction to Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>Spring 2011</td>
<td>BIOL 04AH</td>
<td>Honors Fundamentals of Biology - The Cell and Evolution</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>ENGL-13H</td>
<td>Honors Critical Reasoning and Writing</td>
<td>3</td>
</tr>
</tbody>
</table>

Classes Approved for Honors
(Course descriptions of these classes can be found under the appropriate discipline.)

<table>
<thead>
<tr>
<th>CourseCode</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 04AH</td>
<td>Honors Fundamentals of Biology - The Cell and Evolution</td>
<td>4</td>
</tr>
<tr>
<td>BIOL-04BH</td>
<td>Honors Diversity of Life</td>
<td>5</td>
</tr>
<tr>
<td>COMM-01H</td>
<td>Honors Fundamentals of Speech</td>
<td>3</td>
</tr>
<tr>
<td>ENGL-13H</td>
<td>Honors Critical Reasoning and Writing</td>
<td>3</td>
</tr>
<tr>
<td>HIST-17AH</td>
<td>Honors United States History and United States Constitution</td>
<td>3</td>
</tr>
<tr>
<td>HIST-17BH</td>
<td>Honors U.S. History and California State &amp; Local Government</td>
<td>3</td>
</tr>
<tr>
<td>HNRS-40</td>
<td>Honors Seminar</td>
<td>2</td>
</tr>
<tr>
<td>HUM-01H</td>
<td>Honors Studies in Humanities - Ancient Through Renaissance</td>
<td>3</td>
</tr>
<tr>
<td>HUM-02H</td>
<td>Studies in Humanities - Renaissance to Present</td>
<td>3</td>
</tr>
<tr>
<td>MATH-02H</td>
<td>Honors Precalculus</td>
<td>4</td>
</tr>
<tr>
<td>PHIL-01H</td>
<td>Honors Introduction to Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>PHIL-13H</td>
<td>Honors Critical Reasoning and Writing</td>
<td>3</td>
</tr>
<tr>
<td>PSYC-01AH</td>
<td>Honors introduction to Psychology</td>
<td>3</td>
</tr>
</tbody>
</table>

HONORS (HNRS)

HNRS-40 HONORS SEMINAR
2 units: 2 hours lecture.
Limitation on enrollment: Enrollment in the Honors Program.
This course will focus on the in-depth discussion and analysis of a topic of interest to honors program students. Students may repeat the class three times. (11/04)
Horse Management
Career and Technical Education

DEGREES
A.A. - Horse Management
A.S. - Horse Management

CERTIFICATES
Horse Management
Horse Shoeing - Beginning Certificate
Horse Shoeing - Advanced Certificate

Program Description
The Horse Management Program at Merced College is designed to meet the need for trained personnel in a broad range of occupational opportunities involved with or related to the horse industry.

Students enrolled in the Merced College Horse Management Program study theory and apply practical experiences in a variety of classes that are related to the horse. Students receive a platform of experiences which help prepare them for a very competitive business.

The diverse curriculum includes: Agricultural Sales and Accounting, Animal Nutrition, Breeding and Disease, Beginning and Intermediate Horsemanship, and Specialized Horse Training, as well as Tack Repair, Hoof Care, and Equipment Construction. The safety and well-being of both horse and rider is emphasized in all courses. These classes give the student a wide view of Agriculture in general and provide in-depth experience in dealing with the problems to be faced when raising horses.

Merced College offers an 18-week Horseshoeing program meeting 11 hours per week. Each week 2 hours of lecture and 9 hours of laboratory experience is required.

The course teaches the actual trimming and shoeing of horses, iron and forge work introduces the construction of man-made horseshoes. The anatomy and physiology of the equine foot and leg, horse psychology, and proper hoof balance in relation to conformation are also covered. Approximately 700 horses and mules are trimmed per semester by Merced College students. Horses are brought to the college to be shod. Students also participate in working field trips to various breeding farms, ranches, and pack stations.

Additional courses may be taken if desired in the afternoon or evening during the semester. Examples of courses that may be of interest to horseshoers are: Welding, Animal Nutrition, Horse Husbandry, Horsemanship, and Hoof Care and Trimming (offered during our Fall Semester).

Career Opportunities
The expansion in the number of horses throughout the United States in the past ten years has resulted in providing new, and a greater number of present career opportunities in all areas associated with horse management.

Trained graduates are in demand nationwide in the areas of horse training, horse breeding farms, horse farm management, equitation instruction, research, assistants to veterinarians, and sales for allied fields, as well these additional occupations: Stallion Manager, Ranch Manager, Horseshoer, Animal Packer, Back Country Ranger, Ranger Horse Patrol, and Ranch Jobs (cowboy).

DEGREE
A.A. - Horse Management (01250.AA)

The Associate in Arts Degree is available upon satisfactory completion of the graduation requirements and the 23-unit core.

Program Student Learning Outcomes
A. Application of scientific principles to Horse Management.
B. Ability to learn and develop skills to deal with potential changes and diversity in Horse Management and related industries.
C. Awareness of and appreciation of ethical practices and diversity within the Equine Industry.

Core: Units
AGBS-12 Agricultural Accounting.................................3
ANSC-11 Elements of Animal Nutrition........................3
ANSC-16 Horse Husbandry.....................................3
ANSC-39 People and Livestock in the Sierras
(deactivated 12/06)...........................................3
ANSC-46A Specialized Horse Training........................4
CROP-13 Forage Crops.........................................3
MECH-06 Fundamentals of Oxy-Fuel Welding and Shielded
Metal Arc Welding..........................................3
MECH-31 Equipment Safety....................................1

23

• Horse Management • 159
CERTIFICATE
Horseshoeing - Beginning Certificate
(01301.CO)

A Certificate of Specialization will be awarded upon the satisfactory completion of ANSC-50 (Horseshoeing).

Program Student Learning Outcomes
A. Be able to understand useful and practical knowledge and information related to Farrier science.
B. Physically perform the skills at the forge and working with the horses.
C. Interact with professional equine industry professionals, utilizing appropriate vocabulary.

ANSC-50 Horseshoeing...........................................5

CERTIFICATE
Horseshoeing - Advanced Certificate
(01302.CO)

A Certificate of Specialization will be awarded upon the satisfactory completion of ANSC-51 (Advanced Horseshoeing).

Program Student Learning Outcomes
A. Communicate useful and practical knowledge and information related to Farrier Science.
B. Physically perform the skills at the forge and working with the horses.
C. Demonstrate acceptable attitudes and responsibilities towards the profession.
D. Satisfy the requirements of the Merced College Farrier certification.

ANSC-51 Advanced Horseshoeing................................5
Human Services  
Social Sciences, Humanities and Fine Arts

DEGREE  
A.A. - Human Services

CERTIFICATE  
Human Services

Program Description  
The Human Services A.A. program provides a basic academic background for the student seeking a career working with people in a variety of social settings. The program is based on a synthesis of knowledge from several social sciences, together with methodologies of intervention at the individual, group and community levels. The Human Service profession promotes improved service delivery systems by addressing not only the quality of direct services, but by also seeking to improve accessibility, accountability, coordination, and collaboration among professionals and agencies to attain the highest quality of life with the least amount of intervention.

Over a two year course of study students engage in a rich learning experience to explore theory, and acquire knowledge and skills in intervention, community organization, social welfare policy, and basic social work strategies. In addition, students are guided to a better understanding of self, and their abilities to make a difference in individuals, families and communities.

As a basic introductory program many graduates find entry level positions as advocates, youth workers, volunteer coordinators, human resource specialists, fundraisers or advocacy specialists for victims of child abuse, domestic violence, homelessness, or other social issues. A significant number of graduates from this program are employed in agencies, federal, state and non-profit organizations, for-profit enterprises, and a variety of societal settings.

Many graduates continue their education completing B.A. or B.S. degrees in social work, counseling, psychology, vocational rehabilitation, public administration or education. Many other students have gone on to complete master’s degrees in the above mentioned fields and hold professional positions as supervisors, administrators, case managers, adoption counselors, child and adult protective service social workers, policy analyst, youth counselors and behavior specialist, to name a few.

DEGREE  
A.A. - Human Services (21500.AA)

The Associate in Arts Degree in Human Services is available for students who meet the graduation requirements and complete the following required courses.

Program Student Learning Outcomes
A. Describe the historical development of social work, social welfare, and human services systems.
B. Explain and analyze contemporary policies and social problems and services available to meet the needs of various disadvantaged populations.
C. Identify and discuss the values and ethics of the profession.
D. Identify models of service delivery, including community resources, with specific emphasis on the Human Services model.
E. Understand and identify the roles of a human services professional, emphasizing the Helping Process, basic helping skills, identifying behaviors of challenging clients, and the application of crisis intervention strategies.

Units

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMM-05</td>
<td>Interpersonal Communication</td>
<td>3</td>
</tr>
<tr>
<td>COOP-41</td>
<td>Cooperative Education</td>
<td></td>
</tr>
<tr>
<td>CPSC-30</td>
<td>Computer Applications</td>
<td>2-4</td>
</tr>
<tr>
<td>HMSV-50*</td>
<td>Survey and Utilization of Community Resources</td>
<td>3</td>
</tr>
<tr>
<td>HMSV-51**</td>
<td>Human Behavior and the Helping Process</td>
<td>3</td>
</tr>
<tr>
<td>HMSV-61*</td>
<td>Social Welfare</td>
<td>3</td>
</tr>
<tr>
<td>PSYC-23</td>
<td>Personal and Social Adjustment</td>
<td>3</td>
</tr>
<tr>
<td>PSYC-51</td>
<td>Applied Psychology</td>
<td>3</td>
</tr>
</tbody>
</table>

Students must take two of the three following courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTH-10</td>
<td>Southeast Asian Culture Emphasis Hmong Culture</td>
<td>3</td>
</tr>
<tr>
<td>HIST-22</td>
<td>History of Minorities -- Black Emphasis</td>
<td></td>
</tr>
<tr>
<td>HIST-23</td>
<td>History of Hispanic Americans in the Southwest US</td>
<td>3</td>
</tr>
</tbody>
</table>

Students must also choose one course from the following electives:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADST-41</td>
<td>Introduction to Addiction Studies</td>
<td>3</td>
</tr>
<tr>
<td>CRIM-33</td>
<td>Family Violence</td>
<td>3</td>
</tr>
<tr>
<td>PSYC-01A</td>
<td>Introduction to Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSYC-09</td>
<td>Human Development</td>
<td>3</td>
</tr>
<tr>
<td>SOC-28</td>
<td>Marriage and the Family</td>
<td>3</td>
</tr>
<tr>
<td>SCSC-01</td>
<td>Introduction to Social Science</td>
<td>3</td>
</tr>
</tbody>
</table>

32-34

*Offered in the spring semester only.
**Offered in the fall semester only.
CERTIFICATE
Human Services (21500.CT)

A Certificate of Achievement will be awarded upon the satisfactory completion of the curriculum listed below.

Program Student Learning Outcomes
A. Recognize community resources that facilitate the helping process, including the importance of advocating for community empowerment, participation, and change.
B. Explain the historical development and philosophical paradigms of the social work, social welfare, and human services systems.
C. Understand and identify the roles of a human services professional, emphasizing the Helping Process, basic helping skills, identifying behaviors of challenging clients, and the application of crisis intervention strategies.

<table>
<thead>
<tr>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>COOP-41 Cooperative Education</td>
</tr>
<tr>
<td>COMM-05 Interpersonal Communication</td>
</tr>
<tr>
<td>CPSC-30 Computer Applications</td>
</tr>
<tr>
<td>HMSV-50 Survey and Utilization of Community Resources</td>
</tr>
<tr>
<td>HMSV-51 Human Behavior and the Helping Process</td>
</tr>
<tr>
<td>HMSV-61 Social Welfare</td>
</tr>
<tr>
<td>PSYC-23 Personal and Social Adjustment</td>
</tr>
<tr>
<td>PSYC-51 Applied Psychology</td>
</tr>
</tbody>
</table>

Students must take two of the three following courses:
- ANTH-10 Southeast Asian Culture: Emphasis Hmong Culture
- HIST-22 History of Minorities -- Black Emphasis
- HIST-23 History of Hispanic Americans in the Southwest US

Students must also choose one course from the following electives:
- ADST-41 Introduction to Addiction Studies
- CRIM-33 Family Violence
- PSYC-01A Introduction to Psychology
- PSYC-09 Human Development
- SOC-28 Marriage and the Family
- SCSC-01 Introduction to Social Science

32-34
Humanities
Social Sciences, Humanities and Fine Arts

DEGREE
A.A. - Humanities

Program Description
Humanities is the study of cultural manifestations in all its varieties, such as literature, philosophy, foreign language, and the fine arts. It is the study of intellectual, cultural, and aesthetic development through history with an integration of multi-cultural influences. A humanities major prepares a student for employment in many diverse fields, including education and research, law, international business, government, and the creative arts.

DEGREE
A.A. - Humanities (49300.AA)

For an Associate in Arts Degree in Humanities, students must meet the graduation requirements and complete the 20-unit curriculum listed below. These courses must be in addition to those taken to satisfy the basic graduation requirements.

Program Student Learning Outcomes
A. Distinguish the specific purposes of the various disciplines within the humanities.
B. Examine or analyze sophisticated texts.
C. Compose thoughtful analyzes of texts.
D. Compare and contrast various ideas and points of view.
E. Assess the significance and value of multicultural issues and influences.

HUM-01 STUDIES IN HUMANITIES -- ANCIENT THROUGH RENAISSANCE
(CSU breadth area C2) (IGETC area 3B)
3 units: 3 hours lecture.
Prerequisite: ENGL-A. Advisory: ENGL-01A.
The principal aims of this course are to examine human existence and cultural endeavors from earliest ancient civilizations through the Renaissance. Students will examine the continuities of human endeavors through fine arts, literatures, philosophies, religions, and the sciences with an integration of certain non-Western cultures. (5/09)

HUM-01H HONORS STUDIES IN HUMANITIES -- ANCIENT THROUGH RENAISSANCE
(CSU breadth area C2) (IGETC area 3B)
3 units: 3 hours lecture.
Limitation on enrollment: Enrollment in the Honors Program. See the college catalog for a description of enrollment requirements.
The principal aim of this course is to examine human existence and cultural endeavor from the earliest ancient civilizations through the Renaissance. Students will examine developments in the fine arts, literatures, philosophies, religions, and the sciences from a variety of cultures, both Western and non-Western. There will be an emphasis on collaborative learning, research, and writing. (11/09)

HUM-02 STUDIES IN HUMANITIES -- RENAISSANCE TO PRESENT
(CSU breadth area C2) (IGETC area 3B)
3 units: 3 hours lecture.
Prerequisite: ENGL-A. Advisory: ENGL-01A.
The principal aims of this course are to examine human existence and cultural endeavors from the Renaissance to the present. Students will examine developments in the fine arts, literatures, philosophies, religions, and the sciences, with an integration of certain non-Western cultures. (5/09)

HUM-02H STUDIES IN HUMANITIES -- RENAISSANCE TO PRESENT
(CSU breadth area C2) (IGETC area 3B)
3 units: 3 hours lecture.
Limitation on enrollment: Enrollment in the Honors Program. See the college catalog for a description of enrollment requirements.
The principal aim of this course is to examine human existence and cultural endeavor from the Renaissance to the present. Students will examine developments in the fine arts, literatures, philosophies, religions, and the sciences from a variety of cultures, both Western and non-Western. There will be an emphasis on collaborative learning, research, and writing. (11/09)

HUM-02H STUDIES IN HUMANITIES -- RENAISSANCE TO PRESENT
(CSU breadth area C2/D3) (IGETC area 3B/4C)
3 units: 3 hours lecture.
Advisory: ENGL-01A.
This course surveys the historical development and social structures of several different cultures in the United States. Cultures discussed will normally include African American, Asian American, Hispanic American, and Native American. Emphasis will be placed on issues of ethnicity and pluralism. (12/05)
HUM-18 AFRICAN AND AFRICAN AMERICAN LITERATURE (Also: ENGL-18)
(CSU breadth area C2) (IGETC area 3B)
3 units: 3 hours lecture.
Prerequisite: ENGL-01A. Advisory: ENGL-01B.
This is an introductory course in African literature written in English or translated from African languages or French into English. It will present a survey of major works from colonial and post-colonial literature to introduce students to African works of merit, cultural relevance, and universal application. In addition to enabling students to view African works within a global context, its goal will be to show the connection of themes, issues, and styles between African and African-American literature and experience as well. Works studied will include epics and narratives, poetry and song lyrics, short fiction, novels, essays, films, and drama in an effort to assist students in acquiring an appreciation of important literary voices that have heretofore been neglected in literature studies. (10/07)

HUM-21 HUMANITIES AND FILM
(CSU breadth area C2) (IGETC area 3A)
3 units: 2 hours lecture, 3 hours lab.
Advisory: ENGL-01A.
This course is an introduction to the humanities through the study of film. Film criticism will be combined with the analysis of philosophical, literary, and/or artistic themes. Feature-length films will be screened. (12/05)

HUM-47ABCD SPECIAL TOPICS IN LANGUAGE AND LITERATURE
(Also: ENGL-47ABCD)
3 units: 3 hours lecture.
Prerequisite: ENGL-A.
This course engages students in the study of language and literature, and topics will vary from semester to semester. (1/05)

IGETC
Intersegmental General Education Transfer
Breadth

CERTIFICATE
IGETC

CERTIFICATE (5/08)
IGETC (49200.CT)
A minimum of 34 units from the following:
Students must complete a minimum of 34 units used to satisfy the IGETC Transfer Breadth Requirements. Students must receive full certification of the IGETC pattern which requires a minimum of grade “C” or better in each IGETC course. See the IGETC Transfer Breadth requirements patterns listed in the Merced College catalog or consult with a Merced College counselor.
Industrial Technology
Career and Technical Education

DEGREE
A.A. - Industrial Maintenance Technology

CERTIFICATE
Industrial Maintenance Technology

Program Description
Industrial Technology is a program which blends technical, scientific, and business principles, and which prepares versatile individuals for technological management, production supervision, and related leadership positions.

For locating the various degrees and certificates that fall under Industrial Technology, students should refer to the following degree and certificate titles in this portion of the catalog:

Automotive Technology
Drafting Technology
HVAC Technology
Welding Technology

DEGREE
A.A. - Industrial Maintenance Technology (09550.AA)

An Associate in Arts Degree in Industrial Maintenance Technology is available for students who successfully complete the graduation requirements and complete the following certificate program.

Program Student Learning Outcomes
A. Explain the basic theory of the subject matter or industrial system for the course of instruction based on industry standards.
B. Analyze a scenario based upon an industrial equipment system failure/problem/complaint.
C. Employ a systematic approach to troubleshooting an industrial system malfunction and prepare an effective repair solution.
D. Analyze component failures to determine the root cause of the component failure.
E. Verify if the path of repair was correct by testing and/or completing a work order/report.
F. Demonstrate the correct usage of tools/supplies required to diagnose/repair a malfunction

CERTIFICATE
Industrial Maintenance Technology (09550.CT)

A Certificate of Achievement will be awarded upon successful completion of the full certificate listed below. For successful completion, a student must complete the requirements with a minimum grade point of 2.0 in each course required for the certificate.

Program Student Learning Outcomes
A. Explain the basic theory of the subject matter or industrial system for the course of instruction based on industry standards.
B. Analyze a scenario based upon an industrial equipment system failure/problem/complaint.
C. Employ a systematic approach to troubleshooting an industrial system malfunction and prepare an effective repair solution.
D. Analyze component failures to determine the root cause of the component failure.
E. Verify if the path of repair was correct by testing and/or completing a work order/report.
F. Demonstrate the correct usage of tools/supplies required to diagnose/repair a malfunction
INDUSTRIAL TECHNOLOGY (INDT)

INDT-10 INDUSTRIAL TECHNICAL SKILLS (Also: MECH-10)
3 units: 2 hours lecture, 3 hours lab.
Advisories: ENGL-81, ENGL-84; MATH-80.
This course provides an introduction to basic technical skills required throughout the industrial areas. The course includes identification and use of tools and materials, tool sharpening and care, hot and cold metal work, pipefitting, electrical wiring fundamentals, basic woodworking, concrete materials and mixes, and sketching and estimating. (3/06)

INDT-15 SMALL GAS ENGINES (Also: MECH-15)
3 units: 2 hours lecture, 3 hours lab.
Advisories: ENGL-A.
This course is a complete introduction to the operation, construction, maintenance, repair, and adjustment of two-cycle and four-cycle engines. It is designed for persons without prior experience in small engines. Theory and practical work including safety and the care and use of specialized tools used in small engine repair and maintenance will be covered. Examples of types of engines to be used will include lawn mower, power saw, pump, conveyor, self-propelled small carts, and any other small engines. (10/04)

INDT-20 MICROCOMPUTER OPERATING SYSTEMS FOR INDUSTRIAL TECHNOLOGY
[CILC areas A,B]
1 unit: 1 hour lecture.
Prerequisite/Advisory: None.
This course will provide students with a working knowledge of file manipulation and DOS operating systems as related to AutoCAD, Windows applications, and technical software. Features such as the basic commands, file management, control of the work flow, print control functions, file configurations, and pathing as related to AutoCAD and associated industrial technology software will be discussed and explored. (2/00)

INDT-25 FLUID POWER
3 units: 2 hours lecture, 3 hours lab.
Prerequisite/Advisory: None.
This course covers the operational theory and practical applications of hydraulics, pneumatics, and vacuum components and systems. This includes adjustment, service, and functional operation of pumps, controls, transmission systems, actuators, and fluidics. The design and application of fluidic systems as they relate to industrial machinery will be covered together with systematic methods of troubleshooting. (4/09)

INDT-32 BUILDING CONSTRUCTION CONCEPTS
3 units: 2 hours lecture, 3 hours lab.
Advisories: ENGL-81, ENGL-84; MATH-80.
This course will provide the student with an understanding of construction concepts by building scaled modulars of each area of house construction (floor, wall, and roof framing; installation of windows and doors). The student will learn the concepts of stairwell and fireplace framing. (3/06)

INDT-36A-Z ELECTRICAL WIRING: RESIDENTIAL AND INDUSTRIAL
3 units: 2 hours lecture, 3 hours lab.
Prerequisite/Advisory: None.
This course covers basic residential and industrial theory. Topics include electrical theory, wiring in accordance with the latest version of the National Electrical Code, blueprint reading, layout of electrical circuits according to blueprints, switches, electrical connections, grounding and electrical safety, materials, appliance connections, industrial wiring and components, power poles, and low voltage remote control devices. This course may be repeated when the course number letter changes that reflects National Electrical Code changes. (1/00)

INDT-38 INDUSTRIAL TECHNOLOGY COMPUTER APPLICATIONS AND LITERACY
[CILC areas A,B,C,D,E,F]
3 units: 2 hours lecture, 3 hours lab.
Advisories: ENGL-A; MATH-80; AOM-50B.
This course explores computer usage in the workplace with emphasis on industrial technology (IT) situations and applications. Computer applications including word processing, spreadsheets, databases, and presentation managers will be covered. Included will be methods of accessing information through various formats and levels including standard print resources and the Internet. Also included will be an introduction to web page design and other software and hardware appropriate to industrial technology. (2/02)

INDT-40 COMMERCIAL REFRIGERATION SYSTEMS: INSTALLATION, SERVICE, AND MAINTENANCE
3 units: 2 hours lecture, 3 hours lab.
Advisories: ENGL-81, ENGL-84.
This course presents commercial refrigeration systems to students. Systems studied will range from fractional to large tonnage refrigeration units. Medium and low temperature units, multiple defrost methods, and energy efficiency will be studied. Diagnostic and repair procedures on commercial systems and related equipment will be covered. (3/06)

INDT-41 POWER TRANSMISSION
3 units: 2 hours lecture, 3 hours lab.
Prerequisite/Advisory: None.
This course covers theory and application of power transmission through chains, belts, gear trains, and augers, including system layout, setup, alignment, adjustment, timing, and maintenance. The student will study peripheral components and systems typical of industrial applications and their related components, such as bearings, seals, shafts, and safety devices. Requirements of preventive maintenance, system troubleshooting, and lubrication schedules are also covered. (2/00)
INDT-49A-Z ELECTRICAL CODES AND ORDINANCES

3 units: 3 hours lecture.
Advisory: ENGL-A.

This is a course in the interpretation and application of the National Electrical Code (NEC), and other national, state, and local electrical codes and ordinances which regulate the installation, alteration, and maintenance of electrical circuits, systems, and equipment. Each letter (i.e., A, B, C, etc.) may be taken only once and represents, when changed, the latest version of the National Electrical Code being taught. (3/05)

INDT-50 HVAC -- HEATING AND CONTROL SYSTEMS

6 units: 4 hours lecture, 6 hours lab.
Advisories: ENGL-81, ENGL-84; MATH-80.

This course will enable students to identify and understand the operation of the various components found in heating and air conditioning units. Students will perform diagnostic and repair procedures on the above units and apply basic electrical concepts as they relate to HVAC industry heating and control technology. (11/02)

INDT-51 HVAC -- VENTILATION AND AIR CONDITIONING SYSTEMS

6 units: 4 hours lecture, 6 hours lab.
Advisories: ENGL-81, ENGL-84; INDT-50, INDT-52; MATH-80.

This course will enable students to identify and understand the operation of various components and systems found in air conditioning refrigeration systems. Students will perform diagnostic and repair procedures on air conditioning refrigeration systems and related equipment. Thermodynamic and psychometric principles as they relate to air conditioning systems will be covered. (11/02)

INDT-52 REFRIGERANT USAGE CERTIFICATION
–ENVIRONMENTAL PROTECTION AGENCY (EPA)

1 unit: 1 hour lecture.
Advisory: ENGL-81.

This course prepares students for EPA certification in refrigerant handling. The Clean Air Act and Montreal protocol will be discussed. Types I, II, and III certification test requirements will be discussed. EPA testing will be accomplished as a component of the course. A testing fee will be required for those who wish certification. (3/06)

INDT-71AA-ZZ INDUSTRIAL TECHNOLOGY SPECIAL TOPICS

0.5-4 units: lecture/lab hours will vary, depending on topic.
Prerequisite/Advisory: None.

This course is the study of basic principles, processes, and theories of the special topic being presented during the semester. (11/90)

INDT-85 BASIC INDUSTRIAL TECHNICAL SKILLS (Also: MECH-85)

3 units: 2 hours lecture, 3 hours lab.
Advisories: ENGL-81, ENGL-84; MATH 80.

This course provides a basic introduction to technical skills required throughout the industrial areas. The course includes identification and use of tools and materials, tool sharpening and care, hot and cold metal work, pipefitting, electric wiring fundamentals, basic woodwork, concrete materials and mixes, and sketching and estimating. (3/06)
International Studies
Social Sciences, Humanities and Fine Arts

DEGREE
A.A. - International Studies

Program Description
In order to meet the ever-changing needs of a diverse community, Merced College has developed a degree that embodies the spirit of global education. The International Studies area of emphasis allows students to take courses that will foster an appreciation of various cultural perspectives. Students will gain an understanding of the benefits of living in a culturally diverse world. The development of cross-cultural tolerance and competencies provides students with skills valued in careers involving intercultural relations such as those in the fields of public service, teaching, health care arts, and business.

The Merced College International Studies Area of Emphasis helps prepare students for upper division International Studies majors at universities in California and other states. It also can help currently employed individuals increase their skills in dealing with international issues they and their employers may encounter.

Students are strongly encouraged to consult with a counselor for specific information regarding their career planning.

DEGREE (5/08)
A.A. - International Studies (22700.AA)

For an Associate in Arts Degree in the area of emphasis in International Studies, students must meet the basic graduation requirements and complete 18 units from the courses listed below.

Select courses from at least two of the following three categories, with at least six units in each of the two categories. Courses listed below may be counted as general education requirements as well as area of emphasis requirements.

Program Student Learning Outcomes
A. Depending on their choice of courses within the three categories of courses, students will develop competencies in a combination of the following areas: multicultural, historical, and philosophical literacy.
B. Students will be able to apply these skills to both public and private sector careers with international components.
C. Students will gain an understanding of living in a culturally diverse and interdependent world.

Category 1: Foreign Languages

<table>
<thead>
<tr>
<th>Category</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASLG-01</td>
<td>Beginning American Sign Language</td>
<td>3</td>
</tr>
<tr>
<td>ASLG-02</td>
<td>Intermediate American Sign Language</td>
<td>3</td>
</tr>
<tr>
<td>ASLG-03</td>
<td>Advanced American Sign Language</td>
<td>3</td>
</tr>
<tr>
<td>FREN-01</td>
<td>Elementary French</td>
<td>5</td>
</tr>
<tr>
<td>FREN-02</td>
<td>Elementary French</td>
<td>5</td>
</tr>
</tbody>
</table>

Category 2: Global and Cultural Understanding

<table>
<thead>
<tr>
<th>Category</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTH-02</td>
<td>Cultural Anthropology</td>
<td>3</td>
</tr>
<tr>
<td>ANTH-10</td>
<td>Southeast Asian Culture</td>
<td>3</td>
</tr>
<tr>
<td>ANTH-30</td>
<td>Man, Culture, and Society</td>
<td>3</td>
</tr>
<tr>
<td>ART-01</td>
<td>Art History – Ancient through Gothic</td>
<td>3</td>
</tr>
<tr>
<td>ART-02</td>
<td>Art History – Renaissance through Modern</td>
<td>3</td>
</tr>
<tr>
<td>ART-06</td>
<td>Art of the 20th Century</td>
<td>3</td>
</tr>
<tr>
<td>COMM-30</td>
<td>Introduction to Intercultural Communication</td>
<td>3</td>
</tr>
<tr>
<td>DRAM-03</td>
<td>History of Dramatic Literature</td>
<td>3</td>
</tr>
<tr>
<td>ECON-01A</td>
<td>Introduction to Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td>ENGL-01B</td>
<td>Introduction to Literature</td>
<td>3</td>
</tr>
<tr>
<td>ENGL-04A</td>
<td>Introduction to World Literature: Ancients to 1650</td>
<td>3</td>
</tr>
<tr>
<td>ENGL-04B</td>
<td>Introduction to World Literature: 1650 to Present</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-02</td>
<td>World Geography</td>
<td>3</td>
</tr>
<tr>
<td>HUM-01</td>
<td>Studies in Humanities – Ancient Through Renaissance</td>
<td>3</td>
</tr>
<tr>
<td>HUM-01H</td>
<td>Honors Studies in Humanities–Ancient Through Renaissance</td>
<td>3</td>
</tr>
<tr>
<td>HUM-02</td>
<td>Studies in Humanities – Renaissance to Present</td>
<td>3</td>
</tr>
<tr>
<td>HUM-02H</td>
<td>Studies in Humanities – Renaissance to Present</td>
<td>3</td>
</tr>
<tr>
<td>HUM-15</td>
<td>Comparative Cultures</td>
<td>3</td>
</tr>
<tr>
<td>MUS-11</td>
<td>History of Classical Music (Early Music through Baroque Era)</td>
<td>3</td>
</tr>
<tr>
<td>MUS-12</td>
<td>History of Classical Music (Classical Era to the Present Day)</td>
<td>3</td>
</tr>
<tr>
<td>MUS-13</td>
<td>History and Appreciation of Jazz</td>
<td>3</td>
</tr>
<tr>
<td>POSC-02</td>
<td>An Introduction to World Political Systems</td>
<td>3</td>
</tr>
<tr>
<td>SOC-01</td>
<td>Introduction to Sociology</td>
<td>3</td>
</tr>
<tr>
<td>SOC-02</td>
<td>Contemporary Social Problems</td>
<td>3</td>
</tr>
</tbody>
</table>

Category 3: History and Philosophy

<table>
<thead>
<tr>
<th>Category</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIST-04A</td>
<td>History of Civilization: Part I</td>
<td>3</td>
</tr>
<tr>
<td>HIST-04B</td>
<td>History of Civilization: Part II</td>
<td>3</td>
</tr>
<tr>
<td>HIST-05</td>
<td>History of Europe from 1901 to the Present</td>
<td>3</td>
</tr>
<tr>
<td>HIST-08A</td>
<td>History of the Americas: Part I</td>
<td>3</td>
</tr>
<tr>
<td>HIST-08B</td>
<td>History of the Americas: Part II</td>
<td>3</td>
</tr>
<tr>
<td>HIST-09A</td>
<td>Introduction to East Asian Civilization: China</td>
<td>3</td>
</tr>
<tr>
<td>HIST-09B</td>
<td>Introduction to East Asian Civilization: Japan</td>
<td>3</td>
</tr>
<tr>
<td>HIST-21</td>
<td>The History of Minorities in America – Ethnic Groups, 19th Century to Present</td>
<td>3</td>
</tr>
</tbody>
</table>
Japanese
Social Sciences, Humanities and Fine Arts

JAPANESE (JPNS)

JPNS-01A ELEMENTARY JAPANESE
(CSU breadth area C2)
2.5 units: 2.5 hours lecture.
Advisory: ENGL-84.
This course will focus on the development of listening, speaking, reading, and writing in a cultural context, with primary emphasis on communicative competency. Students will learn to express in Japanese the most basic functions of everyday life. (2/09)

JPNS-01B ELEMENTARY JAPANESE
(CSU breadth area C2) (IGETC area 6)
2.5 units: 2.5 hours lecture.
Prerequisite: JPNS-01A.
This course will continue the focus on the development of listening, speaking, reading, and writing in a cultural context, with primary emphasis on communicative competency. Students will learn how to express in Japanese the most basic functions of everyday life. (5/06)

JPNS-02 ELEMENTARY JAPANESE
(CSU breadth area C2) (IGETC area 6)
5 units: 5 hours lecture.
Prerequisite: JPNS-01B.
JPNS-02 is the continuation of JPNS-01B. This course will focus on the further development of listening, speaking, reading, and writing in a cultural context, with primary emphasis on communicative competency. Students will learn how to express in Japanese basic functions of everyday life. (2/10)
DEGREE
A.A. - Journalism (06500.AA)

For an Associate in Arts Degree in Journalism, students must meet the graduation requirements and complete the 21-unit curriculum listed below.

Program Student Learning Outcomes
A. Identify and evaluate the basic elements of print and digital journalism.
B. Research, compose and edit news and feature stories and press releases.
C. Design, develop and lay out pages of different types of publications using a variety of software programs and applying visual design principles.
D. Identify and explain the processes, elements, history and effects of modern mass media in society.
E. Complete journalistic assignments by deadline.

<table>
<thead>
<tr>
<th>Unit Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>JOUR-01</td>
<td>Mass Media and Society</td>
<td>3</td>
</tr>
<tr>
<td>JOUR-08</td>
<td>Introduction to Newswriting and Reporting</td>
<td>3</td>
</tr>
<tr>
<td>JOUR-32</td>
<td>Newspaper Staff (repeat once)</td>
<td>6</td>
</tr>
<tr>
<td>PHOT-10A</td>
<td>Basic Photography</td>
<td>3</td>
</tr>
</tbody>
</table>

Choose three units from:

<table>
<thead>
<tr>
<th>Unit Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>POSC-01</td>
<td>Essentials of the American Political System</td>
<td>3</td>
</tr>
<tr>
<td>POSC-02</td>
<td>An Introduction to World Political Systems</td>
<td>3</td>
</tr>
</tbody>
</table>

Choose three units from:

<table>
<thead>
<tr>
<th>Unit Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL-12</td>
<td>Creative Writing</td>
<td>3</td>
</tr>
<tr>
<td>ENGL-13</td>
<td>Critical Reasoning and Writing</td>
<td>3</td>
</tr>
<tr>
<td>PHOT-10B</td>
<td>Intermediate Photography</td>
<td>3</td>
</tr>
</tbody>
</table>

Lab Technology
Math, Science and Engineering

DEGREE
A.S. - Lab Technology

Program Description
The Associate in Science Degree in Lab Technology provides a student with sufficient training to enable him/her to perform lab work in food processing quality control labs or related technical lab work.

DEGREE (11/08)
A.S. - Lab Technology (09700.AS)

For an Associate in Science Degree in Lab Technology, students must complete the graduation requirements and the 24-unit curriculum listed below.

Program Student Learning Outcomes
A. Comprehend and apply laboratory math skills.
B. Students will be able to understand and appropriately apply theory of basic laboratory skills.
C. Prepare, comprehend, evaluate, and maintain standard documents associated with the workplace.
D. Students will demonstrate problem-solving skills in the laboratory.
E. Students will demonstrate an appropriate work ethic and demonstrate teamwork skills.

<table>
<thead>
<tr>
<th>Units</th>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL-06</td>
<td>Environmental Science</td>
<td>3</td>
</tr>
<tr>
<td>BIOL-20</td>
<td>Microbiology</td>
<td>4</td>
</tr>
<tr>
<td>CHEM-04B</td>
<td>General Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>CHEM-06*</td>
<td>Quantitative Analysis</td>
<td>4</td>
</tr>
<tr>
<td>CPSC-01</td>
<td>Introduction to Management Information Systems</td>
<td>4</td>
</tr>
<tr>
<td>MATH-02</td>
<td>Precalculus</td>
<td>4</td>
</tr>
</tbody>
</table>

Suggested Area A2/B Breadth courses:
BIOL-01 or BIOL-02, CHEM-04A, and MATH-C.

*Students must contact the Science, Math, and Engineering Division Chairperson for a suitable substitute for this course.

Recommended Sequence: A.S. - Lab Technology (09700.AS)
Additional units can be taken as breadth and/or elective courses.

Fall 1
MATH-02 | Precalculus                                          | 4
BIOL-06 | Environmental Science                               | 3

Spring 1
BIOL-20 | Microbiology                                         | 4
CPSC-01 | Introduction to Management Information Systems      | 4

Fall 2
CHEM-04A | General Chemistry                                    | 5

Additional units can be taken as breadth and/or elective courses.

Spring 2
CHEM-04B | General Chemistry                                    | 5

Additional units can be taken as breadth and/or elective courses.
The following list is a sample of the positions available to the graduate:

**Nursery Industry**
- Nursery Production
- Plant Propagation
- Retail Nursery Sales
- Retail Nursery Owner

**Landscape Industry**
- Landscape Estimator
- Landscape Installation
- Landscape Maintenance
- Landscape Designer
- Arbor Personnel

**Turf Industry**
- Golf Course Personnel
- Parks Groundskeeper
- Related Industry
  - Pest Control
  - Sales Representative
  - Park Ranger

**Government Services**
- Extension Assistant

---

**Core:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAND-10A or LAND-10B</td>
<td>3</td>
</tr>
<tr>
<td>LAND-11</td>
<td>3</td>
</tr>
<tr>
<td>LAND-12</td>
<td>3</td>
</tr>
<tr>
<td>LAND-14</td>
<td>3</td>
</tr>
<tr>
<td>MECH-31</td>
<td>1</td>
</tr>
<tr>
<td>PLSC-10</td>
<td>3</td>
</tr>
<tr>
<td>SOIL-10</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Description**

The Landscape Horticulture Program at Merced is designed to meet the need for trained personnel in a broad range of occupational opportunities involved with or related to the Landscape Industry.

The Merced College Landscape Unit includes greenhouses, a lath house, a spacious growing grounds and modern head house for potting. Facilities available to the Landscape Unit include a large school farm, laboratories, classrooms, and a beautifully landscaped campus. These facilities provide excellent opportunity for study and practice in the production and use of ornamental plants both for sale and for use in the landscape.

The Merced College Landscape Horticulture student receives well-rounded training in his field by being exposed to Tree and Plant Identification, Landscape Design, Construction and Maintenance, and finally, Nursery and Garden Center Practice. All courses deal with the entire range of activities within that particular area such as landscape uses of plants, plant propagation, basic irrigation and sprinkler systems. The legal aspects of the field are covered in the Landscape Construction and Installation course when local codes and state requirements for licensing are taught.

**Career Opportunities**

Enjoyable and profitable employment is waiting for qualified Merced College graduates who become proficient in propagating, growing, installing, and caring for ornamental plants.

The increase in leisure time with the related increase in employment and high earnings, have created an ever-expanding demand for plant material.
A.S. - Landscape Horticulture (01350.AS)

The Associate in Science degree is earned upon satisfactory completion of the 19-unit core and electives for a total of 30 units in addition to the graduation requirements.

Program Student Learning Outcomes
A. Given an area to be landscaped and customer parameters, plan a workable landscape design including the bid and customer presentation.
B. Demonstrate the ability to perform the hands on skills and abilities to build/construct various projects related to the landscape industry. These will include, but not be limited to, carpentry, electrical, plumbing and irrigation, concrete, site preparation, and bid and job estimation.
C. Identify and select the most appropriate plants and trees with the decision based on the environment conditions, plant characteristics and customer preferences.
D. Faced with either a hypothetical or actual problem dealing with plantings or sprinkler/irrigation systems and the appropriate references, determine a solution to the problem.

Core:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>PLSC-10 Elements of Plant Science</td>
<td></td>
</tr>
<tr>
<td>LAND-10A Plant Identification and Usage: Fall</td>
<td>3</td>
</tr>
<tr>
<td>LAND-10B Plant Identification and Usage: Spring</td>
<td>3</td>
</tr>
<tr>
<td>LAND-11 Elements of Landscape Horticulture</td>
<td>3</td>
</tr>
<tr>
<td>LAND-12 Landscape Design</td>
<td>3</td>
</tr>
<tr>
<td>LAND-14 Landscape Construction and Installation</td>
<td>3</td>
</tr>
<tr>
<td>MECH-31 Equipment Safety</td>
<td>1</td>
</tr>
<tr>
<td>PLSC-10 Elements of Plant Science</td>
<td>3</td>
</tr>
<tr>
<td>SOIL-10 Soil Science</td>
<td>3</td>
</tr>
</tbody>
</table>

Plus 18 units from the following electives:

- AGBS-18 Agricultural Computer Applications | 3
- DRFT-04A Fundamentals of Computer-Aided Drafting | 3
- FPRO-13 Fruit Tree Maintenance | 3
- LAND-15 Landscape Maintenance | 3
- LAND-17 Nursery and Garden Center Practice | 3
- MECH-15 Small Engine Repair and Maintenance | 3
- MECH-35 Compact Power Equipment | 3
- PLSC-13 Economic Entomology | 3
- LAND-16 Plant Propagation | 3
- SOIL-11 Fertilizer and Soil Amendments | 3

CERTIFICATE
Landscape Horticulture (01350.CT)

A. Certificate of Achievement will be awarded upon the satisfactory completion of the 19 unit core and 18 units from the electives below.

Program Student Learning Outcomes
A. Given an area to be landscaped and customer parameters, plan a workable landscape design including the bid and customer presentation.
B. Demonstrate the ability to perform the hands on skills and abilities to build/construct various projects related to the landscape industry. These will include, but not be limited to, carpentry, electrical, plumbing and irrigation, concrete, site preparation, and bid and job estimation.
C. Identify and select the most appropriate plants and trees with the decision based on the environment conditions, plant characteristics and customer preferences.
D. Faced with either a hypothetical or actual problem dealing with plantings or sprinkler/irrigation systems and the appropriate references, determine a solution to the problem.

LANDSCAPE HORTICULTURE (LAND)

LAND-10A PLANT IDENTIFICATION AND USAGE: FALL
3 units: 2 hours lecture, 3 hours lab.
Advisory: ENGL-A.

This course covers the identification, growth habits, culture and ornamental use of landscape and indoor plants adapted to climates of California. Plants emphasized will come from the current California Association of Nursery and Garden Centers (CAN & GC), and California Landscape Contractors Association (CLCA) plant lists. Topics include botanical nomenclature, plant hardiness and growth zones, growth habits, plant structural characteristics, and soil nutritional requirements. Landscape uses are stressed along with cultural practices. Plants covered are those best observed and identified in the fall of the year. (1/06)

LAND-10B PLANT IDENTIFICATION AND USAGE: SPRING
3 units: 2 hours lecture, 3 hours lab.
Advisory: ENGL-A.

This course covers the identification, growth habits, culture and ornamental use of landscape and indoor plants adapted to climates of California. Plants emphasized will come from the current California Association of Nursery and Garden Centers (CAN & GC), and California Landscape Contractors Association (CLCA) plant lists. Topics include botanical nomenclature, plant hardiness and growth zones, growth habits, plant structural characteristics, and soil nutritional requirements. Landscape uses are stressed along with cultural practices. Plants covered are those best observed and identified in the spring of the year. (1/06)

LAND-11 ELEMENTS OF LANDSCAPE HORTICULTURE
3 units: 2 hours lecture, 3 hours lab.
Advisories: ENGL-A; MATH-80.

This is a course in the study of landscape horticulture with emphasis on nursery operations, landscaping, turf management, and floral industries. Topics include basic botany, cultural practices, propagation, structures and layout, pest management, planting, container gardening and houseplants, floral design, plant identification, turf grass installation and care, and survey of career opportunities. (12/06)
LAND-12 LANDSCAPE DESIGN
3 units: 2 hours lecture, 3 hours lab.
Advisories: ENGL-80; MATH-80.
This course includes the principles of landscape design and studies in form, space, color, texture, scale, balance, utility, and contrast. Materials used in landscape developments, site analysis, problems of design, correct use of plant material relating to ecology and function of landscape structures in the plan will be encompassed in this course. Basic irrigation design is also a component of the course. (1/06)

LAND-14 LANDSCAPE CONSTRUCTION AND INSTALLATION
3 units: 2 hours lecture, 3 hours lab.
Advisories: ENGL-A; MATH-80.
This course covers the fundamentals of landscape construction including soil preparation, paving and construction materials, hand and power tool use, turf and plant installation, plan reading, estimating and bid preparation. The course also covers local codes and state requirements and prepares students to pass the C-27 Landscaping Contractor’s License Exam. (10/05)

LAND-15 LANDSCAPE MAINTENANCE
3 units: 2 hours lecture, 3 hours lab.
Advisories: ENGL-A; MATH-80.
This course prepares students to enhance the function and aesthetic value of public and private landscapes by applying appropriate maintenance techniques. Topics include planting, pruning, watering, soil fertility, pest management, weed control, and landscape maintenance business practices. (10/05)

LAND-16 PLANT PROPAGATION
3 units: 2 hours lecture, 3 hours lab.
Advisories: ENGL-A; MATH-80.
This course teaches the principles of sexual and asexual propagation, seeding, cuttings, grafting, budding, and layering. The student will also be exposed to dedicated plant structures relating to propagation, specialized propagation media and rooting aids. (1/08)

LAND-17 NURSERY AND GARDEN CENTER PRACTICE
3 units: 2 hours lecture, 3 hours lab.
Advisories: ENGL-A; MATH-80.
This course is a study of commercial retail nursery and garden center operations dealing with wholesale and retail nursery practices, including plant care, merchandising, and management practices. (1/06)

LAND-50 RESIDENTIAL GARDENING
3 units: 3 hours lecture.
Advisory: ENGL-81.
This course teaches basic needs in residential gardening. Included in this course are plant identification, basic landscape design, sprinkler installation and care, fumigation and lawn installation, pruning, pest and disease recognition and control, soils, fertilization, and weed control. Also included will be foliage plant care for interiors. (1/06)
LEARNING RESOURCES (LRNR)

LRNR-30 INFORMATION COMPETENCY IN THE ELECTRONIC AGE
[CILC areas A,B,C,D,E,F,G]
3 units: 3 hours lecture.
Prerequisite: ENGL-A. Advisories: AOM-50B, keyboard at a minimum rate of 25 wpm at 95% accuracy.

This course is designed to introduce students to library research and resources including information retrieval tools. Course work will include library literacy, research methods, and information technology literacy, including database applications, as well as consideration of ethical and legal implications of computer applications and information use. The student will learn techniques for successful research including documentation and citation of resources, evaluation of information resources, and bibliography production. This course fulfills the Computer and Information Literacy requirements of Merced College. (11/09)

LRNR-49A-ZZ SPECIAL TOPICS IN LEARNING RESOURCES
0.5-1 unit: 0.5-1 hour lecture.
Advisories: CPSC-24; ENGL-A.

This is a course designed to address special topics in Learning Resources to meet current needs of students. It will provide students with access to instruction that will assist them in acquiring up-to-date information and skills in order to cope with the rapidly changing world of learning resources, particularly information and technology and information applications. (9/00)

LRNR-80 BASIC SKILLS IN ONLINE ACADEMIC TECHNOLOGY
1 unit: 1 hour lecture.
Advisory: ENGL-81; Know the computer keyboard and be able to key at least 20wpm with 85% accuracy.

This is a basic skills course about learning how to access, use, and apply online academic technology tools including the Merced College Web Page, the Merced College Library Web Page, the Merced College Portal, and freely accessible academic technology tools on the Internet. In addition, students will learn to use these tools to communicate with faculty and other students, and perform specific academic tasks. (12/07)
DEGREE
A.A. - Liberal Studies (Teaching Preparation)

Program Description
Liberal Studies is committed to preparation of pre-service elementary teachers who are competent in subject matter areas, capable of integrating knowledge across discipline boundaries, culturally sensitive to diverse learners, effective communicators, sound critical thinkers, and skilled in educational technology.

DEGREE
A.A. - Liberal Studies (Teaching Preparation) (49501.AA)

For an Associate in Arts Degree in Liberal Studies, students must meet the graduation requirements and complete the 34-unit curriculum listed below. The courses listed below must be in addition to the basic graduation requirements.

Program Student Learning Outcomes
A. Make explicit connections between California K-8 Content Standards and subject matter knowledge in Liberal Studies major coursework, including educational technologies relevant to teaching and learning.
B. Demonstrate integrative thinking through the development of projects that connect and integrate discipline knowledge across subject matter areas, including effective oral, written, and interpersonal communications skills in a variety of communication contexts.
C. Demonstrate sensitivity to the diverse cultural, linguistic, and learning abilities of students, and understanding of a variety of teaching strategies to teach all learners effectively.
D. Reflect thoughtfully and critically examine volunteer service activities in K-8 classrooms.

Core: Units
COMM-01* Fundamentals of Speech .........................3
or COMM-01H* Honors Fundamentals of Speech ..............3
CPSC-30 Computer Applications ..........................3
ENGL/PHIL-13* Critical Reasoning and Writing ..........3
or ENGL/PHIL-13H* Honors Critical Reasoning and Writing 3
ENGL-31 Children's Literature ..........................3
HIST-17A United States History and United States Constitution .........................................................3
or HIST-17AH Honors United States History and United States Constitution ........................................3
LBST-10 Introduction to Education I .....................3
LBST-20 Introduction to Education II .....................3
MATH-20A Basic Structure of Mathematics I ..........3
PHSC-01 Introduction to Physical and Earth Science Laboratory..........................1

Plus six units from the following:
ART-12A or ART-15 or ART-24A
Sculpture ................................................3
Fundamentals of Design in Art .................3
Drawing I ................................................3
BIOL-01 General Biology for Non-Majors ...............4
HIST-29 History of California ......................3
HUM/PHIL-15 Comparative Cultures ..................3
MATH-20B American Structure of Mathematics II 3
MUS-14 American Popular Music ..................3

Students should see a Liberal Studies counselor for general breadth lower-division requirements specific to the transfer institution.

"COMM-01 and ENGL/PHIL-13 may count for the major and for general breadth lower division requirements.

LIBERAL STUDIES (LBST)

LBST-10 INTRODUCTION TO EDUCATION I
3 units: 2 hours lecture, 3 hours lab.
Limitation on enrollment: Students must obtain a fingerprint clearance and negative TB clearance. Advisories: ENGL-01A; CPSC-30; MATH-A.

Students are introduced to the profession of teaching through an understanding of the California State Content Standards, the credential process, the role of the public school teacher, and the personal qualities and characteristics necessary to be a successful teacher. Practical experiences in the classroom will include a minimum of 45 hours tutoring in area schools in K-3 Language Arts. Students will share observations with faculty and peers in weekly meetings to note differences in students and in tutoring/learning styles and to reflect on their personal experiences. This course is intended for students who plan to teach in the K-8 grade levels; the course is required of students in their first year of the CSU, Stanislaus Liberal Studies Program. Students must provide their own transportation to off-campus school sites. Students must dress appropriately as recommended by off-campus school sites. Tutoring placements will not be available for students with felony convictions. Insufficient tutoring exposure will negatively affect grades. All students will be required to attend an orientation session the first week of school. (12/07)
LBST-20  INTRODUCTION TO EDUCATION II

3 units: 2 hours lecture, 3 hours lab.

Limitation on enrollment: Students must obtain a fingerprint clearance and a negative TB clearance. Prerequisite: LBST-10.

Students are provided additional opportunities to explore the teaching profession and how their personalities will fit with their career choice. Students will observe students and teachers in 4-8 math and science classroom environments and share observations with faculty and peers in weekly meetings to note differences in students, in teaching/learning styles, and in their personal reactions to the classroom setting. Placements for LBST 20 will be in a classroom setting different from placements for LBST 10 so students may obtain maximum variety of experience. This course is intended for students who plan to teach in the K-8 levels; the course is required of students in their second year of the CSU Stanislaus Liberal Studies Program. Students must provide own transportation to off-campus school sites. Students must dress appropriately as recommended by off-campus school sites. Observation placements are required for class and will not be available for students with felony convictions. Insufficient observation exposure will negatively affect grades. (12/07)
To earn an Associate in Arts Degree in Life Science, the student must complete the basic graduation requirements (a course in chemistry should be taken for science breadth) and the courses listed below.

Program Student Learning Outcomes
A. Organize, analyze and interpret observations and predictions about the natural world using the scientific method.
B. Be able to define and analyze basic principles underlying modern scientific technology, health, and environmental issues and their worldwide impact.
C. Identify and describe cellular and multicellular processes and structures and relate them to their functions.
D. Analyze patterns and mechanisms of genetics from the molecular to the population level.
E. Be able to evaluate scientific technological concerns related to biology and make educated choices.

**DEGREE**
A.A. - Life Science

**DEGREE** (4/09)
A.A. - Life Science (04300.AA)

Non-Science Majors:
Fall 1
- BIOL-02* General Biology for Non-Majors ........................................ 4
- CHEM-02A Introductory Chemistry ................................................ 4

Spring 1
- CHEM 04A General Chemistry .................................................... 5

Fall 2
- BIOL 04B Diversity of Life: Morphology and Physiology ............ 5
- MATH 10 Elementary Statistics .................................................. 3

Spring 2
- Additional units can be taken as breadth and/or elective courses.

Science Majors:
Fall 1
- CHEM 04A General Chemistry .................................................... 5

Spring 1
- BIOL 04B Diversity of Life: Morphology and Physiology ............ 5
- CHEM 04B General Chemistry .................................................... 5

Fall 2
- BIOL 20 Microbiology .............................................................. 4
- BIOL 31 Biotechnology I: Basic Lab Techniques & Theory .......... 4

Spring 2
- Additional units can be taken as breadth and/or elective courses.

Recommended Sequence: A.A. - Life Science (04300.AA)
Additional units can be taken as breadth and/or elective courses.

*Note: A student may not take BIOL-01 or BIOL-02 for credit after having taken BIOL-04A or BIOL-04AH.
Management
Allied Health, Business and Public Safety

DEGREES
A.A. - Management/Supervisory Training
A.A. - Small Business Management

CERTIFICATES
Customer Service Academy
Management/Supervisory Training
Small Business Management

Program Description
The mission of the Merced College Management Program is to equip students with the skills necessary to advance in a management career. The Management Program prepares students for both the challenges and changes faced in the workplace today. Students can earn an A.A. Degree or Certificate of Completion or simply take classes for professional development growth.

The Associate in Arts Degree in Management/Supervisory Training is in preparation for entry levels in management/supervision as well as for advanced preparation for those employed in supervisory positions.

The Associate in Arts Degree in Small Business Management offers training in the establishment and operation of a small business and the process of business plan creation.

Customer Service Academy conducts practical, hands-on workshops to enhance a business’ ability to gain and retain both customers and quality employees. This program delivers high quality, energetic, cutting edge training to equip your employees with the skills they need to effectively work together and serve both internal and external customers.

The Customer Service Academy is delivered locally through several chambers of commerce. The program can also be delivered on-site in your workplace. For more information about the Customer Service Academy visit us on-line at www.customerserviceacademy.org

Career Opportunities:
• Management
• Supervision
• Sales
• Executive Assistant
• Administration
• Small Business Owner/Entrepreneur

Highlights
Merced College is a member of the national Collegiate Entrepreneur’s Organization (C-E-O), which supports the education of future entrepreneurs.

DEGREE (2/09)
A.A. - Management/Supervisory Training
(05450.AA)

The Associate in Arts Degree in Management/Supervisory Training is in preparation for entry levels in management/supervision as well as for advanced preparation for those employed in supervisory positions. Students must meet the graduation requirements and complete the major requirements with the following courses.

Program Student Learning Outcomes
A. Student will be able to explain the fundamental theories of management and leadership in the workplace.
B. Student will be able to identify and describe various management styles and how to be an effective team leader.
C. Student will develop an awareness of skills needed to be successful in Management/Supervision, including communication, decision making, planning, and motivation.

<table>
<thead>
<tr>
<th>Units</th>
<th>ACTG-04A</th>
<th>Fundamentals of Financial Accounting .................................. 4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ACTG-51</td>
<td>Applied Accounting .................................................................. 4</td>
</tr>
<tr>
<td></td>
<td>BUS-18A</td>
<td>Business Law .......................................................................... 4</td>
</tr>
<tr>
<td></td>
<td>CPSC-01</td>
<td>Introduction to Management Information Systems ..................... 4</td>
</tr>
<tr>
<td></td>
<td>CPSC-30</td>
<td>Computer Applications ................................................................ 3</td>
</tr>
<tr>
<td></td>
<td>ECON-01A</td>
<td>Introduction to Macroeconomics ............................................ 3</td>
</tr>
<tr>
<td></td>
<td>MGMT-31</td>
<td>Principles of Supervision .................................................... 3</td>
</tr>
<tr>
<td></td>
<td>MGMT-32</td>
<td>Human Resources Management ................................................ 3</td>
</tr>
<tr>
<td></td>
<td>MGMT-33</td>
<td>Elements of Effective Leadership ........................................... 3</td>
</tr>
<tr>
<td></td>
<td>MGMT-34</td>
<td>Employment Law ....................................................................... 3</td>
</tr>
<tr>
<td></td>
<td>MGMT-50-52</td>
<td>Management 50 Series .......................................................... 3</td>
</tr>
</tbody>
</table>
|      |          | 29-30

Suggested electives include:

<table>
<thead>
<tr>
<th>Units</th>
<th>BUS-10</th>
<th>Introduction to Business .................................................... 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BUS-35</td>
<td>Money Management .................................................................. 3</td>
</tr>
<tr>
<td></td>
<td>BUS-49A-ZZ</td>
<td>Special Topics in Business .............................................. ½ - 3</td>
</tr>
<tr>
<td></td>
<td>COMM-04</td>
<td>Small Group Discussion and Problem Solving .......................... 3</td>
</tr>
<tr>
<td></td>
<td>ECON-01B</td>
<td>Introduction to Microeconomics ........................................ 3</td>
</tr>
<tr>
<td></td>
<td>MGMT-37</td>
<td>Small Business Entrepreneurship .......................................... 3</td>
</tr>
<tr>
<td></td>
<td>MGMT-50</td>
<td>Management Series .................................................................. ½ - 3 ½</td>
</tr>
<tr>
<td></td>
<td>MGMT-51</td>
<td>Management Series .................................................................. ½ - 3 ½</td>
</tr>
<tr>
<td></td>
<td>MGMT-52</td>
<td>Management Series .................................................................. ½ - 3 ½</td>
</tr>
</tbody>
</table>

 Dean Counseling
 Bobby Anderson (209) 384-6314
 Phone Cooperative Work Experience
 (209) 384-6364
 Area Office VOC-18
CERTIFICATE
Management/Supervisory Training (05450.CT)

A Certificate of Achievement will be awarded upon the satisfactory completion of 29-30 units of course work in this area of study which includes the core courses indicated for the A.A. Degree in Management/Supervisory Training.

Program Student Learning Outcomes
Apply the following skills to their interactions with both internal and external customers: Customer service, communication, attitude, team work, values and ethics, time management, stress management, conflict management, decision making and problem solving and managing organizational change.

<table>
<thead>
<tr>
<th>Units</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>ACTG-04A Fundamentals of Financial Accounting</td>
</tr>
<tr>
<td>4</td>
<td>BUS-10 Introduction to Business</td>
</tr>
<tr>
<td>3</td>
<td>CPSC-01 Introduction to Management Information Systems</td>
</tr>
<tr>
<td>29-30</td>
<td>ECON-01A Introduction to Macroeconomics</td>
</tr>
<tr>
<td>3</td>
<td>MGMT-31 Principles of Supervision</td>
</tr>
<tr>
<td>3</td>
<td>MGMT-32 Human Resources Management</td>
</tr>
<tr>
<td>3</td>
<td>MGMT-37 Small Business Entrepreneurship</td>
</tr>
<tr>
<td>3</td>
<td>MGMT-50-52 Management Series</td>
</tr>
<tr>
<td>3</td>
<td>MKTG-30 Marketing</td>
</tr>
<tr>
<td>3</td>
<td>ACTG-51 Applied Accounting</td>
</tr>
</tbody>
</table>

CERTIFICATE
Small Business Management (05400.CT)

A Certificate of Achievement will be awarded upon the satisfactory completion of 30 units of course work in this area of study which includes the core courses indicated for the A.A. Degree in Small Business Management.

Program Student Learning Outcomes
Apply the following skills to their interactions with both internal and external customers: Customer service, communication, attitude, team work, values and ethics, time management, stress management, conflict management, decision making and problem solving and managing organizational change.

<table>
<thead>
<tr>
<th>Units</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>ACTG-04A Fundamentals of Financial Accounting</td>
</tr>
<tr>
<td>4</td>
<td>BUS-10 Introduction to Business</td>
</tr>
<tr>
<td>3</td>
<td>CPSC-01 Introduction to Management Information Systems</td>
</tr>
<tr>
<td>3</td>
<td>ECON-01A Introduction to Macroeconomics</td>
</tr>
<tr>
<td>3</td>
<td>MGMT-31 Principles of Supervision</td>
</tr>
<tr>
<td>3</td>
<td>MGMT-32 Human Resources Management</td>
</tr>
<tr>
<td>3</td>
<td>MGMT-37 Small Business Entrepreneurship</td>
</tr>
<tr>
<td>3</td>
<td>MGMT-50-52 Management Series</td>
</tr>
<tr>
<td>3</td>
<td>MKTG-30 Marketing</td>
</tr>
</tbody>
</table>

Suggested Electives include:

| 3     | BUS-35 Money Management |
| 3     | BUS-49A-ZZ Special Topics in Business |
| 3     | COMM-04 Small Group Discussion and Problem Solving |

CERTIFICATE
Customer Service Academy (05200.CO)

For a Customer Service Academy Certificate, students must complete all ten management courses listed below.

Program Student Learning Outcomes
Apply the following skills to their interactions with both internal and external customers: Customer service, communication, attitude, team work, values and ethics, time management, stress management, conflict management, decision making and problem solving and managing organizational change.

<table>
<thead>
<tr>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGMT-50B Values and Ethics</td>
</tr>
<tr>
<td>MGMT-50C Time Management</td>
</tr>
<tr>
<td>MGMT-50D Communication in the Workplace</td>
</tr>
<tr>
<td>MGMT-50F Team Building</td>
</tr>
<tr>
<td>MGMT-50G Decision Making and Problem Solving</td>
</tr>
<tr>
<td>MGMT-50H Customer Service</td>
</tr>
<tr>
<td>MGMT-50I Attitude in the Workplace</td>
</tr>
<tr>
<td>MGMT-51F Conflict Resolution</td>
</tr>
<tr>
<td>MGMT-51G Stress Management</td>
</tr>
<tr>
<td>ACTG-04A Fundamentals of Financial Accounting</td>
</tr>
<tr>
<td>ACTG-51 Applied Accounting</td>
</tr>
<tr>
<td>BUS-10 Introduction to Business</td>
</tr>
<tr>
<td>BUS-18A Business Law</td>
</tr>
<tr>
<td>CPSC-01 Introduction to Management Information Systems</td>
</tr>
<tr>
<td>CPSC-30 Computer Applications</td>
</tr>
<tr>
<td>Course Code</td>
</tr>
<tr>
<td>------------</td>
</tr>
<tr>
<td>ECON-01A</td>
</tr>
<tr>
<td>MGMT-31</td>
</tr>
<tr>
<td>MGMT-32</td>
</tr>
<tr>
<td>MGMT-37</td>
</tr>
<tr>
<td>MGMT-50-52</td>
</tr>
<tr>
<td>MKTG-30</td>
</tr>
</tbody>
</table>

**Fall 1**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
<th>Lecture Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACTG-04A</td>
<td>Fundamentals of Financial Accounting</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>ACTG-51</td>
<td>Applied Accounting</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>BUS-10</td>
<td>Introduction to Business</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>BUS-18A</td>
<td>Business Law</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>BUS-35</td>
<td>Money Management</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>CPSC-01</td>
<td>Introduction to Management Information Systems</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>CPSC-30</td>
<td>Computer Applications</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

**Spring 1**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
<th>Lecture Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACTG-04A</td>
<td>Fundamentals of Financial Accounting</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>ACTG-51</td>
<td>Applied Accounting</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>BUS-10</td>
<td>Introduction to Business</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>BUS-18A</td>
<td>Business Law</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>BUS-35</td>
<td>Money Management</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>CPSC-01</td>
<td>Introduction to Management Information Systems</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>CPSC-30</td>
<td>Computer Applications</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

**Fall 2**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
<th>Lecture Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACTG-04A</td>
<td>Fundamentals of Financial Accounting</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>ACTG-51</td>
<td>Applied Accounting</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>BUS-10</td>
<td>Introduction to Business</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>BUS-18A</td>
<td>Business Law</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>BUS-35</td>
<td>Money Management</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>CPSC-01</td>
<td>Introduction to Management Information Systems</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>CPSC-30</td>
<td>Computer Applications</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

**Spring 2**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
<th>Lecture Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACTG-04A</td>
<td>Fundamentals of Financial Accounting</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>ACTG-51</td>
<td>Applied Accounting</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

**Management (MGMT)**

**MGMT-31 PRINCIPLES OF MANAGEMENT**

3 units: 3 hours lecture.
Advisory: ENGL-A.
This course is designed to develop the techniques and capabilities of those in supervisory positions and for those aspiring toward supervisory positions in business and industry. Topics covered include managerial functions of supervisors, motivation and management styles, problem-solving and decision-making, communication skills, planning, time management, organizing, employee training, employee appraisal and compensation, directing, controlling and labor/management relations. (1/05)

**MGMT-32 HUMAN RESOURCE MANAGEMENT**

3 units: 3 hours lecture.
Advisory: CPSC-30; ENGL-A.
This course involves the study of the principles and methods involved in effective human resource utilization in organizations. It provides an overview of responsibilities and practices involved in recruiting, selecting, promoting, terminating and retiring employees, performance appraisal, job development and analysis, wage and salary administration, and effective working relationships. (2/10)

**MGMT-33 ELEMENTS OF EFFECTIVE LEADERSHIP**

3 units: 3 hours lecture.
Advisory: CPSC-30; ENGL-A.
This course deals primarily with the techniques of leadership in organizational settings. Topics discussed include leadership styles, the behavioral aspects of leadership, and effective leadership characteristics. (2/10)

**MGMT-34 EMPLOYMENT LAW**

3 units: 3 hours lecture.
Advisory: ENGL-A.
This course is designed to give the student an understanding of employment law. The student will have an opportunity, via simulations, case presentations, mock negotiations, etc., to apply the knowledge and skills learned. These experiences will include the preparation of materials necessary for trial, mediation, arbitration, and implementation of labor-management rules and regulations. (4/07)

**MGMT-37 SMALL BUSINESS ENTREPRENEURSHIP**

3 units: 3 hours lecture.
Advisories: CPSC-30; ENGL-A.
This course is designed to assist small business and prospective small business owners through the utilization of an entrepreneur’s business plan. Topics include the environment and management of the small enterprise, legal considerations in starting a small business, financing and insuring a business, as well as marketing and budgeting for a small business. Students will use microcomputers in the decision making and business planning process. (12/08)
MGMT-50A THE CHALLENGE OF SUPERVISION
0.5 unit: 0.5 hour lecture.
Advisories: ENGL-81, ENGL-84.
This course is designed to acquaint the student with various concepts of supervision needed to be successful. The basic skills needed by supervisors, a supervisor's major responsibilities, and how the supervisor fits into the organization will be emphasized. This course is repeatable two times. Pass/No Pass only. (5/04)

MGMT-50B VALUES AND ETHICS
0.5 unit: 0.5 hour lecture.
Advisories: ENGL-81, ENGL-84.
This course is designed to acquaint the participant with the importance of values and ethics in the workplace. Emphasis will be placed on how values influence actions, evaluating ones ethical behavior, and helping people do the right thing. Pass/No Pass only. (1/08)

MGMT-50C TIME MANAGEMENT
0.5 unit: 0.5 hour lecture.
Advisories: ENGL-81, ENGL-84.
This course is designed to introduce the student to time management principles and specific tools that assist in making maximum use of time. Emphasis will be placed on how to prioritize, identifying time wasters, and goal setting. Pass/No Pass only. (1/08)

MGMT-50D COMMUNICATION IN THE WORKPLACE
0.5 unit: 0.5 hour lecture.
Advisories: ENGL-81, ENGL-84.
This course is designed to introduce the student to key elements in communication within business organizations. Topics will include verbal and nonverbal communication, listening skills and specific workplace communication skills. Pass/No Pass only. (1/08)

MGMT-50F TEAM BUILDING
0.5 unit: 0.5 hour lecture.
Advisories: ENGL-81, ENGL-84.
This course is designed to provide the student with an understanding of how teams work together, common problems teams encounter, and how to solve them. Students will learn to recognize various personalities and how their strengths and weaknesses impact a team. Students will be introduced to team building in the workplace. Pass/No Pass only. (1/08)

MGMT-50G DECISION MAKING AND PROBLEM SOLVING
0.5 unit: 0.5 hour lecture.
Advisories: ENGL-81, ENGL-84.
This course is designed to introduce the student to decision-making and problem-solving techniques. Pass/No Pass only. (1/08)

MGMT-50H CUSTOMER SERVICE
0.5 unit: 0.5 hour lecture.
Advisories: ENGL-81, ENGL-84.
This course is designed to provide the student with certain key skills and attitudes in order to effectively meet the needs of customers. The participants will be introduced to the key elements of outstanding customer service. Topics will also include understanding and exceeding customer expectations, and how to deal with unrealistic expectations. The course addresses why customers leave, and the long-term value of customers. Pass/No Pass only. (11/07)

MGMT-50I ATTITUDE IN THE WORKPLACE
0.5 unit: 0.5 hour lecture.
Advisories: ENGL-81, ENGL-84.
This course is designed to provide the student with certain key skills in the area of attitude so that they may effectively maintain a positive attitude at the workplace and at home. The student will be introduced to the concepts of how attitudes are communicated, and how to adjust one's attitude. Pass/No Pass only. (1/08)

MGMT-50J THRIVE AND SURVIVE IN THE WORKPLACE
0.5 unit: 0.5 hour lecture.
Advisories: ENGL-81, ENGL-84.
This course focuses on the qualities that employers desire in employees and what it takes to thrive and survive in the workplace. Attitude, communication, and work ethics will be stressed. This course is repeatable two times. Pass/No Pass only. (4/04)

MGMT-50K GENERATIONAL DIVERSITY: MANAGING CROSS GENERATIONAL TEAMS
0.5 unit: 0.5 hour lecture.
Advisories: ENGL-81, ENGL-84.
This is the first time in America's history that we have four generations working side by side in the workplace. This course is designed to equip students with knowledge and skills to work with and lead cross-generational teams. Pass/No Pass only. (2/09)

MGMT-51B MOTIVATION AND MORALE
0.5 unit: 0.5 hour lecture.
Advisories: ENGL-81, ENGL-84.
This course is designed to provide an analysis of human behavior as it is related to the workplace. The student will be provided with various alternatives that can be utilized to motivate employees and improve employee morale. This course is repeatable two times. Pass/No Pass only. (11/03)

MGMT-51C LEADERSHIP
0.5 unit: 0.5 hour lecture.
Advisories: ENGL-81, ENGL-84.
This course is designed to acquaint the student with the leadership role of the supervisor and introduce various leadership models to aid the student in developing his/her own leadership style. The attributes of a good leader will be discussed. This course is repeatable two times. Pass/No Pass only. (11/97)

MGMT-51F CONFLICT RESOLUTION
0.5 unit: 0.5 hour lecture.
Advisories: ENGL-81, ENGL-84.
This course is designed to introduce participants to the meaning of conflict, the causes of conflict, and strategies for resolving interpersonal conflict as well as dealing with difficult customers. Pass/No Pass only. (1/08)

MGMT-51G STRESS MANAGEMENT
0.5 unit: 0.5 hour lecture.
Advisories: ENGL-81, ENGL-84.
This course is designed to acquaint the participant with key elements of stress management. Topics will include the recognition of stress, causes of stress, and the benefits of stress management. Various stress management techniques will be covered. Pass/No Pass only. (1/08)

MGMT-52B WRITING SKILLS FOR MANAGERS
0.5 unit: 0.5 hour lecture.
Advisories: ENGL-81, ENGL-84.
This course is designed to provide the student with the skill necessary to effectively write various business documents. Topics will include the guidelines necessary to produce effective written communications, introduction to various communication devices used internally in an organization, preparation of written communications for use outside the organization, and business communication and the law. This course is repeatable two times. Pass/No Pass only. (3/06)

MGMT-52C SUCCESSFUL BUSINESS SPEAKING
0.5 unit: 0.5 hour lecture.
Advisories: ENGL-81, ENGL-84.
This course is designed to assist the student in developing the skills necessary to successfully speak in a variety of business situations. Topics will include speaking and listening skills, speaking one-to-one, giving oral presentations, and conducting effective meetings. This course is repeatable two times. Pass/No Pass only. (12/97)
MGMT-52D MANAGING ORGANIZATIONAL CHANGE
0.5 unit: 0.5 hour lecture.
Advisories: ENGL-81, ENGL-84.
This course is designed to provide the participant with an understanding of change and the influence it has on an organization and the individuals in that organization. Topics will include understanding organizational change, stages of change, and how to manage organizational change. Pass/No Pass only. (1/08)

MGMT-52E EMPLOYEE RECRUITING, INTERVIEWING AND HIRING
0.5 unit: 0.5 hour lecture.
Advisories: ENGL-81, ENGL-84.
This course is designed to provide the student with the skills and knowledge necessary to find the best candidates to fill positions of employment. Topics will include job design and analysis, sources of qualified personnel, recruitment methods, interviewing techniques, and the selection process. This course is repeatable two times. Pass/No Pass only. (4/04)
Mathematics
Math, Science and Engineering

DEGREE
A.A. - Mathematics

Program Description
The following curriculum is designed for students majoring in mathematics in the California State University system. The student should check with specific requirements in the catalog of the college to which he/she plans to transfer.

Web Site
www.mccd.edu/academics/divisions/sme/math.html

Career Opportunities
Career Opportunities for math majors after 4 (or more years) of college.

- Banking And Finance
  - Foreign Exchange Trader
- Air Traffic Controller
  - Law
- Quantitative Analyst
  - Population Ecologist
- Actuary
  - Professor
- Benefits Administrator
  - Programmer Analyst
- Commodities Trader
  - Public Utilities Analyst
- Claims Adjuster
  - Appraiser
- Climate Analyst
  - Research Scientist
- Technical Writer
  - Statistician
- Computer Programmer
  - Financial Aid Director
- Cryptoanalyst
  - Teacher
- Director Of Medical Information Systems
  - Biostatistical Programming Analyst
- Epidemiologist
  - Underwriter
- Stockbroker
  - Urban Designer

All of the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH-04A</td>
<td>4</td>
</tr>
<tr>
<td>MATH-04B</td>
<td>4</td>
</tr>
<tr>
<td>MATH-04C</td>
<td>4</td>
</tr>
<tr>
<td>PHYS-04A or PHYS-04B</td>
<td>4</td>
</tr>
<tr>
<td>MATH-06</td>
<td>3</td>
</tr>
<tr>
<td>MATH-08</td>
<td>3</td>
</tr>
<tr>
<td>MATH-12/CPSC-12/ENGR-12</td>
<td>3</td>
</tr>
<tr>
<td>MATH-14/ENGR-14</td>
<td>3</td>
</tr>
<tr>
<td>MATH-10</td>
<td>3</td>
</tr>
<tr>
<td>PHYS-04A or PHYS-04B</td>
<td>4</td>
</tr>
</tbody>
</table>

And the remaining 3-6 units from the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS-04A or PHYS-04B</td>
<td>4</td>
</tr>
</tbody>
</table>

For an Associate in Arts Degree in Mathematics, students must meet the graduation requirements and complete 21 units from the courses listed below.

Program Student Learning Outcomes
A. Given a variety of mathematical functions from elementary algebra to calculus, students will be able to evaluate the limit of a mathematical function.
B. Given a variety of mathematical functions from elementary algebra to calculus, students will be able to differentiate a given mathematical function with one independent variable. This outcome can be introduced when solving an application problem.
C. Given a variety of mathematical functions from elementary algebra to calculus, students will be able to integrate a given mathematical function. The integral can be definite or indefinite, or proper or improper. This outcome can be introduced when solving an application problem.
D. Given a variety of mathematical functions from elementary algebra to calculus, students will be able to find the derivative of a mathematical function, which has two or three independent variables. This outcome can be introduced when solving an application problem.
E. Given a variety of mathematical functions from elementary algebra to calculus, students will be able to evaluate the length (norm) of a vector or perform an operation (addition, subtraction, multiplication, etc.) involving vectors. This outcome can be introduced when solving an application problem.
Recommended Sequence: A.A. - Mathematics (17400.AA)
Additional units can be taken as breadth and/or elective courses.

Fall 1
MATH-04A Calculus I ......................................................... 4

Spring 1
MATH-04B Analytical Geometry and Calculus ....................... 4

Fall 2
MATH-04C Analytical Geometry and Calculus ....................... 4

Spring 2
Additional units can be taken as breadth and/or elective courses.

MATHEMATICS (MATH)

MATH-A BEGINNING ALGEBRA
4 units: 4 hours lecture.
Prerequisite: MATH-80. Advisory: ENGL-A.
This course covers the four basic operations on real numbers and algebraic expressions. It also includes the order of operations, graphing and solving linear equations and inequalities, solving quadratic equations, systems of linear equations, exponents, polynomials, and a brief introduction to functions. (11/08)

MATH-B APPLIED MATHEMATICS
5 units: 5 hours lecture.
Prerequisite: MATH-80. Advisory: ENGL-A.
This course will explore mathematical applications from various vocational and technical areas. It can be taken by a non-vocational student. It is intended for those who have not had algebra, or need a review of their beginning algebra skills. It will be an intense course covering measurement, basic algebra, plane and solid geometry, trigonometry, and graphs. Assignments will be application-oriented as these topics are covered. Some sections of this course may be taught with a lab component. If so, students would need to register concurrently for a separate math lab course. (2/08)

MATH-C INTERMEDIATE ALGEBRA
4 units: 4 hours lecture.
Prerequisite: MATH-A or MATH-B. Advisory: ENGL-A.
This course covers functions and graphs, solving linear, quadratic, absolute value, piecewise defined, exponential, and logarithmic equations, rational expressions and equations, complex numbers, and conic sections. (11/08)

MATH-D BASIC TECHNICAL MATHEMATICS
5 units: 5 hours lecture.
Prerequisite: MATH-A or MATH-B. Advisory: ENGL-A.
This is a course in intermediate algebra and basic trigonometry which is designed to meet the needs of students in technical or engineering technology fields. Applications are stressed throughout and are drawn from a variety of vocational and technical areas. (2/07)

MATH-E GEOMETRY
5 units: 5 hours lecture.
Prerequisite: MATH-A or MATH-B. Advisory: ENGL-A.
This course covers the study of plane geometric figures and their relationships. Topics that will be examined include angles, parallel lines, congruent and similar triangles, circles, geometric constructions, right triangle trigonometry, applications of formulas for perimeter, area, surface area and volume of geometric figures. The study of mathematical proof and logical reasoning will be investigated and applied to solve problems. This course will also include topics in analytic geometry. (11/07)

MATH-02 PRECALCULUS
(CSU breadth area B4) (IGETC area 2)
4 units: 4 hours lecture.
Limitation on enrollment: This course is not open to students having credit in MATH-17, MATH-25 or MATH-26. Prerequisite: MATH-C or MATH-D. Advisory: ENGL-A.

This course covers the real and complex numbers, functions, trigonometric functions, exponential and inverse functions, composition of functions, theory of equations, systems of equations, matrices, and topics in analytic geometry. (12/09)

MATH-02H HONORS PRECALCULUS
4 units: 4 hours lecture.
Limitation on enrollment: Enrollment in the Honors Program; see the college catalog for a description of enrollment requirement. This course is not open to students having credit in MATH-17, MATH-25 or MATH-26. Prerequisite: MATH-C or MATH-D. Advisory: ENGL-A.
This course covers the real and complex numbers, functions, trigonometric functions, exponential and inverse functions, composition of functions, theory of equations, systems of equations, matrices, and topics in analytic geometry. There will be an emphasis in the use of technology, mathematical writing, and collaborative learning. (12/09)

MATH-04A CALCULUS I
(CSU breadth area B4) (IGETC area 2)
4 units: 4 hours lecture.
Prerequisite: MATH-02 or MATH-02H, or MATH-25 and MATH-26. Advisory: ENGL-A.
This course covers limits, continuity, differentiation and integration of algebraic and trigonometric functions along with their respective applications. (2/10)

MATH-04B ANALYTICAL GEOMETRY AND CALCULUS
(CSU breadth area B4) (IGETC area 2)
4 units: 4 hours lecture.
Prerequisite: MATH-04A. Advisory: ENGL-A.
This course covers vectors and solid analytic geometry, vector-valued functions, partial differentiation, multiple integrals, and topics in vector calculus including Green's and Stokes' theorems. (12/06)

MATH-04C ANALYTICAL GEOMETRY AND CALCULUS
(CSU breadth area B4) (IGETC area 2)
4 units: 4 hours lecture.
Prerequisite: MATH-04B. Advisory: ENGL-A.
This course covers limits, continuity, differentiation and integration of algebraic and trigonometric functions along with their respective applications. (2/10)

MATH-05A APPLIED CALCULUS
(CSU breadth area B4) (IGETC area 2)
3 units: 3 hours lecture.
Prerequisite: MATH-02, or MATH-25 and MATH-26. Advisory: ENGL-A.
This course is designed for the beginning calculus student majoring in the life sciences and/or students majoring in the areas of business, economics, management, and the social sciences. Students majoring in mathematics, engineering, or physical science should enroll in a more rigorous calculus series. This course will cover functions, differentiation, and exponential and natural logarithms, but the emphasis will be on using these topics as tools to solve applied problems in the areas listed above. (1/07)

MATH-05B APPLIED CALCULUS
(CSU breadth area B4) (IGETC area 2)
3 units: 3 hours lecture.
Prerequisite: MATH-05A or MATH-04A. Advisories: ENGL-A.
This course is designed as a continuation of MATH-05A, the study of beginning calculus for the student majoring in the areas of business, economics, management, and the social sciences. The major topic of this course is the study of integration and the applications of integration in the areas described above. Other topics include trigonometry, differential equations, probability, Taylor polynomials and infinite series. This course is not intended for the student majoring in mathematics, engineering, or the physical sciences. (1/07)
MATH-06 ELEMENTARY DIFFERENTIAL EQUATIONS  
(CSU breadth area B4) (IGETC area 2)  
3 units: 3 hours lecture.  
Prerequisite: MATH-04C. Advisory: ENGL-A; MATH-08.  
This course is an introduction to ordinary differential equations (ODEs), including analytical, graphical and numerical methods, as well as a variety of modeling applications. It introduces both theoretical and practical considerations, including definitions, existence and uniqueness of solutions, techniques for solving first-order ODEs and higher-order linear ODEs, series solutions and singular points for linear differential equations. Laplace transforms, homogeneous versus nonhomogeneous equations, linear systems, and numerical methods. (2/08)

MATH-08 LINEAR ALGEBRA  
(CSU breadth area B4) (IGETC area 2)  
3 units: 3 hours lecture.  
Prerequisite: MATH-04B. Advisory: ENGL-A.  
This course is suggested for computer science, engineering, math, and science majors. It is an introduction to systems of linear equations, matrix and determinant operations, vector spaces, linear transformations, eigenvalues, and eigenvectors with a strong emphasis on applications. (1/07)

MATH-10 ELEMENTARY STATISTICS  
(CSU breadth area B4) (IGETC area 2)  
3 units: 3 hours lecture.  
Prerequisite: MATH-04C. Advisory: ENGL-A.  
This course covers descriptive statistics, including organization and presentation of data; elementary probability including permutations, combinations, binomial and normal distributions; inferential statistics, including random sampling, hypothesis testing, regression, and correlation and chi-square distribution. (8/06)

MATH-12 FORTRAN PROGRAMMING (Also: CPSC-12 and ENGR-12)  
3 units: 2 hours lecture, 3 hours lab.  
Prerequisite: MATH-02, or MATH-25 and MATH-26. Advisory: ENGL-A.  
This course teaches students to use the FORTRAN programming language to solve problems in a wide variety of areas. Program design, problem-solving, and debugging techniques are emphasized throughout the course. (1/07)

MATH-14 C++ PROGRAMMING (Also: ENGR-14)  
3 units: 2 hours lecture, 3 hours lab.  
One-way corequisite: MATH-02, or MATH-25 and MATH-26. Advisory: ENGL-A.  
This is the entry-level comprehensive concepts course for computer science majors, and is recommended for science and math majors. Algorithm design, logic diagrams, problem-solving, coding, and debugging are emphasized using a structured language such as C++. (1/07)

MATH-15 FINITE MATHEMATICS  
(CSU breadth area B4) (IGETC area 2)  
3 units: 3 hours lecture.  
Prerequisite: MATH-C. Advisory: ENGL-A.  
This course covers algebra review, linear models, systems of linear equations, matrices, linear programming, mathematics of finance, set theory, and probability. This course includes applications to business, economics, psychology, and sociology. (3/07)

MATH-17 PRE-CALCULUS TECHNICAL MATHEMATICS  
4 units: 4 hours lecture.  
Prerequisite: MATH-C or MATH-D. Advisory: ENGL-A.  
This is a pre-calculus mathematics course designed for students considering a career in a technical or engineering technical field. Topics include algebraic and transcendental functions, right-triangle trigonometry, trigonometric functions, vectors, formulas and identities, complex numbers, analytic geometry, sequences and series, and an introduction to statistics. Technical applications will be stressed throughout the course. (2/08)

MATH-20A BASIC STRUCTURE OF MATHEMATICS I  
(CSU breadth area B4)  
3 units: 3 hours lecture.  
Prerequisite: MATH-C. Advisory: ENGL-A.  
This course is designed to complete the first course of a two-course sequence in basic concepts of mathematics required for students preparing to teach at the elementary school level. It covers elementary set theory, numeration systems, number theory, the set of integers, the set of rational numbers, and the set of real numbers. (12/06)

MATH-20B BASIC STRUCTURE OF MATH II  
(CSU breadth area B4)  
3 units: 3 hours lecture.  
Prerequisite: MATH-C or MATH-D. Advisory: ENGL-A; MATH-20A.  
This course is designed to complete the second course of a two-course sequence in basic concepts of mathematics required for students preparing to teach at the elementary school level. This course covers the structure of plane and solid geometry, measurement, introduction to coordinate geometry, elementary probability, and statistics. (2/10)

MATH-21 INTRODUCTION TO MATHEMATICAL REASONING  
(CSU breadth area B4)  
3 units: 3 hours lecture.  
Prerequisite: MATH-C. Advisory: ENGL-A.  
This course is for the general student. It will explore the mathematics involved in a variety of general topics from other disciplines. Rather than mere manipulations, the use of mathematics will be stressed as a tool to achieve other goals and to solve applied problems. Topics will include a history of mathematics, logic, number theory, geometry, consumer mathematics, probability, and statistics. This course is not designed for students entering elementary school teaching. (11/03)

MATH-25 TRIGONOMETRY  
(CSU breadth area B4)  
3 units: 3 hours lecture.  
Limitation on Enrollment: This course is not open to students having credit in MATH-02 or MATH-17. Prerequisite: MATH-C. Advisory: ENGL-A.  
This course is a review of right triangle geometry, real numbers, functions and graphs, trigonometric functions and their graphs, identities, inverse trigonometry functions, trigonometric equations, right angle trigonometry, the laws of sines and cosines, and application of polar and rectangular forms, including vectors and complex numbers. (2/02)

MATH-26 COLLEGE ALGEBRA  
(CSU breadth area B4) (IGETC area 2)  
3 units: 3 hours lecture.  
Prerequisite: MATH-C. Advisory: ENGL-A. (Note: This course is not open to students having credit in MATH-02 or MATH-17.)  
This is an advanced course in algebra including the study of real numbers, polynomials, equations and inequalities, factoring, rational expressions, exponents, roots, radicals, systems of equations, functions (including logarithmic and exponential) sequences and series, progressions and the binomial expansion. (12/06)

MATH-49ABCDEF (1-2) LABORATORY EXPERIENCE IN MATHEMATICS (TRANSFER-LEVEL)  
0.5 - 1 unit: 1.5 - 3 hours lab.  
Prerequisite: MATH-C. Advisory: ENGL-A.  
This course provides individualized instruction and technology-based mathematics instruction at the lower-division college level. Technological applications may include a combination of work on computer algebra systems, graphing calculators, interactive CD-ROM, and computer tutorials and/or videotapes on mathematics subjects. Sections of MATH-49 may be scheduled to augment and enhance specific transfer-level math classes, or they may be offered independently of other math courses. Topics will enhance critical thinking, visualization of mathematical concepts, and/or computational skills. Each letter (i.e., ABCDEF) may be taken only once. (3/04)
MATH-59ABC (1-2) LABORATORY EXPERIENCE IN MATHEMATICS (NON-TRANSFER LEVEL)
  .5 - 1 unit: 1.5 - 3 hours lab.
  Prerequisite: MATH-80. One-way corequisite: MATH-A, MATH-B, MATH-C, or MATH-D.
This course provides individualized instruction and technology-based instruction to augment courses in beginning or intermediate algebra. Technological applications may include a combination of work on computer algebra systems, interactive CD-ROM, and computer tutorials and/or videotapes on mathematics subjects. Topics will be tailored to the supported course and will enhance critical thinking, visualization of mathematical concepts and/or computational skills. Each letter (i.e., ABC) may be taken only once. (3/04)

MATH-80 PREALGEBRA
  4 units: 4 hours lecture.
  Prerequisite: MATH-91. Advisories: ENGL-81, ENGL-81L.
This course covers the real number system and operations of addition, subtraction, multiplication, and division including whole numbers, integers, decimals, fractions and application problems involving percents, ratios, proportions, and square roots. It also covers real world application problems, formulas, measurement concepts, and an introduction to algebra including addition, subtraction, and multiplication of algebraic expressions. (11/08)

MATH-89ABCD MATH LABORATORY
  .5 - 2 units: 1.5 - 6 hours lab.
  Advisory: MATH-90. (Note: The letter designation indicates unit value, "A" being for 0.5 unit, "B" for 1 unit, etc., in 0.5 unit increments.)
This course is a laboratory experience primarily to help students who have taken a math class but who still need additional work before they progress to the next math class. It is designed to provide individualized assistance to improve a student’s deficient areas. The number of hours and the number of assignments vary based on the units enrolled in. Each letter (i.e., A, B, C, or D) may be taken only once. (4/04)

MATH-90 FUNDAMENTALS OF ARITHMETIC
  3 units: 3 hours lecture.
  Advisory: ENGL-90.
This course is an intensive review of the whole number system, including counting, notation, word names, and the number line. Particular emphasis is placed on the basic computational skills: addition, subtraction, multiplication, and division. Written problems and life skills will be emphasized throughout the course. (10/06)

MATH-91 FUNDAMENTALS OF DECIMALS AND FRACTIONS
  3 units: 3 hours lecture.
  Prerequisite: MATH-90. Advisories: ENGL-80, ENGL-80L.
This course begins with a short review of the whole number system using basic computational skills. The course covers the meaning of decimals and fractions, and the four basic operations using them: addition, subtraction, multiplication, and division. Special emphasis will be placed on thought problems, including life skills. The course will conclude with an introduction to prime factoring, exponents, basic geometry, and order of operation. (10/06)
Mechanized Agriculture
Career and Technical Education

DEGREES
A.A. - Mechanized Agriculture Technology/Heavy Equipment Mechanics
A.S. - Mechanized Agriculture Technology/Heavy Equipment Mechanics

CERTIFICATES
Compact Power Equipment
Mechanized Agriculture Technology/Heavy Equipment Mechanics

Program Description
Agriculture’s dependence on power equipment has given rise to a tremendous vocational education program at Merced College in the Mechanized Agriculture field.

The Mechanized Agriculture program offers courses in a wide variety of subject areas including Power Equipment Mechanics, Agricultural Construction, Diesel Engines, Hydraulics, Small Power Equipment, Machinery Management, and Power Equipment Operation. The Mechanized Agriculture facilities at the College are modern, spacious and equipped with current equipment that is used in the industry.

For instruction in Power Equipment Mechanics, the College shop has diesel engines of all makes and styles, hydraulic components, injection pumps, tractors, and agriculture equipment used for “hands-on” student training. Equipment used in the operation courses consist of both current model tractors as well as vintage designs. In addition, all of the implements necessary to run a complete farming operation are available for instructional use. Trucks and heavy equipment are also available for student instruction.

The Diesel Fuel Systems instruction provides the opportunity for our students to utilize a fully equipped fuel injection room. The College provides students with the tools necessary for all classes.

Career Opportunities
A recent University of California survey on employment opportunities in agriculture categorized the Mechanized Agriculture field as offering “...one of the highest potential labor demands for new employees.” Employment opportunities are excellent and range from farm equipment sales to equipment repair and other careers in related fields such as the trucking industry and compact power equipment.

Diesel equipment is an important part of the farm and industrial sectors of the national, state, and local economy. Persons skilled in the repair, maintenance, and operation of diesel equipment may secure a variety of jobs.

With the evolution of highly sophisticated farm machinery, the technical level of upcoming technicians in the areas of electrical and hydraulic diagnosis and repair is essential. The curriculum within the Mechanized Agriculture Program is designed to meet this need.

The following lists a few employment possibilities:
- Heavy Equipment Technician
- Agriculture Equipment Technician
- Farm & Power Equipment Technician
- Hydraulic Technician
- Heavy Duty Electrical Technician
- Diesel Equipment Technician

DEGREE 10/04
A.A. - Mechanized Agriculture Technology/Heavy Equipment Mechanics (01450.AA)

The Associate in Arts Degree in Mechanized Agriculture Technology/Heavy Equipment Mechanics is available upon completion of the graduation requirements, the 22-unit core, and 15 units from the elective list.

Program Student Learning Outcomes
A. Explain the basic theory of the subject matter or system for the course of instruction based on industry standards.
B. Analyze a scenario based upon an equipment system failure/problem/complaint.
C. Employ a systematic approach to troubleshooting a system malfunction and prepare a solution.
D. Demonstrate the correct tools/supplies required to diagnose/repair a malfunction
E. Verify if the path of repair was correct by testing and/or completing a work order/report.

Core: Units
MECH-12 Agriculture Equipment...........................................3
MECH-21 Hydraulics.........................................................3
MECH-22A Diesel Engines...............................................4
MECH-24 Power Trains.......................................................4
MECH-26 Power Equipment Electrical Systems..................3
MECH-30 Equipment Mechanics Skills..............................2
MECH-31 Equipment Safety..............................................1
MECH-33 Power Equipment Air Conditioning.....................2
MECH-06 Fundamentals of Oxy-Fuel Welding and Shielded Metal Arc Welding...............................................3
MECH-13 Agriculture Equipment.......................................3
MECH-15 Small Engine Repair and Maintenance..................3
MECH-22B Diesel Engines...............................................4
MECH-23 Diesel Fuel System Diagnostics............................2
MECH-32 Applied Electrical and Hydraulic Service.............3


### DEGREE (10/04)

A.S. - Mechanized Agriculture Technology/Heavy Equipment Mechanics (01450.AS)

The Associate in Science Degree in Mechanized Agriculture Technology/Heavy Equipment Mechanics is available upon completion of the graduation requirements, the 22-unit core, and 15 units from the elective list.

Program Student Learning Outcomes

A. Explain the basic theory of the subject matter or system for the course of instruction based on industry standards.
B. Analyze a scenario based upon an equipment system failure/problem/complaint.
C. Employ a systematic approach to troubleshooting a system malfunction and prepare a solution.
D. Demonstrate the correct tools/supplies required to diagnose/repair a malfunction.
E. Verify if the path of repair was correct by testing and/or completing a work order/report.

### Core:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>MECH-12</td>
<td>Agriculture Equipment</td>
</tr>
<tr>
<td>MECH-21</td>
<td>Hydraulics</td>
</tr>
<tr>
<td>MECH-22A</td>
<td>Diesel Engines</td>
</tr>
<tr>
<td>MECH-24</td>
<td>Power Trains</td>
</tr>
<tr>
<td>MECH-26</td>
<td>Power Equipment Electrical Systems</td>
</tr>
<tr>
<td>MECH-30</td>
<td>Equipment Mechanics Skills</td>
</tr>
<tr>
<td>MECH-31</td>
<td>Equipment Safety</td>
</tr>
<tr>
<td>MECH-33</td>
<td>Power Equipment Air Conditioning</td>
</tr>
</tbody>
</table>

Plus 15 units from the following electives:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>MECH-06</td>
<td>Fundamentals of Oxy-Fuel Welding and Shielded Metal Arc Welding</td>
</tr>
<tr>
<td>MECH-13</td>
<td>Agriculture Equipment</td>
</tr>
<tr>
<td>MECH-15</td>
<td>Small Engine Repair and Maintenance</td>
</tr>
<tr>
<td>MECH-22B</td>
<td>Diesel Engines</td>
</tr>
<tr>
<td>MECH-23</td>
<td>Diesel Fuel System Diagnostics</td>
</tr>
<tr>
<td>MECH-32</td>
<td>Applied Electrical and Hydraulic Service</td>
</tr>
<tr>
<td>MECH-35</td>
<td>Compact Power Equipment</td>
</tr>
<tr>
<td>MECH-40</td>
<td>Equipment Repair</td>
</tr>
</tbody>
</table>

### CERTIFICATE (9/04)

Compact Power Equipment (01453.CL)

A Certificate of Achievement in Compact Power Equipment will be awarded to students who successfully complete the following core courses.

Program Student Learning Outcomes

A. Explain the basic theory of the subject matter or system for the course of instruction based on industry standards.
B. Analyze a scenario based upon an equipment system failure/problem/complaint.
C. Employ a systematic approach to troubleshooting a system malfunction and prepare a solution.
D. Demonstrate the correct tools/supplies required to diagnose/repair a malfunction.
E. Verify if the path of repair was correct by testing and/or completing a work order/report.

### Core:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>MECH-15</td>
<td>Small Engine Repair and Maintenance</td>
</tr>
<tr>
<td>MECH-21</td>
<td>Hydraulics</td>
</tr>
<tr>
<td>MECH-22A</td>
<td>Diesel Engines</td>
</tr>
<tr>
<td>MECH-26</td>
<td>Power Equipment Electrical Systems</td>
</tr>
<tr>
<td>MECH-30</td>
<td>Equipment Mechanics Skills</td>
</tr>
<tr>
<td>MECH-31</td>
<td>Equipment Safety</td>
</tr>
<tr>
<td>MECH-35</td>
<td>Compact Power Equipment</td>
</tr>
<tr>
<td>MECH-40</td>
<td>Equipment Repair</td>
</tr>
</tbody>
</table>

### 2010-2011 CATALOG

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>MECH-24</td>
<td>Power Trains</td>
</tr>
<tr>
<td>MECH-26</td>
<td>Power Equipment Electrical Systems</td>
</tr>
<tr>
<td>MECH-30</td>
<td>Equipment Mechanics Skills</td>
</tr>
<tr>
<td>MECH-31</td>
<td>Equipment Safety</td>
</tr>
<tr>
<td>MECH-33</td>
<td>Power Equipment Air Conditioning</td>
</tr>
<tr>
<td>Plus 15 units from the following electives: MECH-06</td>
<td>Fundamentals of Oxy-Fuel Welding and Shielded Metal Arc Welding</td>
</tr>
<tr>
<td>MECH-13</td>
<td>Agriculture Equipment</td>
</tr>
<tr>
<td>MECH-15</td>
<td>Small Engine Repair and Maintenance</td>
</tr>
<tr>
<td>MECH-22B</td>
<td>Diesel Engines</td>
</tr>
<tr>
<td>MECH-23</td>
<td>Diesel Fuel System Diagnostics</td>
</tr>
<tr>
<td>MECH-24</td>
<td>Power Trains</td>
</tr>
<tr>
<td>MECH-32</td>
<td>Applied Electrical and Hydraulic Service</td>
</tr>
</tbody>
</table>

### CERTIFICATE (10/04)

Mechanized Agriculture Technology/Heavy Equipment Mechanics (01450.CT)

A Certificate of Achievement in Mechanized Agriculture Technology/Heavy Equipment Mechanics will be awarded upon completion of the 22-unit core and 15 units from the elective list.

Program Student Learning Outcomes

A. Explain the basic theory of the subject matter or system for the course of instruction based on industry standards.
B. Analyze a scenario based upon an equipment system failure/problem/complaint.
C. Employ a systematic approach to troubleshooting a system malfunction and prepare a solution.
D. Demonstrate the correct tools/supplies required to diagnose/repair a malfunction.
E. Verify if the path of repair was correct by testing and/or completing a work order/report.

### Core:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>MECH-12</td>
<td>Agriculture Equipment</td>
</tr>
<tr>
<td>MECH-21</td>
<td>Hydraulics</td>
</tr>
<tr>
<td>MECH-22A</td>
<td>Diesel Engines</td>
</tr>
<tr>
<td>MECH-24</td>
<td>Power Trains</td>
</tr>
<tr>
<td>MECH-26</td>
<td>Power Equipment Electrical Systems</td>
</tr>
<tr>
<td>MECH-30</td>
<td>Equipment Mechanics Skills</td>
</tr>
<tr>
<td>MECH-31</td>
<td>Equipment Safety</td>
</tr>
<tr>
<td>MECH-33</td>
<td>Power Equipment Air Conditioning</td>
</tr>
</tbody>
</table>

### 2010-2011 CATALOG

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>MECH-24</td>
<td>Power Trains</td>
</tr>
<tr>
<td>MECH-26</td>
<td>Power Equipment Electrical Systems</td>
</tr>
<tr>
<td>MECH-30</td>
<td>Equipment Mechanics Skills</td>
</tr>
<tr>
<td>MECH-31</td>
<td>Equipment Safety</td>
</tr>
<tr>
<td>MECH-33</td>
<td>Power Equipment Air Conditioning</td>
</tr>
<tr>
<td>Plus 15 units from the following electives: MECH-06</td>
<td>Fundamentals of Oxy-Fuel Welding and Shielded Metal Arc Welding</td>
</tr>
<tr>
<td>MECH-13</td>
<td>Agriculture Equipment</td>
</tr>
<tr>
<td>MECH-15</td>
<td>Small Engine Repair and Maintenance</td>
</tr>
<tr>
<td>MECH-22B</td>
<td>Diesel Engines</td>
</tr>
<tr>
<td>MECH-23</td>
<td>Diesel Fuel System Diagnostics</td>
</tr>
<tr>
<td>MECH-24</td>
<td>Power Trains</td>
</tr>
<tr>
<td>MECH-32</td>
<td>Applied Electrical and Hydraulic Service</td>
</tr>
</tbody>
</table>

Recommended Sequence: A.A - Mechanized Agriculture Technology/Heavy Equipment Mechanics (01450.AA); A.S. - Mechanized Agriculture Technology/Heavy Equipment Mechanics (01450.AS); Certificate Mechanized Agriculture Technology/Heavy Equipment Mechanics (01450.CT)
MECH-33 Power Equipment Air Conditioning ........................................ 2

Spring 2
MECH-06 Fundamentals of Oxy-Fuel Welding and Shielded Metal Arc Welding (Also: WELD-06)
3 units: 2 hours lecture, 3 hours lab. Advisories: ENGL-81, ENGL-84; MATH-80.
This course emphasizes development of minimum skill standards in welding. The Shielded Metal Arc Welding (SMAW), Oxy-Fuel Welding (OFW) and Oxy-Fuel Cutting (OFC) processes are covered as prescribed in the (AWS) American Welding Society (AWS) American Welding Training Qualification (QC 10) entry-level standards. (2/06)

MECH-07 FUNDAMENTALS OF T.I.G. AND M.I.G. WELDING (Also: WELD-07)
3 units: 2 hours lecture, 3 hours lab. Advisories: ENGL-81, ENGL-84; MATH-80.
This course emphasizes the development of minimum skill standards in welding. The Gas Metal Arc Welding (GMAW)/(MIG), Gas Tungsten Arc W (GTAW)/(TIG) and Plasma Arc Cutting (PAC) processes are studied as prescribed in the American Welding Society (AWS) American Welding Training Qualification (QC 10) entry-level standards. (2/06)

MECH-10 AGRICULTURAL SKILLS (Also: INDT-10)
3 units: 2 hours lecture, 3 hours lab. Advisories: ENGL-81, ENGL-84; MATH-80.
This course provides an introduction to basic technical skills required throughout the industrial areas. The course includes identification and use of tools and materials, tool sharpening and care, hot and cold metal work, pipefitting, electrical wiring fundamentals, basic woodworking, concrete materials and mixes, and sketching and estimating. (3/06)

MECH-12 AGRICULTURE EQUIPMENT
3 units: 2 hours lecture, 3 hours lab. Advisories: ENGL-A.
This course is a study of the use, maintenance, adjustment, calibration, and repair of the equipment commonly used in California agriculture, with emphasis on primary and secondary tillage, planting, chemical application, and harvesting equipment. The selection and operation of both machinery and tractors will be practiced. Safety will be stressed throughout. (10/04)

MECH-13 AGRICULTURE EQUIPMENT
3 units: 2 hours lecture, 3 hours lab. Advisories: ENGL-A.
This course is a study of the use, maintenance, adjustment, calibration, and repair of the equipment commonly used in California agriculture during the spring tillage season, with emphasis on primary and secondary tillage, planting, chemical application, and harvesting equipment. The selection and operation of both machinery and tractors will be practiced. Safety will be stressed throughout. (3/06)

MECH-15 SMALL GAS ENGINES (Also: INDT-15)
3 units: 2 hours lecture, 3 hours lab. Advisories: ENGL-A.
This course is a complete introduction to the operation, construction, maintenance, repair, and adjustment of two-cycle and four-cycle engines. It is designed for persons without prior experience in small engines. Theory and practical work including safety and the care and use of specialized tools used in small engine repair and maintenance will be covered. Examples of types of engines to be used will include lawn mower, power saw, pump, conveyor, self-propelled small carts, and any other small engines. (10/04)

MECH-19A WELDING DESIGN AND CONSTRUCTION (Also: WELD-40A)
3 units: 2 hours lecture, 3 hours lab. Prerequisite: WELD-07 or MECH-07. Advisories: ENGL-81, ENGL-84; MATH-80.
This course covers basic metal fabrication skills as well as the design and construction of special industrial and agricultural equipment. (2/06)

MECH-19B WELDING DESIGN AND CONSTRUCTION (Also: WELD-40B)
3 units: 2 hours lecture, 3 hours lab. Prerequisite: WELD-40A/MECH-19A. Advisories: ENGL-81, ENGL-84; MATH-80.
This course is a continuation of WELD-40A/MECH-19A. It covers basic and advanced metal fabrication skills as well as the design and construction of special agricultural and industrial equipment. (2/06)

MECH-21 HYDRAULICS
3 units: 2 hours lecture, 3 hours lab. Advisories: ENGL-A.
This is an introduction to the principles of hydraulics applied to farm and light industrial equipment. The course includes a study of the technical language of fluid power, including graphical symbols, industrial standards, components, and maintenance of hydraulic units. (10/04)

MECH-22A DIESEL ENGINES
4 units: 2 hours lecture, 6 hours lab. Advisories: ENGL-A.
This course explores the operation and repair of modern diesel engines. Principles and theories are studied by running, testing, diagnosing, disassembling and reassembling components, systems, and engines. (10/04)

MECH-22B DIESEL ENGINES
4 units: 2 hours lecture, 6 hours lab. Prerequisite: MECH-22A.
This course includes principles of design and construction of heavy duty engines used throughout the power equipment and trucking industry. Emphasis is placed on engine chamber design and injection systems. Principles and theories are studied by running, testing, diagnosing, disassembling, and reassembling components, systems, and engines. Safety is emphasized throughout. (11/06)

MECH-23 DIESEL FUEL SYSTEM DIAGNOSTICS
2 units: 1 hour lecture, 3 hours lab. Advisories: ENGL-A.
This course includes the study of common types of diesel fuel injection systems. Design and theory of operation of distributor type, multi-plunger inline type, and common rail diesel fuel injection systems will be covered. Testing and diagnostic procedures for various fuel systems is an important part of the course. Service and adjustments of injectors, nozzles, and governors will also be covered. (10/04)

MECH-24 POWER TRAINS
4 units: 2 hours lecture, 6 hours lab. Advisories: ENGL-A.
This course is a study of the function and repair of a power train from the clutch through the final drive. Topics will include the theory of operation, maintenance, diagnosis, and repair of clutches and torque converters, mechanical and hydraulic transmissions, differential, and final drives. Safety will be stressed throughout. (3/06)

MECH-26 POWER EQUIPMENT ELECTRICAL SYSTEMS
3 units: 2 hours lecture, 3 hours lab. Advisories: ENGL-A.
This course is a study of the fundamentals of electricity with applications to current power equipment electrical systems. Theory and service procedures will include the following systems: starting, charging, lighting, and accessories. (10/04)
MECH-30  EQUIPMENT MECHANICS SKILLS
2 units: 1 hour lecture, 3 hours lab.
Advisories: ENGL-A.
This course is an introduction to skills and safety required within the Diesel Mechanics and Mechanized Agriculture areas. The course will include identification and use of hand tools and power equipment used within the equipment mechanic area. Emphasis will be placed on precision measuring and use of the following equipment: hydraulic press, pullers, cleaners, hoists, jacks, securing, dynamometers, valve grinders, boring machines, sharpening tools, reamers, hones, glass bead machine, boil out tank, forklifts, and other specialty tools. An in-depth study will also occur on fasteners and plumbing used within the equipment mechanic area. (10/04)

MECH-31  EQUIPMENT SAFETY
1 unit: 1 hour lecture.
Advisories: ENGL-81, ENGL-84.
This course is a study of safety on and about farm equipment and machines. The safe operation and daily maintenance of machines commonly used in the daily operation of farms will be covered along with hitching, driving, and operational skills of selected machines. Safety rules and laws that apply to agriculture equipment will be stressed. (11/06)

MECH-32  APPLIED ELECTRICAL AND HYDRAULIC SERVICE
3 units: 2 hours lecture, 3 hours lab.
Advisories: ENGL-A; MECH-21, MECH-26.
This course is designed to give the student knowledge and competencies in modern cab and chassis electrical, electronic, electron hydraulic, and hydraulic systems. Testing, diagnosis, repair, and replacement of computer-controlled systems, monitors, sensors, lighting systems, wiring harness, electro-hydraulic systems, and hydraulic systems will be emphasized throughout the course. (3/06)

MECH-33  POWER EQUIPMENT AIR CONDITIONING
2 units: 1 hours lecture, 3 hours lab.
Advisories: ENGL-A.
This is a study of power equipment air conditioning fundamentals designed to give the student knowledge and competencies in modern power equipment HVAC systems. Current EPA regulations that govern retrofit as well as the use of refrigerant installation, diagnostic, and recycling equipment are also covered. Environmental impacts by various protection procedures are emphasized. (3/06)

MECH-34  SERVICE FUNDAMENTALS
3 units: 3 hours lecture.
Advisories: ENGL-A.
This course introduces service department policies and procedures, including computer and microfiche applications common to the industry. Also emphasized in the course are parts orders, warranties, time management, and use of technical reference materials. (11/06)

MECH-35  COMPACT POWER EQUIPMENT
3 units: 2 hours lecture, 3 hours lab.
Advisories: ENGL-A; MECH-15.
This is a study in basic principles of modern small equipment and engines and explores design, operation, and proper maintenance of equipment and current compact engines approved by the California Air Resources Board. Topics include application of compact engine systems to various machines, power transmission systems, attachments, related engine systems, equipment operation, problem solving, and component failures. (9/06)

MECH-40  EQUIPMENT REPAIR
2 units: 1 hour lecture, 3 hours lab.
Advisories: ENGL-81, ENGL-84.
This class is an introduction to skills of maintenance and repair of equipment. Renovation of equipment including tractor, machinery, and truck painting, retooling, and structural repairs will be covered. Replacement of worn cutting tools, hardfacing, sandblasting, metal preparation, and painting will be performed on a variety of equipment. Safety will be stressed throughout. (11/06)

MECH-45  ADVANCED ARC WELDING PROCEDURES  (Also: WELD-45)
3 units: 2 hours lecture, 3 hours lab.
Advisories: ENGL-B; MATH-80; WELD-06/MECH-06 and WELD-07/MECH-07.
This course is designed to emphasize advanced skills and techniques of Shielded Metal Arc Welding, Gas Metal Arc Welding, Gas Tungsten Arc Welding, Air Carbon Arc Cutting, and Oxyacetylene Flame Cutting as related to pipe and structural members. Included will be welding assembly print interpretation, weld symbol interpretation, and weld joint preparation. Students will be prepared to take an AWS Welder Certification Test during this course. (2/06)

MECH-48  MECHANIZED AGRICULTURE: PROBLEMS
2 units: 6 hours lab.
Prerequisites: MECH-22A, MECH-24, MECH-30.
This course is designed to provide supervised study and practices involving special problems in Mechanized Agriculture in addition to courses already completed by the student and includes special project work for additional knowledge and enrichment. Emphasis will be placed upon the needs and interest of the student. (11/06)

MECH-51  TRUCK BRAKE AND CHASSIS
4 units: 2 hours lecture, 6 hours lab.
Advisories: ENGL-81, ENGL-84.
This course is a study of truck and bus mechanics. It includes a study of the running gear, tires, wheels, brakes, electrical systems wiring, services, maintenance, and safety inspection. Troubleshooting and servicing are major portions of this course. (11/06)

MECH-52  TRUCK/TRACTOR POWER FRAME
4 units: 2 hours lecture, 6 hours lab.
Advisories: ENGL-81, ENGL-84.
This is a course of truck/tractor and bus power frame applications. It includes a study of, and practice in, removing, repairing, and replacing engines, engine components, clutches, transmissions, drive lines, and differentials. Also included in the course are electrical systems troubleshooting and service, in-frame overhaul of engines, cooling systems and other components or systems housed within the engine compartment. (11/06)

MECH-70AA-ZZ  SPECIAL TOPICS IN MECHANIZED AGRICULTURE
.5 - 4 units: 0-4 hours lecture, 0-12 hours lab.
Prerequisites: MECH-22A, MECH-24, MECH-30.
This course is designed to provide study of special problems in Mechanized Agriculture in addition to courses already completed by the student and includes special project work for additional knowledge and enrichment. Emphasis will be placed upon the needs and interest of the student. (11/06)

MECH-85  BASIC AGRICULTURAL SKILLS  (Also: INDT-85)
3 units: 2 hours lecture, 3 hours lab.
Advisories: ENGL-A.
This course provides an introduction to technical skills required throughout the industrial areas. The course includes identification and use of tools and materials, tool sharpening and care, hot and cold metal work, pipe fitting, electric wiring fundamentals, basic woodwork, concrete materials and mixes, and sketching and estimating. (3/06)
Program Description
The Associate in Arts Degree in Merchandising/Marketing Management is in preparation for employment in the merchandising and marketing areas. Students must meet the graduation requirements and complete the major requirements.

Career Opportunities
The Merchandising Management program offers students courses and experiences to enter Retail Management programs and tools to prepare for, open, and operate a retail establishment.

DEGREE  (2/07)
A.A. - Merchandising Management  
(05350.AA)

The Associate in Arts Degree in Merchandising/Marketing Management is in preparation for employment in the merchandising and marketing areas. Students must meet the graduation requirements and complete the major requirements with the following core courses.

Program Student Learning Outcomes
A. Students will examine the development of a marketing strategy, including market segmentation and marketing mix.
B. Students will maximize merchandise sales using product design, selection, packaging, pricing, and displays that stimulates consumers to spend more.
C. Students will research the disciplines in pricing and discounting, physical presentation of products and displays, and the decisions about which products should be presented to which customers at what time.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACTG-04A</td>
<td>Fundamentals of Financial Accounting</td>
<td>4</td>
</tr>
<tr>
<td>ACTG-51</td>
<td>Applied Accounting</td>
<td>4</td>
</tr>
<tr>
<td>BUS-10</td>
<td>Introduction to Business</td>
<td>3</td>
</tr>
<tr>
<td>BUS-18A</td>
<td>Business Law</td>
<td>4</td>
</tr>
<tr>
<td>CPSC-01</td>
<td>Introduction to Management Information Systems</td>
<td>4</td>
</tr>
<tr>
<td>CPSC-30</td>
<td>Computer Applications</td>
<td>3</td>
</tr>
<tr>
<td>ECON-01A</td>
<td>Introduction to Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td>MDSE-31</td>
<td>Retail Management</td>
<td>3</td>
</tr>
<tr>
<td>MDSE-33</td>
<td>Advertising</td>
<td>3</td>
</tr>
<tr>
<td>MGMT-31</td>
<td>Principles of Management</td>
<td>3</td>
</tr>
<tr>
<td>MGMT-50</td>
<td>Management Series</td>
<td>1</td>
</tr>
<tr>
<td>MKTG-30</td>
<td>Marketing</td>
<td>3</td>
</tr>
</tbody>
</table>

Recommended Sequence: A.A. - Merchandising Management (05350.AA)

Fall 1
ACTG-04A or ACTG-51
Fall 2
CPSC-01
Spring 1
ACTG-04A or ACTG-51
Spring 2
ECON-01A
Fall 3
MDSE-31
Spring 3
MDSE-31
Fall 4
MDSE-31
Spring 4
MDSE-31
MERCHANDISING MANAGEMENT (MDSE)
MDSE-31 RETAIL MANAGEMENT (Also: MKTG-31)
3 units: 3 hours lecture.
Advisory: ENGL-A.
This course is a study of principles and practices of retail merchandising. It is designed to help develop skills in organizing, operating, and managing in the retail merchandising industry. It will also provide students with knowledge necessary to enter the field of merchandising and to provide a basis for advancement for those currently employed in the field. (4/04)

MDSE-32 SALESMANSHIP (Also: MKTG-32)
3 units: 3 hours lecture.
Prerequisites/Advisories: None.
This course is designed to provide the student with a theoretical and practical background in salesmanship. Included in this course are the study of the psychology of selling, selling principles and techniques, advertising and sales promotion, and development of the individual for entry into the field of salesmanship. (3/00)

MDSE-33 ADVERTISING (Also: MKTG-33)
3 units: 3 hours lecture.
Advisory: ENGL-A.
This is an introductory course in advertising principles and techniques. Areas of study will include advertising agencies; preparation of advertisements, including copyrighting, illustration, and layouts; media selection; budgeting for advertising; psychology and persuasion of advertisements; and the use of advertising as a tool in sales promotion. (11/03)

MARKETING (MKTG)

MKTG-30 MARKETING
3 units: 3 hours lecture.
Advisory: ENGL-A.
This course provides a broad understanding of the promoting, pricing, and distribution of products and services. Promotional mixes are studied including sales promotion, advertising, packaging, personal selling, public relations, and publicity. A study is made of understanding customer needs and behaviors; developing a product and/or service mix to satisfy customer needs, and profitability. Legal, political, cultural, social, economic, competitive, and ethical aspects of marketing are discussed. (12/06)

MKTG-31 RETAIL MANAGEMENT (Also: MDSE-31)
3 units: 3 hours lecture.
Advisory: ENGL-A.
This course is a study of the principles and practices of retail merchandising. It is designed to help develop skills in organizing, operating, and managing in the retail merchandising industry. It will also provide students with knowledge necessary to enter the field of merchandising and to provide a basis for advancement for those currently employed in the field. (4/04)

MKTG-32 SALESMANSHIP (Also: MDSE-32)
3 units: 3 hours lecture.
Prerequisites/Advisories: None.
This course is designed to provide the student with a theoretical and practical background in salesmanship. Included in this course is the study of the psychology of selling, selling principles and techniques, advertising and sales promotion, and development of the individual for entry into the field of salesmanship. (3/00)

MKTG-33 ADVERTISING (Also: MDSE-33)
3 units: 3 hours lecture.
Advisory: ENGL-A.
This is an introductory course in advertising principles and techniques. Areas of study will include advertising agencies; preparation of advertisements, including copyrighting, illustration, and layouts; media selection; budgeting for advertising; psychology and persuasion of advertisements; and the use of advertising as a tool in sales promotion. (11/03)
DEGREE
A.A. - Music: Music History
A.A. - Music: Guitar
A.A. - Music: Instrumental
A.A. - Music: Piano
A.A. - Music: Vocal

DEGREE (4/07)
A.A. - Music: Music History (10430.AA)

For an Associate in Arts Degree in Music: Music History, students must meet the basic graduation requirements in addition to the 34-unit curriculum below.

Program Student Learning Outcomes
A. Analyze, identify, and apply standard theoretical concepts in the understanding of existing compositions, the organization of musical sounds, and in the creation of original compositions.
B. Differentiate traditional and contemporary techniques of composition and ear training, compose new pieces for a variety of instrumental and/or vocal settings, demonstrate pitch recognition using either vocal or instrumental sound production, and demonstrate rhythmical concepts and procedures.
C. Demonstrate knowledge of the historical development of western music, prominent composers and performers, and cultural issues as they relate to the traditional and modern artistic periods.
D. Trace the major movements within western music from its ancient beginnings to its current state, research prominent composers, develop listening skills, and translate musical concepts into written and verbal formats.

Core: Units
MUS-04A Music Theory I ......................................................... 3
MUS-04B Music Theory II ......................................................... 3
MUS-04C Music Theory III ......................................................... 3
MUS-04D Music Theory IV ......................................................... 3
MUS-11 History of Classical Music ................................................ 3
MUS-12 History of Classical Music ................................................ 3
MUS-24A Applied Music I ......................................................... 1
MUS-24B Applied Music II ......................................................... 1
MUS-27A Piano I ......................................................... 2

Music History Concentration
Six units from the following courses:
MUS-13 History and Appreciation of Jazz ................................................ 3
MUS-14 History of American Popular Music ................................................ 3

Plus six units from the following electives:
MUS-27B Piano II ......................................................... 2
MUS-27C Piano III ......................................................... 2
MUS-27D Piano IV ......................................................... 2
MUS-36A Beginning Guitar ......................................................... 2
MUS-36B Intermediate Guitar ......................................................... 2
MUS-36C Advanced Guitar ......................................................... 2
MUS-39A-ZZ Special Problems in Music ......................................................... 3-6

Program Student Learning Outcomes
A. Perform selected exercises and compositions for guitar which reflect the repertoire standard of lower division guitar courses at four-year institutions, and evaluate and demonstrate appropriate techniques relevant to the preparation and performance of selected compositions.
B. Identify the general character and specific demands of guitar compositions, work through challenging passages, and apply appropriate musical tone, intonation, and dynamics in performance as it relates to the lower division guitar performance coursework.
C. Analyze, identify, and apply standard theoretical concepts in the understanding of existing compositions, the organization of musical sounds, and in the creation of original compositions.
D. Differentiate traditional and contemporary techniques of composition and ear training, compose new pieces for a variety of instrumental and/or vocal settings, demonstrate pitch recognition using either vocal or instrumental sound production, and demonstrate rhythmical concepts and procedures.
E. Demonstrate knowledge of the historical development of western music, prominent composers and performers, and cultural issues as they relate to the traditional and modern artistic periods.
F. Trace the major movements within western music from its ancient beginnings to its current state, research prominent composers, develop listening skills, and translate musical concepts into written and verbal formats.

Core: Units
MUS-04A Music Theory I ......................................................... 3
MUS-04B Music Theory II ......................................................... 3
MUS-04C Music Theory III ......................................................... 3
MUS-04D Music Theory IV ......................................................... 3
MUS-11 History of Classical Music ................................................ 3
MUS-12 History of Classical Music ................................................ 3
MUS-24A Applied Music I ......................................................... 1
MUS-24B Applied Music II ......................................................... 1
MUS-27A Piano I ......................................................... 2

Guitar Concentration
MUS-24C Applied Music III ......................................................... 1
MUS-24D Applied Music IV ......................................................... 1
MUS-36A Beginning Guitar ......................................................... 2
MUS-36B Intermediate Guitar ......................................................... 2
MUS-36C Advanced Guitar ......................................................... 2

Plus four units from the following music ensembles:
MUS 41A Concert Band I ......................................................... 2
MUS 41B Concert Band II ......................................................... 2
MUS 42A Jazz Ensemble I ......................................................... 2
MUS 42B Jazz Ensemble II ......................................................... 2
MUS 44 Chorus ......................................................... 2

34
DEGREE (4/07)
A.A. - Music: Instrumental (10420.AA)

For an Associate in Arts Degree in Music: Instrumental, students must meet the basic graduation requirements in addition to the 34-unit curriculum below.

Program Student Learning Outcomes
A. Perform selected exercises and compositions for their selected musical instrument which reflect the repertoire standard of lower division instrumental performance courses at four-year institutions, and evaluate and demonstrate appropriate techniques relevant to the preparation and performance of selected compositions.
B. Identify the general character and specific demands of instrumental compositions, work through challenging passages, and apply appropriate musical tone, intonation, and dynamics in performance as it relates to the lower division instrumental performance coursework.
C. Analyze, identify, and apply standard theoretical concepts in the understanding of existing compositions, the organization of musical sounds, and in the creation of original compositions.
D. Differentiate traditional and contemporary techniques of composition and ear training, compose new pieces for a variety of instrumental and/or vocal settings, demonstrate pitch recognition using either vocal or instrumental sound production, and demonstrate rhetorical concepts and procedures.
E. Demonstrate knowledge of the historical development of western music, prominent composers and performers, and cultural issues as they relate to the traditional and modern artistic periods.
F. Trace the major movements within western music from its ancient beginnings to its current state, research prominent composers, develop listening skills, and translate musical concepts into written and verbal formats.

Core: Units
MUS-04A Music Theory I ........................................... 3
MUS-04B Music Theory II ........................................... 3
MUS-04C Music Theory III ......................................... 3
MUS-04D Music Theory IV ......................................... 3
MUS-11 History of Classical Music .............................. 3
MUS-12 History of Classical Music .............................. 3
MUS-24A Applied Music I ........................................... 1
MUS-24B Applied Music II ......................................... 2
MUS-24C Applied Music III ....................................... 1
MUS-24D Applied Music IV ....................................... 1

Instrumental Concentration
MUS-24C Applied Music III ....................................... 1
MUS-24D Applied Music IV ....................................... 1

Plus six units from the following music ensembles:
MUS-40 Orchestra .................................................. 2
MUS 41A Concert Band I ........................................... 2
MUS 41B Concert Band II ......................................... 2
MUS 41C Concert Band III ........................................ 2
MUS-42A Jazz Ensemble I ......................................... 2
MUS-42B Jazz Ensemble II ........................................ 2
MUS-42C Jazz Ensemble III ....................................... 2

Plus four units from the following electives:
MUS-13 History and Appreciation of Jazz ..................... 3
MUS-28** Jazz Improvisation .................................... 2
MUS-36A Beginning Guitar ....................................... 2
MUS-39A-ZZ Special Problems in Music ...................... 3

**MUS-28 will be offered in fall 2010 and fall 2012

34
A.A. - Music: Vocal (10450.AA)

For an Associate in Arts Degree in Music: Vocal, students must meet the basic graduation requirements in addition to the 37-unit curriculum below.

Recommended Sequence: Music Majors

Fall 1
MUS-04A Music Theory I .................................................. 3
MUS-24A Applied Music I .................................................. 1
MUS-27A Piano I .......................................................... 2
Music electives and ensemble courses based on degree emphasis.

Spring 1
MUS-04B Music Theory II .................................................. 3
MUS-24B Applied Music II .................................................. 1
Music electives and ensemble courses based on degree emphasis.

Fall 2
MUS-11 History of Classical Music ......................................... 3
MUS-04C Music Theory III .................................................. 3
MUS-24C Applied Music III .................................................. 1
Music electives and ensemble courses based on degree emphasis.

Spring 2
MUS-04D Music Theory IV .................................................. 3
MUS-24D Applied Music IV .................................................. 1
MUS-12 History of Classical Music ......................................... 3
Music electives and ensemble courses based on degree emphasis.

Core: 

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUS-04A Music Theory I</td>
<td>3</td>
</tr>
<tr>
<td>MUS-04B Music Theory II</td>
<td>3</td>
</tr>
<tr>
<td>MUS-04C Music Theory III</td>
<td>3</td>
</tr>
<tr>
<td>MUS-04D Music Theory IV</td>
<td>3</td>
</tr>
<tr>
<td>MUS-11 History of Classical Music</td>
<td>3</td>
</tr>
<tr>
<td>MUS-12 History of Classical Music</td>
<td>3</td>
</tr>
<tr>
<td>MUS-24A Applied Music I</td>
<td>1</td>
</tr>
<tr>
<td>MUS-24B Applied Music II</td>
<td>1</td>
</tr>
<tr>
<td>MUS-27A Piano I</td>
<td>2</td>
</tr>
</tbody>
</table>

Vocal Concentration:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUS-24C Applied Music III</td>
<td>1</td>
</tr>
<tr>
<td>MUS-24D Applied Music IV</td>
<td>1</td>
</tr>
<tr>
<td>MUS-43A Elementary Voice</td>
<td>3</td>
</tr>
<tr>
<td>MUS-43B Advanced Voice</td>
<td>3</td>
</tr>
<tr>
<td>MUS-47* Song Interpretation: Music Theater</td>
<td>3</td>
</tr>
</tbody>
</table>

Plus four units from the following vocal ensembles:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUS-44 Chorus</td>
<td>2</td>
</tr>
<tr>
<td>MUS-45 Chamber Singers</td>
<td>2</td>
</tr>
</tbody>
</table>

*MUS-47 will be offered in spring 2013

Note: Many four-year colleges have a maximum number of acceptable performance course units.

MUS-01 FUNDAMENTALS OF MUSIC

(CSU breadth area C1) (IGETC area 3A)

3 units: 3 hours lecture.
Advisory: ENGL-84.

This course is a study of music fundamentals, including principles and procedures of rhythm and pitch notation, scales (major, minor, church, and other) and key signatures, intervals, chord structures and symbols. Harmonic analysis of chords and of simple four-part writing is included. The course is applicable to those who have learned to play and sing without training in fundamentals, and to beginners in music. (3/09)

MUS-02 MUSICAL STAGE PRODUCTION

3 units: 2 hours lecture, 3 hours lab.
Limitation on enrollment: Must be able to demonstrate pitch matching skills. Advisory: ENGL-84.

This course is an intensive study of musical stage productions, including musical theater, musical revues, opera, and operettas. It is open to students interested in singing and acting. A major musical stage production is prepared and performed by students at the end of the semester. Detailed study of mise-en-scene, makeup, stage vocal techniques, and scene staging are included. All students are expected to participate in every aspect of the musical stage production. This course may be repeated three times. (2/08)

MUS-04A MUSIC THEORY I

3 units: 3 hours lecture.
Advisory: MUS-01.

This is the first of four sequential music theory courses. This sequence provides a comprehensive study of lower division music theory. Concurrent studies in melodic and rhythmic analysis and composition, in harmonic analysis, and an analysis of form are included. Principles of counterpoint (modal and tonal), harmony (diatonic and chromatic), and 20th century technique are included in the sequence. The student will also acquire the basis for an intelligent appraisal and study of individual styles of music (17th through 20th centuries), with attention directed toward 19th and 20th century styles. This course provides a thorough study of diatonic harmony found in music literature of the common practice period. This includes harmonic and voice leading principles, use of figured bass, triads and 7th
MUS-04B MUSIC THEORY II
3 units: 3 hours lecture.
Prerequisite: MUS-04A.
This is the second of four sequential music theory courses. This sequence provides a comprehensive study of lower division music theory. Concurrent studies in melodic and rhythmic analysis and composition, harmonic analysis, and an analysis of form are included. Principles of Counterpoint (modal and tonal), Harmony (diatonic and chromatic), and 20th century technique are included in the sequence. This course provides a thorough study of chromatic harmony found in music literature of the common practice period from the 20th century. This includes secondary dominants, modulation to closely related keys, modulation to distant keys, modal exchange and mixture chords, the (Neapolitan, German, French, Italian) 6th chord, added-note chords and larger vertical structures (9th, 11th, 13th), dominant prolongation, analysis of simple and complex forms, and chromatic voice leading. (12/04)

MUS-04C MUSIC THEORY III
3 units: 3 hours lecture.
Prerequisite: MUS-04B.
This is the third of four sequential music theory courses. This sequence provides a comprehensive study of lower division music theory. Concurrent studies in melodic and rhythmic analysis and composition, harmonic analysis and an analysis of form are included. Principles of Counterpoint (modal and tonal), harmony (diatonic and chromatic), and 20th century technique are included in the sequence. This course provides a thorough study of ear-training and sight-singing as it relates to the music found in the common practice period through the 20th century. Ear-training studies will include dictation (melodic, harmonic, and rhythmic), aural identification of scales, diatonic and chromatic intervals, triads, 7th chords, their functions, inversions, and qualities. An introduction to conducting patterns, fundamentals of acoustics, analysis of musical form as an aid to functional hearing, cadence identification, and error detection will be included. Sight-singing studies will include diatonic and chromatic melodies, and part-singing. The course will use theory taught in MUS-04A and MUS-04B to augment awareness of the ear training and sight-singing student. (12/04)

MUS-04D MUSIC THEORY IV
3 units: 3 hours lecture.
Prerequisite: MUS-04C.
This is the fourth of four sequential music theory courses. This sequence provides a comprehensive study of lower division music theory. Concurrent studies in melodic and rhythmic analysis and composition, harmonic analysis, and an analysis of form are included. Principles of counterpoint (modal and tonal), harmony (diatonic and chromatic), and 20th century technique are included in the sequence. This course provides a thorough study of non-tonal harmony (e.g. quartal, pan-diatonic), introduction to set theory and basic twelve-tone technique, jazz harmony, and principles of improvisation. A survey of representative compositions of the 20th century with respect to style and structure is included. (12/04)

MUS-11 HISTORY OF CLASSICAL MUSIC (EARLY MUSIC THROUGH BAROQUE ERA)
(CSU breadth area C1) (IGETC area 3A)
3 units: 3 hours lecture.
Advisory: ENGL-A.
This course is a study of the important composers and their works in classical music from early music (e.g., Gregorian chant) to Bach (600 to 1750). Students will develop an understanding and appreciation of various types of classical music from different eras as a medium of cultural development and as a background toward further musical study. (12/06)

MUS-12 HISTORY OF CLASSICAL MUSIC (CLASSICAL ERA TO THE PRESENT DAY)
(CSU breadth area C1) (IGETC area 3A)
3 units: 3 hours lecture.
Advisory: ENGL-A.
This course is a study of the important composers and their works in classical music from the classical era to the present day. Emphasis is on classical, romantic, impressionistic, nationalistic, and contemporary periods in classical music history. Students will develop an understanding and appreciation of various types of classical music from different eras as a medium of cultural development and as a background toward further musical study. (12/06)

MUS-13 HISTORY AND APPRECIATION OF JAZZ
(CSU breadth area C1) (IGETC area 3A)
3 units: 3 hours lecture.
Advisory: ENGL-A.
This course presents the history of jazz music from 1890 to present, including an introduction and analysis of major jazz artists and their contributions to this American art form. Special emphasis will be given to developing listening skills appropriate to the understanding and appreciation of jazz. International influences and the development of jazz as a world musical form will be discussed. This course is a listener’s guide to the appreciation of jazz and incorporates principles of structure, expression, instrumentation, cultural and social issues integral to jazz music. (12/08)

MUS-14 HISTORY OF AMERICAN POPULAR MUSIC
(CSU breadth area C1) (IGETC area 3A)
3 units: 3 hours lecture.
Advisory: ENGL-A.
This course presents an introduction to the history and literature of the popular music movement in the United States; it is a study of the relationships of popular music to the social history of America. Emphasis is on styles and personalities of folk, blues, jazz, musical theater, country & western, and rock “n” roll. This course is designed for the non-music major. (12/06)

MUS-24A APPLIED MUSIC I
1 unit: 3 hours lab.
Limitation on enrollment: Students enrolling in MUS-24 must be able to demonstrate a level of performance competence on their selected instrument or voice at a level equivalent to that of a music major attending a four-year college or university in the appropriate term of their freshman or sophomore year of studies. Prerequisite/Advisory: None.
This course provides for private individual instruction in voice, piano, or traditional band or orchestra instruments at a level equivalent to that of a music major in the appropriate term of their freshman or sophomore year of music studies. It requires one lesson per week with a private instructor approved by the music department faculty. A minimum of 15 lessons must be verified. A jury examination by the music department faculty is required at the conclusion of the course. (11/08)

MUS-24B APPLIED MUSIC II
1 unit: 3 hours lab.
Limitation on enrollment: Students enrolling in MUS-24 must be able to demonstrate a level of performance competence on their selected instrument or voice at a level equivalent to that of a music major attending a four-year college or university in the appropriate term of their freshman or sophomore year of studies. Prerequisite: MUS-24A.
This course provides for private individual instruction in voice, piano, or traditional band or orchestra instruments at a level equivalent to that of a music major in the appropriate term of their freshman or sophomore year of music studies. It requires one lesson per week with a private instructor approved by the music department faculty. A minimum of 15 lessons must be verified. A jury examination by the music department faculty is required at the conclusion of the course. (11/08)
MUS-24C APPLIED MUSIC III

1 unit: 3 hours lab.
Limitation on enrollment: Students enrolling in MUS-24 must be able to demonstrate a level of performance competence on their selected instrument or voice at a level equivalent to that of a music major attending a four-year college or university in the appropriate term of their freshman or sophomore year of studies. Prerequisite: MUS-24B.

This course provides for private individual instruction in voice, piano, or traditional band or orchestra instruments at a level equivalent to that of a music major in the appropriate term of their freshman or sophomore year of music studies. It requires one lesson per week with a private instructor approved by the music department faculty. A minimum of 15 lessons must be verified. A jury examination by the music department faculty is required at the conclusion of the course. (11/08)

MUS-24D APPLIED MUSIC IV

1 unit: 3 hours lab.
Limitation on enrollment: Students enrolling in MUS-24 must be able to demonstrate a level of performance competence on their selected instrument or voice at a level equivalent to that of a music major attending a four-year college or university in the appropriate term of their freshman or sophomore year of studies. Prerequisite: MUS-24C.

This course provides for private individual instruction in voice, piano, or traditional band or orchestra instruments at a level equivalent to that of a music major in the appropriate term of their freshman or sophomore year of music studies. It requires one lesson per week with a private instructor approved by the music department faculty. A minimum of 15 lessons must be verified. A jury examination by the music department faculty is required at the conclusion of the course. (11/08)

MUS-27A PIANO I

2 units: 2 hours lecture.
Advisory: ENGL-A.

This course is a sequential program of instruction for the beginning piano student. It is designed to develop sight reading skill and keyboard technique incorporated into solo and ensemble music. (12/06)

MUS-27B PIANO II

2 units: 2 hours lecture.
Prerequisite: MUS-27A. Advisory: ENGL-A.

This course is a continuation of MUS-27A, and introduces two octave scales, arpeggios, triads, damper pedal technique, and musical textures and rhythms that are more complex. (12/06)

MUS-27C PIANO III

2 units: 2 hours lecture.
Prerequisite: MUS-27B. Advisory: ENGL-A.

This course is designed for the second year of piano instruction at a college level. Studies in diatonic and chromatic chord structures and their voicing (as found in piano literature), and the study of two-, three-, and four-part textures are included. This course will explore various piano styles found in the common practice period through the 21st century and will introduce piano technique. (12/06)

MUS-27D PIANO IV

2 units: 2 hours lecture.
Prerequisite: MUS-27C. Advisory: ENGL-A.

This course is a continuation of MUS-27C. It offers a more advanced study of diatonic and chromatic chord structures and their voicing as found in piano literature. The course will continue to examine various piano styles found in the common practice period through the 21st century and introduce related piano techniques. (12/06)

MUS-28 JAZZ IMPROVISATION

2 units: 2 hours lecture.
Advisory/Prerequisite: None.

This course is an introduction to theory and performance of basic jazz improvisation. The study of scales, chords, major and minor keys, modes, and various jazz styles is included. (10/06)

MUS-36A BEGINNING GUITAR

2 units: 2 hours lecture.
Advisory: ENGL-A.

This course provides for group instruction on the guitar. The course presents the opportunity to learn basic techniques of guitar performance. Instruction will be predominantly in the areas of folk, classical and popular styles and related techniques. (2/08)

MUS-36B INTERMEDIATE GUITAR

2 units: 2 hours lecture.
Prerequisite: MUS-36A. Advisory: ENGL-A.

This course is a continuation of skills and techniques learned in MUS-36A. Additional emphasis will be placed upon classical and popular guitar techniques. (2/08)

MUS-36C ADVANCED GUITAR

2 units: 2 hours lecture.
Prerequisite: MUS-36B. Advisory: ENGL-A.

This course is a study of advanced guitar techniques, including classical methods, scale forms, picking variations, extended chord forms, and development of individual style. (2/08)

MUS-39A-ZZ SPECIAL PROBLEMS IN MUSIC

1-3 units: 1-3 hours lecture.
Advisory/Prerequisite: None.

This course is designed to provide students with the opportunity to do advanced, specialized work, under the supervision of an instructor in areas not offered in regular classes. Students must develop an advanced problem in the area of music that they wish to explore. Before enrolling, students must complete a contract detailing proposed area of study. (4/07)

MUS-40 ORCHESTRA

2 units: 1 hour lecture, 3 hours lab.
Limitation on enrollment: Audition by instructor: Student must be able to sight read.

This course offers experience in performing orchestra literature, as is standard in lower division college performance ensemble classes. Public performance and exchange concerts are scheduled in addition to class rehearsals. This course may be repeated three times. (1/07)

MUS-41A CONCERT BAND I

2 units: 1 hour lecture, 3 hours lab.
Limitation on enrollment: Audition by instructor.

This course provides experience in performing concert and symphonic band literature. Public performance and exchange concerts are scheduled in addition to class rehearsals. (3/09)

MUS-41B CONCERT BAND II

2 units: 1 hour lecture, 3 hours lab.
Limitation on enrollment: Audition by instructor. Prerequisite: MUS-41A.

This is the second of four sequential courses. It offers additional experience in performing concert and symphonic band literature, as is standard in second semester lower division college performance ensemble classes. Public performance and exchange concerts are scheduled in addition to class rehearsals. (3/09)

MUS-41C CONCERT BAND III

2 units: 1 hour lecture, 3 hours lab.
Limitation on enrollment: Audition by instructor. Prerequisite: MUS-41B.

This is the third of four sequential courses. It offers additional experience in performing concert and symphonic band literature, as is standard in third semester lower division college performance ensemble classes. Public performance and exchange concerts are scheduled in addition to class rehearsals. (3/09)
MUS-41D CONCERT BAND IV
2 units: 1 hour lecture, 3 hours lab.
Limitation on enrollment: Audition by instructor. Prerequisite: MUS-41C.
This is the forth of four sequential courses. It offers additional experience in performing concert and symphonic band literature, as is standard in forth semester lower division college performance ensemble classes. Public performance and exchange concerts are schedule in addition to class rehearsals. (3/09)

MUS-42A JAZZ ENSEMBLE I
2 units: 1 hour lecture, 3 hours lab.
Limitation on enrollment: Audition by instructor; student must be able to sight read on their instruments and have some ensemble experience.
This course is the first of four sequential courses. This course is a study of jazz music in the big band tradition and modern eras, as is standard in first semester lower division college performance ensemble classes. The course emphasizes individual vocal, sectional, and ensemble instrumental performance. Tone, intonation, balance, precision, breath control, articulation, style, and improvisation are included. The Jazz Ensemble makes several public performances each year. (2/08)

MUS-42B JAZZ ENSEMBLE II
2 units: 1 hour lecture, 3 hours lab.
Prerequisite: MUS-42A.
This course is the second of four sequential courses. This course provides additional study of jazz music in the big band tradition and modern eras, as is standard in second semester lower division college performance ensemble classes. The course emphasizes individual vocal, sectional, and ensemble instrumental performance. Tone, intonation, balance, precision, breath control, articulation, style, and improvisation are included. The Jazz Ensemble makes several public performances each year. (2/08)

MUS-42C JAZZ ENSEMBLE III
2 units: 1 hour lecture, 3 hours lab.
Prerequisite: MUS-42B.
This course is the third of four sequential courses. This course provides additional study of jazz music in the big band tradition and modern eras, as is standard in third semester lower division college performance ensemble classes. The course emphasizes individual vocal, sectional, and ensemble instrumental performance. Tone, intonation, balance, precision, breath control, articulation, style, and improvisation are included. The Jazz Ensemble makes several public performances each year. (2/08)

MUS-42D JAZZ ENSEMBLE IV
2 units: 1 hour lecture, 3 hours lab.
Prerequisite: MUS-42C.
This course is the fourth of four sequential courses. This course is a study of jazz music in the big band tradition and modern eras, as is standard in fourth semester lower division college performance ensemble classes. This course emphasizes individual vocal, sectional, and ensemble instrumental performance. Tone, intonation, balance, precision, breath control, articulation, style, and improvisation are included. The Jazz Ensemble makes several public performances each year. (2/08)

MUS-43A ELEMENTARY VOICE
3 units: 3 hours lecture.
Limitation on enrollment: Must demonstrate the ability to match pitch; see instructor. Advisory: ENGL-A.
This is a course in elementary voice training. It emphasizes posture, diaphragmatic-intercostals breathing, breath support, breath control, tonal placement, articulation, stage presence, and overcoming performance anxiety. Critical evaluation, demonstration, and written reviews will be required. A basic understanding of music fundamentals, although not required, would be highly desirable. (12/06)

MUS-43B ADVANCED VOICE
3 units: 3 hours lecture.
Prerequisite: MUS-43A. Advisory: ENGL-84.
This is a course for those singers who desire more advanced vocal training. In-depth study, discussion, and personal application of vocal technique such as diaphragmatic-intercostal breathing, breath support and control, correct tonal placement and articulation is a regular part of class activities. Correct pronunciation of English, Latin, Italian and German will be studied and performed with selections from classical vocal repertoire. (2/08)

MUS-44 CHORUS
2 units: 1 hour lecture, 3 hours lab.
Limitation on enrollment: Audition by instructor.
This course is a study of standard choral literature. It emphasizes part-singing, intonation, breath control, vocal development, style, eras, musical devices, etc. The chorus makes several public appearances each year. This course may be repeated three times. (1/05)

MUS-45 CHAMBER SINGERS
2 units: 1 hour lecture, 3 hours lab.
Limitation on enrollment: Audition by instructor.
This course specializes in the study and performance of choral literature chosen from all major eras and genres of choral writing. Particular focus will be made on literature written or arranged for small vocal ensembles. Emphasis includes part-singing, intonation, breath control, vocal development, blend, tone coloring, and choral balance. The Chamber Singers perform several times throughout the year. This course may be repeated three times. (1/05)

MUS-46 CHORAL AND INSTRUMENTAL CONDUCTING
3 units: 3 hours lecture.
Advisories: ENGL-84; MUS-01 or MUS-04A or MUS-27A or MUS-36A or MUS-40 or MUS-41 or MUS-42 or MUS-44 or MUS-45.
This course covers the essential personal traits and baton techniques of conducting. Score reading, mastery of elementary patterns and techniques, repertoire for performing vocal and instrumental ensembles, and observance of successful conductors are included. Previous participation in choral or instrumental ensembles would be highly advisable for student's success in course. (5/09)

MUS-47 SONG INTERPRETATION: MUSIC THEATER
3 units: 3 hours lecture.
Prerequisite: MUS-43A. Advisory: ENGL-84.
This is a course for those singers who desire to develop their abilities in song interpretation. Particular emphasis is placed on music theater literature and presentation. Character development, motivation, blocking, facial and body gestures, and emotional discovery are all incorporated into the song interpretation. In lieu of the prerequisite, students may choose to challenge by audition with instructor. (5/09)

MUS-61ABCD (1-4) FINE AND PERFORMING ARTS – SPECIAL TOPICS
.5 - 2 units: 0.5 - 1 hour lecture, 1.5 - 6 hours lab.
(Note: The number following the letter designation indicates unit value, “1” being for 0.5 unit, “2” for 1 unit, etc., in 0.5 unit increments.) The course covers a variety of topics of current interest to students of music. Different topics will be emphasized each time the course is offered. Sections of this course may vary in unit value depending on subject matter, meeting time, and format. Each letter (i.e., A, B, C or D) may be taken only once.
Natural Sciences
Math, Science and Engineering

DEGREE
A.A. - Natural Sciences

Program Description
The degree in Natural Sciences offers an introduction to the physical and life sciences. Students interested in a career within the areas of research, teaching, health care professions, or related fields would be served by this degree. This area of emphasis provides an opportunity to earn an AA degree in a broad area of study and is intended for students who may need to explore possibilities before committing themselves to a career or transferring to a four-year university. Students are strongly encouraged to consult with a counselor for specific information regarding their career planning.

DEGREE  (12/09)
A.A. - Natural Sciences  (49820.AA)

For an Associate in Science Degree with an area of emphasis in Natural Sciences, students must meet the basic graduation requirements and complete 18 units from the courses listed below.

Program Student Learning Outcomes
A. A student will be able to define and analyze basic biological and physical principles underlying modern scientific, technological, health, and environmental issues and relate their analysis to global concepts.
B. A student will be able to solve scientific problems using appropriate chemical, physical, and/or mathematical principles expressed in an appropriate form.
C. A student will be able to organize, analyze and interpret observations and make predictions about the natural world using the scientific method.

Select nine units from each of the following two categories. Courses listed below may be counted as general education requirements as well as area of emphasis requirements.

Category 1: Physical Science
Choose one of the following courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASTR-01</td>
<td>Principles of Astronomy</td>
<td>3</td>
</tr>
<tr>
<td>CHEM-02A</td>
<td>Introductory Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>GEOL-01</td>
<td>Physical Geology</td>
<td>3</td>
</tr>
<tr>
<td>PHSC-01</td>
<td>Introduction to Physical and Earth Science</td>
<td>3</td>
</tr>
<tr>
<td>PHYS-02A</td>
<td>General Physics</td>
<td>4</td>
</tr>
</tbody>
</table>

Plus six units from the following courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARCH-01</td>
<td>Introduction to Archaeology</td>
<td>3</td>
</tr>
<tr>
<td>ASTR-01L</td>
<td>Introductory Astronomy Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>CHEM-02B</td>
<td>Introductory Chemistry: Organic and Biochemistry</td>
<td>4</td>
</tr>
<tr>
<td>CHEM-04A</td>
<td>General Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>CHEM-04B</td>
<td>General Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>GEOG-01</td>
<td>Physical Geography</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-01L</td>
<td>Physical Geography Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>PHSC-01L</td>
<td>Introduction to Physical and Earth Science</td>
<td>1</td>
</tr>
<tr>
<td>PHYS-02B</td>
<td>General Physics</td>
<td>4</td>
</tr>
</tbody>
</table>

Category 2: Life Science
Choose one of the following courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL-01*</td>
<td>General Biology for Non-Majors</td>
<td>4</td>
</tr>
<tr>
<td>BIOL-02*</td>
<td>Human Biology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL-06</td>
<td>Environmental Science</td>
<td>3</td>
</tr>
<tr>
<td>BIOL-08</td>
<td>Conservation of Natural Resources</td>
<td>3</td>
</tr>
<tr>
<td>BIOL-09</td>
<td>Introduction to Genetics</td>
<td>3</td>
</tr>
<tr>
<td>BIOL-16</td>
<td>General Human Anatomy</td>
<td>4</td>
</tr>
</tbody>
</table>

Plus six units from the following courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANSC-10</td>
<td>Elements of Animal Science</td>
<td>3</td>
</tr>
<tr>
<td>ANTH-01</td>
<td>Physical Anthropology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL-04A</td>
<td>Fundamentals Of Biology: The Cell And Evolution</td>
<td>4</td>
</tr>
<tr>
<td>BIOL-04AH</td>
<td>Honors Fundamentals Of Biology: The Cell And</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Evolution</td>
<td></td>
</tr>
<tr>
<td>BIOL-04B</td>
<td>Diversity of Life: Morphology and Physiology</td>
<td>5</td>
</tr>
<tr>
<td>BIOL-18</td>
<td>Principles of Physiology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL-20</td>
<td>Microbiology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL-25</td>
<td>The Oceans</td>
<td>3</td>
</tr>
<tr>
<td>ENTC-30</td>
<td>Introduction to Environmental Technology</td>
<td>3</td>
</tr>
<tr>
<td>PLSC-10</td>
<td>Elements of Plant Science</td>
<td>3</td>
</tr>
</tbody>
</table>

Recommended Sequence: A.A. - Natural Sciences  (49820.AA)

Fall 1

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM-02A</td>
<td>Introductory Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>BIOL-01*</td>
<td>General Biology for Non-Majors</td>
<td>4</td>
</tr>
<tr>
<td>ARCH-01</td>
<td>Introduction to Archaeology</td>
<td>3</td>
</tr>
<tr>
<td>GEOG-01</td>
<td>Physical Geography</td>
<td>3</td>
</tr>
</tbody>
</table>

Additional units can be taken as breadth and/or elective courses.

Spring 1

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM-02B</td>
<td>Introductory Chemistry: Organic and Biochemistry</td>
<td>4</td>
</tr>
<tr>
<td>ANTH-01</td>
<td>Physical Anthropology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL-09</td>
<td>Introduction to Genetics</td>
<td>3</td>
</tr>
</tbody>
</table>

Additional units can be taken as breadth and/or elective courses.

Fall 2

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS-10</td>
<td>Concepts in Physics</td>
<td>3</td>
</tr>
<tr>
<td>SOIL-10</td>
<td>Soil Science</td>
<td>3</td>
</tr>
<tr>
<td>BIOL-20</td>
<td>Microbiology</td>
<td>4</td>
</tr>
</tbody>
</table>

Additional units can be taken as breadth and/or elective courses.

Spring 2

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANSC-10</td>
<td>Elements of Animal Science</td>
<td>3</td>
</tr>
<tr>
<td>PLSC-10</td>
<td>Elements of Plant Science</td>
<td>3</td>
</tr>
</tbody>
</table>

Additional units can be taken as breadth and/or elective course.
NATURAL SCIENCE (NTSC)

NTSC-40 A-F  NATURAL SCIENCE
1 unit each; 3 to 8 day excursions.
This is a field study on the natural history of a specific region. Educational institutions and areas of scientific interest will be visited. Lecture and examinations will be given en route. The academic areas of Anthropology, Botany, Biology, Geology, Astronomy, Physics, Chemistry, and Zoology will be investigated where applicable.

NTSC-40G GRAND CANYON
1 unit: 9 hours lecture, 50 hours total lab.
In this course, students traverse the Grand Canyon on foot from the North to South Rims and this involves a backpack trip of 24.5 miles in four days. There is usually space for 6-8 non-backpackers who stay with the bus to study the rims, the canyon at Page, Arizona, and the Painted Desert. The entire trip requires seven nights and eight days. Except for two nights on the ground for backpackers, lodging is in motels and hotels. There are two evening class meetings preceding and one following the trip.

NTSC-45L ABC  FIELD STUDY
1-3 units: 1-3 hours lecture and/or 3-12 hours lab by arrangement.
(Note: The second letter designation indicates unit value, “A” being for 1 unit, “B” for 2 units, and “C” for 3 units.)
This course is offered as special opportunities arise for field study in the natural sciences, such as Biology, Ecology, Physical Anthropology, Geology, and Cultural Anthropology. Work will take place in the field, the laboratory, and/or the museum providing practical experiences in observation, collection, preservation, identification, preparation for exhibition or other work required of active scientists. This course is not repeatable.
CERTIFICATE
Nursing Assistant (CNA)

Web site
www.mccd.edu/alliedhealth/

Program Description
The Nurse Assistant program is offered during the spring and fall semesters for 18 weeks and the summer semester for nine weeks in Merced and Los Baños.

The course provides basic skills required of the nurse assistant employed in skilled nursing facilities. The course emphasizes care of the older adult client and assistance with the activities of daily living: bathing, dressing, exercise, movement, eating, eliminating, safety measures, and rehabilitation techniques. The Nurse Assistant program also provides clinical instruction. Students will practice skills in the lab and then be assigned to assist clients in a skilled nursing facility. This training meets the *California Department of Public Health requirements for eligibility to take the Nurse Assistant certification examination.

*California Department of Public Health Licensing and Certification Program (L & C) Aide and Technician Certification Section (ATCS)
1615 Capitol Ave, MS 3301; PO Box 997416; Sacramento, CA 95899-7416; www.cdph.ca.gov

Upon successful completion of the Nurse Assistant Program, the student must pass the Certification Exam in order to become a Certified Nurse Assistant. The exam has been developed to meet the evaluation requirements of the federal and state Nurse Assistant competency evaluation legislation. The test is offered throughout the state. The test may be offered at Merced College upon completion of each training course. The test consists of two parts: written and manual.

Orientation
Students must attend a Nurse Assistant Orientation. Please call the Allied Health Office at (209) 384-6371 for orientation dates. Students must also purchase a Merced College Nurse Assistant Program Handbook at the Merced College Bookstore prior to orientation. The orientation will provide the necessary information needed to successfully complete the requirements prior to registration.

Career Opportunities
The Nurse Assistant program is a course leading to an entry level career in the health care industry. Upon completion of the program and certification, Certified Nursing Assistants can expect better than average job opportunities. Most Certified Nursing Assistants work in hospitals, clinics, assisted living facilities and skilled nursing facilities. Individuals interested in the Nurse Assistant program are encouraged to call the Allied Health Office.

Highlights
The Allied Health Center houses two complete Nursing Skills Lab, large computer lab, conference room, study rooms and multiple large and small classrooms. The Nursing Skills Labs have state-of-the-art equipment and software that assist students with learning current procedures.

CERTIFICATE  
Nursing Assistant (12150.CO)

Program prerequisites: Orientation workshop; CPR card - Module A/C; negative TB skin test or chest X-ray within past six months; physical within past six months; DOJ fingerprint clearance; Penal Code violations clearance.

A statement of eligibility will be awarded upon the satisfactory completion of the following course.

Program Student Learning Outcomes
A. Evaluate the responsibilities of a nursing assistant
B. Distinguish safety hazards in described simulated clinical situations
C. Explain the need for good hand washing techniques
D. Choose good body mechanics used by self and others
E. Plan techniques needed to assist clients with activities of daily living
F. Plan techniques needed to assist clients with rehabilitation procedures

Successful completion of the above course is required to apply for the CNA certification exam.

ALLH-60 Nurse Assistant ........................................... 5.5

ALLH-60 NURSE ASSISTANT
5.5 units: 3 hours lecture, 7.5 hours lab.
Limitation on enrollment: Orientation workshop; CPR card - Module A/C; negative TB screening test within past 6 months or negative chest X-ray within past year; DOJ fingerprint clearance; Penal Code Violations clearance. Advisories: ENGL-80, ENGL-84.

The course provides clinical instruction and practice of basic nursing skills required of nursing assistants employed in skilled nursing facilities and extended care facilities. The course emphasizes care of the older adult client, assistance with the activities of daily living, bathing, dressing, exercise, movement, eating, eliminating safety measures, cardiopulmonary resuscitation and rehabilitation techniques. Meets State Department of Public Health requirements for eligibility to take the Nursing Assistant Certification examination. (10/06)
Program Description
All individuals who meet minimum enrollment requirements are eligible to apply to the nursing programs. Criteria and complete information on the selection process as well as the philosophy and objectives of each program are described in the Nursing Application Handbook which is available in the Merced College Bookstore and online. The handbook is extensive and may contain additional information to the following brief program outline.

Completion of the Registered Nursing Program at Merced College and all requirements of the A.S. Degree qualify students to take the *National Council Licensure Examination for Registered Nurses (NCLEX-RN). (It is the student’s responsibility to meet all requirements to sit for the NCLEX-RN exam.)

*BRN-Board of Registered Nursing; 1625 North Market Blvd; Suite N217; Sacramento, CA 95834-1924; www.rn.ca.gov

Highlights
The Allied Health Center houses a complete Registered Nursing Skills Lab, large computer lab, conference rooms, study rooms and multiple large and small classrooms. The Registered Nursing Program has state-of-the-art equipment and software that assist students with learning current procedures.

Mission Statement
The mission of the Merced college Registered Nursing Program is to prepare our students for careers as professional Registered Nurses by providing a continually-improving educational program which is accredited by the CA Board of Registered Nursing and by instilling in our students a commitment to continued professional growth and lifelong learning.

Nursing, Registered
The Registered Nursing Program at Merced College prepares students to take the National Council Licensure Examination for Registered Nurses (NCLEX-RN), leading to licensure as a Registered Nurse (RN) and is designed to prepare competent nurses for service in the community. The Registered Nursing Program requires two academic years beyond the completion of the prerequisite courses and non-nursing breadth requirements. Graduates will earn the Associate of Science Degree upon completion of designated courses and competency requirements.

Program Application
Applications are available from the division’s web site and the college bookstore. It is the applicant’s responsibility to submit all required paperwork within a one week submission period during normal office hours. Applications must be received by the Allied Health by the application deadlines listed below:

Spring Semester Application Week: First Week of August
Beginning Spring 2011 the application process will move to once annually during the last week in March for both the fall and spring cohorts. Specific dates and times will be noted on our web site.

Selection Process
The Merced college RN Program uses the California Community College Chancellor’s Model for selection of program applicants. The following four values are included in the selection formula of the Chancellor’s merit-based model:

1. Degree Applicable GPA
   - Includes all degree applicable upper and lower division course work
   - Applicants must submit transcripts from all colleges attended. Failure to submit all transcripts may result in dismissal from the RN program.

2. English-01A or its Equivalent
   - The most recent grade will be used.
   - AP or other test scores cannot be used. Equivalency will be determined by the Merced College Transcript Evaluator. These decisions will be considered final.

3. Core Life Science GPA
   - BIOL-16, BIOL-18, and BIOL-20 or equivalents,
   - The most recent grade for the core life science courses will be used.

4. Core Life Science Attempts
   - Within 5 years of applying to the program a student’s transcript may show only four attempts to complete the three core life science courses. The overall composite score is lowered for each additional attempt of the core life science coursework.

   - Please note: Grades of “W” count as attempts.

Using the merit-based selection process above, those applicants scoring 80% or higher will be included in a merit-
based selection pool. Randomized selection will be used to select an incoming class of students from this merit-based selection pool. These students will be sequentially numbered from one to the maximum allowed for the incoming class, including a predetermined number of alternate students.

Depending on the number of qualified applicants and constraints of the Chancellor’s Office Merit-based selection model, the merit-based selection pool will vary in size from each application period.

Multiple Applications
There is no waiting list maintained for entrance into the RN Program. Applicants applying to the program a second time must reactivate their application and are responsible for updating their information to comply with local and/or state requirements. It is possible to be accepted into the qualified merit-based selection pool more than one selection period.

If an applicant has applied to the program more than once consecutively as a fully qualified applicant, the applicant’s name will be added to the application pool an additional time for each such application.

Requirements for Accepted Applicants Only
The following must be completed prior to starting the first course in the RN Program:
Health clearance (including necessary immunizations)
Criminal background check (requires proof of valid social security number)
CPR certification
Drug screening

Note: An additional background check and drug screening is required prior to the mental health rotation.

Preassessment Testing Requirement
Students selected into the RN Program must pass an assessment test (currently using TEAS). Applicants who do not meet the established score of 67 must attend a remediation program within one year in order to be considered for enrollment in the next RN class. Study materials are available in the Learning Resource Center. Students may submit a copy of a previous TEAS test score in lieu of taking the test again.

Note to Transfer Students
SECTION 1. Section 66055.8 of the Education Code is amended to read:

66055.8 Notwithstanding any other provision of law, a campus of the California State University or the California Community Colleges that operates a registered nursing program shall not require a student who has been admitted to that registered nursing program and who has already earned a baccalaureate or higher degree from a regionally accredited institution of higher education to undertake any coursework other than the coursework that is unique and exclusively required to earn a nursing degree from that institution.

The System Office is interpreting this amendment to the Education Code as follows:

To obtain an associate degree in nursing, students who have baccalaureate or higher degrees are only required to complete the course work required for completion of the registered nursing program, including prerequisites and nursing course work. These students are not to be required to complete any other courses required by the college for an associate degree.

Program Student Learning Outcomes
A. A student will be able to customize nursing interventions utilizing a decision making process based upon their knowledge of pathophysiology, mathematical principles, critical thinking, patient developmental levels and cultural differences.
B. A student will be able to collaborate with an interdisciplinary health care team to demonstrate and utilize therapeutic communication techniques during interactions with their clients (as well as to obtain needed information during the phases of the nursing process).
C. A student will be able to utilize critical thinking and problem solving during the phases of the nursing process.
D. A student will exhibit an (internalized) individual code of ethics consistent with nursing professional standards and apply this code solving ethical dilemmas of patient/family care while acting as a patient advocate.
E. A student will exhibit leadership and management skills while providing entry level competent, culturally sensitive quality care.
Prerequisite courses:

**It is highly recommended that once enrolled in these classes, students do not drop them. Program applicants need to understand that multiple attempts to improve grades earned in these classes can negatively affect their eligibility.**

Required courses (non-nursing) which also fulfill A.S. Breadth requirements:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTH-02</td>
<td>3</td>
</tr>
<tr>
<td>COMM-01</td>
<td>3</td>
</tr>
<tr>
<td>COMM-05</td>
<td>3</td>
</tr>
<tr>
<td>SOCI-01</td>
<td>3</td>
</tr>
<tr>
<td>CLDV-09**</td>
<td>3</td>
</tr>
<tr>
<td>HIST-17A</td>
<td>3</td>
</tr>
<tr>
<td>HIST-17B</td>
<td>3</td>
</tr>
<tr>
<td>POSC-01</td>
<td>3</td>
</tr>
<tr>
<td>HUM</td>
<td>3</td>
</tr>
<tr>
<td>PHED</td>
<td>2</td>
</tr>
</tbody>
</table>

**Must be completed prior to or concurrently with REGN-25.**

Required courses (nursing):

**LVN to RN Pathway**

The pathway for California Licensed Vocational Nurses requires one academic year beyond completion of the prerequisite courses, non-nursing breadth requirements, and competencies. LVN to RN students enter into the third semester of the RN curriculum identified above after completion of REGN-01 and all other prerequisites. Applicants submit an application found on the Allied Health web site. Graduates will earn the Associate in Science Degree on completion of designated courses and competency requirements. Communication, natural and social science, and nursing courses must be completed with a grade of “C” or better to be eligible for licensure requirements of the State Board of Nursing.

Enrollment eligibility to the LVN to RN pathway requires the completion of previously identified prerequisite courses. Applicants must meet the same selection requirements as generic RN students entering the program in the first semester. In addition, CLDV-09/PSYC-09 are prerequisites for the LVN to RN applicant who has already met the selection criteria. Randomized selection is used to select a cohort from the pool of qualified applicants according to available seats.

LVN to RN applicants are notified of eligibility approximately two months prior to the next semester. The LVN-RN application period remains open. To progress into the RN program, students must successfully complete the REGN-01 LVN to RN transition class which is offered when a sufficient number of qualified applicants exist.

Space in the RN program is determined based on the number of RN students progressing from the second semester to the third semester.

Applicants selected from the pool must complete the assessment test (currently using TEAS). A score less than 67 requires the applicant to complete the same remediation requirements as all other generic RN students before admission into the program. Only those students formally accepted into the program may register for courses identified as Required Nursing Curriculum. Students may, however, enroll in other courses designated as non-nursing program requirements while awaiting selection into the program.

**Competencies as required by Merced College for graduation:**

Writing: Met by completion of ENGL-01A within program prerequisites.

Math: Met by MATH-C or higher level math course.

Reading: Met by completion of A.S. Breadth courses with “C” grade or better.

[Completion of the Registered Nursing Program at Merced College satisfies CILC areas A through G.]
REGN-01 TRANSITION LVN TO RN
2 units: 1 hour lecture, 3 hours lab.
Limitation on enrollment: California VN license. Prerequisites: BIOL 16; BIOL-20; CHEM-02A; ENGL-01A; BIOL-18. One-way corequisite: CLDV-09/PSYC-09
The series of lectures and discussions will provide concepts and principles necessary to facilitate transition of the LVN to the changing role of the registered nurse. Emphasis will be placed upon the registered nurse as a decision-making member of the health team, and of responsibilities to be assumed by such a practitioner. (10/06)

REGN-02 CLINICAL SKILLS TRANSITION - LVN TO RN
1 unit: 3 hours lab.
Limitation on enrollment: California VN license, enrolled in REGN Program 3rd semester. Prerequisites: REGN-01. One-way corequisite: REGN-35.
This course consists of practice in the clinical setting with skills and principles necessary to facilitate transition of the LVN to the changing role of the registered nurse. Clinical hours must be initiated in the first week of the semester enrolled. Emphasis is placed on nursing skills related to first year RN nursing concepts in clinical practice. (1/08)

REGN-15 NURSING IN HEALTH AND ILLNESS I
[CILC Area B,C,D,E,F,G]
9 units: 4 hours lecture, 15 hours lab.
Limitation on enrollment: 1) Enrollment in the program; 2) CPR card Module AC, 3) physical within past 6 months, 4) negative TB screening test within past 6 months or negative chest x-ray within past year, 5) proof of current immunizations, 6) criminal background clearance, 7) proof of current malpractice insurance, and 8) drug screening. Prerequisites: BIOL-16, BIOL-18, BIOL-20; CHEM-02A; ENGL-01A. Two-way corequisites: REGN-16, REGN-17. Advisory: REGN-50.
This course presents basic concepts that provide the foundation upon which homeostasis is maintained in adults and/or children. Common threads integrated throughout the program are initiated: nursing process, nutrition, pharmacology, developmental levels, cultural diversity, communication, and professional role. (1/09)

REGN-16 PHARMACOLOGY I
2 units: 2 hours lecture.
This course presents introductory concepts of pharmacology and drug administration with focus on laxatives/antidiarrheal, hypoglycemics, and analgesics/anti-inflammatory agents and basic math. (1/09)

REGN-17 NURSING SKILLS SIMULATION I
[CILC Area A]
1 unit: 3 hours lab.
This course includes instruction/demonstration and return demonstration of nursing skills related to the first year nursing concepts. This course emphasizes skills and knowledge applications. (11/09)

REGN-25 NURSING IN HEALTH AND ILLNESS II
9 units: 4 hours lecture, 15 hours lab.
This course enlarges upon the concepts presented in REGN-15, introducing principles of care to maintain and restore normal homeostatic mechanisms in patients of all ages; study of the family unit throughout the life cycle is included, with emphasis on preventive care. (1/09)

REGN-26 PHARMACOLOGY II
2 units: 2 hours lecture.
Limitation on enrollment: Enrollment in the REGN program 2nd semester. Prerequisites: REGN-16. Two-way corequisite: REGN-25 Advisory: VO CN-46A.
This course presents introductory concepts of pharmacology and mediation for infectious diseases, hypertension, anemias, family/OB. (1/09)

REGN-27 NURSING SKILLS SIMULATION II
1 unit: 3 hours lab.
Limitation on enrollment: Enrollment in the REGN program 2nd semester. Prerequisites: REGN-17. Two-way corequisite: REGN-25.
This course includes instruction/demonstration and return demonstration of nursing skills related to the first year nursing concepts. This course emphasizes skills and knowledge applications. (11/08)

REGN-35 NURSING IN HEALTH AND ILLNESS III
9 units: 4 hours lecture, 15 hours lab.
Limitation on enrollment: 1) Enrollment in the REGN program 3rd semester, 2) CPR card Module AC, 3) physical within past 6 months, 4) negative TB screening test within past 6 months or negative chest x-ray within past year, 5) proof of current immunizations, 6) criminal background clearance, 7) drug screening, and 8) proof of current malpractice insurance. Prerequisites: CLDV-09/PSYC-09, REGN-35 or REGN-01. One-way corequisite: REGN-38. Two-way corequisite: REGN-36, REGN-37.
This course enlarges upon the concepts presented in REGN-15 and REGN-25 by introducing principles of care to maintain and/or restore homeostatic mechanisms in acute health problems. Prototype disease processes associated with each concept are studied in relation to preventive and restorative nursing care. Concurrent practice in the college laboratory and clinical experience in community facilities are required. (1/09)

REGN-36 PHARMACOLOGY III
1 unit: 1 hour lecture.
This course presents ongoing concepts of pharmacology compatible with respiratory, cardiac/vascular, cancer, DMARDs and immunosuppressant therapies for adults and children. (1/09)

REGN-37 NURSING SKILLS SIMULATION III
1 unit: 3 hours lab.
This course presents demonstration of higher-level nursing concepts related to second-year nursing courses. The third-semester student will assume the facilitator role with other nursing students in skill check-offs. (11/08)

REGN-38 PROFESSIONAL RELATIONSHIPS AND RESPONSIBILITIES I
1 unit: 1 hour lecture.
Limitation on enrollment: Enrollment in the REGN program 3rd semester. One-way corequisite: REGN-35.
The course introduces the student to the professional role of the registered nurse: its status, its responsibilities, and inherent problems as influenced by historical and social change. The focus is on the individual nurse and on the profession as a whole. (1/09)

REGN-45 NURSING IN HEALTH AND ILLNESS IV
9 units: 4 hours lecture, 15 hours lab.
This course presents advanced concepts and skills in caring for the client with critical or multiple health problems. It emphasizes rehabilitation and adaptation to a compromised and/or declining health status. Concurrent practice in the college lab and clinical experience in community health facility is required. (1/09)
REGN-46 PHARMACOLOGY IV
1 unit: 1 hour lecture.
This course presents ongoing concepts of pharmacology for psychiatric (adult/teenagers), shock, cardiac arrhythmias, neurological and neuromuscular, and endocrine conditions. (01/09)

REGN-47 NURSING SKILLS SIMULATION IV
1 unit: 3 hours lab.
This course presents instruction and demonstration of higher level nursing concepts related to second-year nursing courses. The second-year student will assume a facilitator role with other nursing students in nursing care planning. (10/06)

REGN-48 PROFESSIONAL RELATIONSHIPS AND RESPONSIBILITIES II
1 unit: 1 hour lecture.
Limitation on enrollment: Enrollment in the REGN program 4th semester. Prerequisite: REGN-38. One-way corequisite: REGN-45.
This course is an introduction to leadership and management principles applied to the health care field. Discussions will include leadership and management theories, organizational structure, problem-solving, decision-making, conflict management, effective communication, change process, planning process, motivational theories, and performance appraisal. (10/06)

REGN-49A-ZZ SPECIAL TOPICS IN NURSING
.5-3 units: .5-3 hours lecture, 0-6 hours lab.
Limitation on enrollment: Enrollment in an accredited nursing program, or a graduate from an accredited nursing program, or possession of a valid nursing license.
This course is designed to address special topics in nursing to meet the current needs of students. It will provide students access to instruction that will assist them in acquiring the most up-to-date information possible in order to cope with the rapidly changing health care environment. (2/08)

REGN-50 NURSING CAREER SEMINAR
.25 unit: 4.5 total hours lecture.
Prerequisite/Advisory: None.
This course introduces students to the various roles and responsibilities of nursing practitioners, including knowledge of educational levels as well as behaviors and skills. Merced College nursing programs are described, including admission requirements and procedures. Students are graded on credit/no credit basis. May be repeated once. (10/06)
Program Description
The Vocational Nursing curriculum comprises three semesters of combined didactic and clinical work on campus and at affiliated health care facilities. Upon satisfactory completion of the prerequisites and the nursing courses, a Certificate of Achievement is awarded and the student is then eligible for the National Licensure Examination. An Associate in Arts Degree is also available for those students who complete the Merced College General Education requirements.

In accordance with the rules and regulations of the *Board of Vocational Nurse and Psychiatric Technicians Examiners, a student’s previous education and/or experience will be evaluated by the Nursing Department on an individual basis for credit and/or advanced placement. *BVNPT-Board of Vocational Nursing and Psychiatric Technicians; 2535 Capitol Oaks Dr, Suite 205; Sacramento, CA 95833; www.bvnpt.ca.gov

Highlights
The Allied Health Center houses a complete Vocational Nursing Skills Lab, large computer lab, conference rooms, study rooms and multiple large and small classrooms. The Vocational Nursing Program has state-of-the-art equipment and software that assist students with learning current procedures.

Nursing, Vocational
Minimum requirements for admission to the LVN program:

1. Must be a high school (or higher) graduate with a grade point average of 2.0 or higher, or the equivalent as measured by the General Education Development (G.E.D.) Test or by the California State High School Proficiency examination. Applicants with high school grade point averages below 2.0 must have completed 15 units of college-level work with a grade point average of 2.0 or higher.
2. Must be in good health.
3. Must have completed within five years of the date of application the following courses or their equivalent with a grade of “C” or better: BIOL-16 or 50, NUTR-10, ALLH-67, and VOCN-46A.

Application: Qualified applicants must meet the above prerequisites, provide transcripts documenting high school graduation or G.E.D./Proficiency score results and file a completed application with the Allied Health Office. Applications are accepted year round, but enrollment is determined on a first come, first served basis.

A freshman class will be admitted every fourth semester. For further information contact the Allied Health Counselor.

Enrollment in the Nursing Program requires that students purchase appropriate nursing uniforms, have a physical examination, show proof of immunization, have a current CPR card, and have transportation to the clinical facilities.

Program Start Dates
Spring 2010
Fall 2011
Spring 2013

DEGREE
A.A. - Nursing, Vocational (12550.AA)

An Associate in Arts Degree is available for those students who complete the Merced College General Education requirements and the following courses.

Program Student Learning Outcomes
A. Collaborate with the health care team in providing care.
B. Incorporate knowledge of nursing curriculum to pass the NCLEX exam.
C. Utilize the nursing process to establish a plan of care, recognizing value and commitment to the practice of nursing standards.
D. Apply a code of ethics in solving ethical dilemmas while providing patient/family care.
E. Utilize therapeutic communication to obtain positive outcome in planning and goal setting for patient care.
F. Demonstrate effective knowledge, skills, and abilities to a nursing career that is constantly evolving and to focus intently on innovative approaches to patient care.

<table>
<thead>
<tr>
<th>Prerequisites</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL-16</td>
<td>4</td>
</tr>
<tr>
<td>BIOL-50</td>
<td>3</td>
</tr>
<tr>
<td>NUTR-10</td>
<td>3</td>
</tr>
<tr>
<td>ALLH-67</td>
<td>3</td>
</tr>
<tr>
<td>VOCN-46A</td>
<td>1</td>
</tr>
</tbody>
</table>

Units
A student must achieve a final score of 75% or better in each of the core nursing courses to continue in the program. When two courses must be taken concurrently, passing grades must be maintained in both for the student to continue in either course.

**CERTIFICATE**  
Nursing, Vocational (12550.CT)

Upon satisfactory completion of the prerequisites and the nursing courses, a Certificate of Achievement is awarded and the student is then eligible for the National Licensure Examination. 

<table>
<thead>
<tr>
<th>Prerequisites:</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOI-16 General Human Anatomy</td>
<td>4</td>
</tr>
<tr>
<td>or BIOI-50 Survey of Anatomy and Physiology</td>
<td>3</td>
</tr>
<tr>
<td>NUTR-10 Nutrition</td>
<td>3</td>
</tr>
<tr>
<td>ALLH-67 Medical Terminology</td>
<td>3</td>
</tr>
<tr>
<td>VOCN-46A Applied Math for Pharmacology</td>
<td>1</td>
</tr>
</tbody>
</table>

A student must achieve a final score of 75% or better in each of the core nursing courses to continue in the program. When two courses must be taken concurrently, passing grades must be maintained in both for the student to continue in either course.

**VOCATIONAL NURSING (VOCN)**

**VOCN-40 FOUNDATIONS OF NURSING**  
11 units: 5 hours lecture, 18 hours lab.  
Limitation on enrollment: Enrollment in the Vocational Nursing program; CPR card; physical, a negative TB skin test or chest x-ray within past 6 months; immunizations; proof of completion of an educational course of study through 12th grade or evidence of completion of the equivalent thereof (C2530-VN Practice Act). Prerequisites: ALLH-67; BIOI-50; NUTR-10; VOCN-46A. Corequisites: VOCN-46B, VOCN-47A.

This course covers theory, principles, and practice of fundamental nursing skills needed to care for adult patients. Health and its preservation is stressed. Interpersonal relationships, community resources, and prevention and treatment of disease are studied. Clinical experience is integrated with classroom theory, and is provided at affiliating hospitals, under direct supervision of Merced College nursing instructors. This is the first semester of nursing theory of a three-semester sequence. Clinical experience is integrated. (1/07)

**VOCN-42 PRINCIPLES AND PRACTICES OF NURSING CARE I**  
14 units: 8 hours lecture, 18 hours lab.  
Limitation on enrollment: Enrollment in the Vocational Nursing program. Prerequisite: VOCN-40. Two-way corequisite: VOCN-47B. This course emphasizes theoretical principles and clinical experience in meeting Maslow’s basic human needs of nutrition, oxygenation, elimination, and affiliation. It involves clinical experiences in meeting the basic human needs of individuals of all ages with commonly occurring health problems. This course is part of the second semester of a three-semester program. Clinical experience is integrated. (4/07)

**VOCN-44 PRINCIPLES AND PRACTICES OF NURSING CARE II**  
14 units: 8 hours lecture, 18 hours lab.  
Limitation on enrollment: Enrollment in the Vocational Nursing program. Prerequisite: VOCN-42. Two-way corequisite: VOCN-47C. This course emphasizes theoretical principles of Maslow’s basic human needs of safety, hygiene, rest, activity, comfort, and self-actualization as it relates to common and complex health problems occurring in individuals of all age groups. Pathophysiological and psychosocial assessment and management of medical-surgical disorders are stressed. General pharmacological and nutritional considerations are included. This course is part of the third semester of a three-semester program. Clinical experience is integrated. (4/07)

**VOCN-46A APPLIED MATHEMATICS FOR PHARMACOLOGY**  
1 unit: 1 hour lecture.  
Prerequisites: ENGL-A, MATH-A.  
This is an introductory pharmacology course which includes an introduction to the professional context of drug administration, and study of the metric, apothecary, and household systems of measurement. Nursing responsibility to patient safety is included. Completion of this course requires accurate interpretation of doctors’ order, reading medication bottles, calculating drug dosages, and the reason for their application. (11/09)

**VOCN-46B PHARMACOLOGY FOR NURSES**  
2 units: 2 hours lecture.  
Limitation on enrollment: Enrollment in the Vocational Nursing Program. Prerequisite: VOCN-46A. Two-way corequisites: VOCN-40, VOCN-47A.  
This is an introductory pharmacology course which includes uses, effects and safe administration of medications. Common local and systemic drugs are studied. Nursing responsibilities and client safety are emphasized. (1/07)

**VOCN-47A NURSING GUIDANCE I**  
1 unit: 1 hour lecture.  
Limitation on enrollment: Enrollment in the Vocational Nursing program. Two-way corequisites: VOCN-40, VOCN-46B.  
This course examines socialization and interpersonal communications related to vocational nursing. Course topics include verbal and non-verbal communication; communication problems in the nurse-patient relationship; the hospital as a working and learning environment; self-actualization relating to the elderly; and death and dying. (1/07)

**VOCN-47B NURSING GUIDANCE II**  
1 unit: 1 hour lecture.  
This course examines the nature of stress and its influences on coping and adapting. Related topics examined include crisis and crisis intervention, and psychophysiological and somatopsychic responses to stress and anxiety. (1/07)
**VOCN-47C NURSING GUIDANCE III**

1 unit: 1 hour lecture.

Limitation on enrollment: Enrollment in the Vocational Nursing program. Prerequisite:-VOCN-42. Two-way corequisite: VOCN-44.

This course examines current and evolving patterns of mental health care and the shifts from inpatient custodial care to community-based treatment for the mentally ill. This course also examines the health-illness continuum, psychopathology, neuroses and psychoses, clinical disorders and maladaptations of behavior, and psychopharmacological approaches to treatment. (1/07)

**VOCN-48 INTRAVENOUS THERAPY/BLOOD WITHDRAWAL**

2 units: 2 hours lecture.

Limitation on enrollment: Licensed as a Vocational Nurse (required by section 2860.5 of the Board of Vocational Nurses and Psychiatric Technicians) or Registered Nurse.

This short-term course is designed to prepare nurses to start and superimpose intravenous fluid and perform blood withdrawal as ordered by the physician. The course will cover psychological preparation of the patient, selection of equipment, aseptic technique, relevant anatomy and physiology, pharmacology of intravenous solutions, and administering blood components. Students will perform simulated and actual intravenous catheterization and blood withdrawals. (12/09)
Philosophy
Social Sciences, Humanities and Fine Arts

DEGREE
A.A. - Philosophy

Program Description
Philosophical studies at Merced College stress analytical reasoning, writing, and oral expression. The study of philosophy has had an historic role in liberal arts education because it develops careful, independent thinking and aids in defining one’s most fundamental values and beliefs.

The philosophy curriculum is designed around a core education that includes the history of philosophy, ethics, and either logic or comparative religions. Students choose among elective courses in humanities and the history of civilization.

The philosophy department is dedicated to the pursuit of excellence. We recognize that philosophy and philosophy education enhance the cultural, economic, and social aspects of the community. The study of philosophy will improve the critical thinking skills that are applicable to any area of endeavor, while at the same exploring the deepest aspects of self, community, and existence.

Career Opportunities
Philosophical training at Merced College prepares the A.A. graduate for transfer to four-year institutions, or to enter into the work force in many fields. Graduates of philosophy traditionally enter fields that include education, research, law, business, high technology, government, and ministry. Beyond preparing students for professional life, the Philosophy Department at Merced College is dedicated to personal enrichment through deep reflection in all facets of human life.

DEGREE
A.A. - Philosophy (15400.AA)

For an Associate in Arts Degree in Philosophy, the student must complete the graduation requirements and the 21-unit curriculum listed below.

Program Student Learning Outcomes
A. Demonstrate a basic knowledge of the fundamental concepts of the major figures in the history of Western philosophy, as well as some figures outside the traditional Western canon.
B. Analyze and critically evaluate primary philosophical texts.
C. Formulate and defend positions on several philosophical issues, questions, and/or problems, both orally and in written form.
D. Plan and construct an essay on an individual philosopher, a movement in philosophy, or a philosophical question.

<table>
<thead>
<tr>
<th>Units</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>HIST-04A History of Civilization: Part I ......................... 3</td>
</tr>
<tr>
<td></td>
<td>HIST-04B History of Civilization: Part II .......................... 3</td>
</tr>
<tr>
<td>or</td>
<td>HUM-01* Studies in Humanities - Ancient through Renaissance ............................................................. 3</td>
</tr>
<tr>
<td></td>
<td>HUM-02* Studies in Humanities - Renaissance to Present.......... 3</td>
</tr>
<tr>
<td></td>
<td>PHIL-03** Ancient Philosophy........................................... 3</td>
</tr>
<tr>
<td></td>
<td>PHIL-04*** Modern Philosophy........................................... 3</td>
</tr>
<tr>
<td></td>
<td>PHIL-05 Contemporary Moral and Social Issues.......................... 3</td>
</tr>
<tr>
<td></td>
<td>PHIL-10 Critical Thinking................................................ 3</td>
</tr>
<tr>
<td></td>
<td>PHIL-12 Logic................................................................. 3</td>
</tr>
<tr>
<td>or</td>
<td>PHIL-15**** Comparative Religions....................................... 3</td>
</tr>
</tbody>
</table>

21

*Honors HUM-01H can be substituted for HUM-01; Honors HUM-02H can be substituted for HUM-02. HUM-01 is offered in the fall semester only.
HUM-02 is offered in the spring semester only.

**PHIL-03 will be offered fall 2011.
***PHIL-04 will be offered spring 2012.
****PHIL-15 is offered in the fall semester only.
PHIL-01 INTRODUCTION TO PHILOSOPHY
(CSU breadth area C2) (IGETC area 3B)
3 units: 3 hours lecture.
Prerequisites: ENGL-A, Advisories: ENGL-01A.
This course introduces perennial questions in philosophy, such as: Who am I? What is the nature of reality? How do we know what we know? What is the nature of religious belief? These questions will be discussed in light of philosophical readings taken from the traditional and modern Western philosophical canon, as well as from non-canonical sources. (3/08)

PHIL-01H HONORS INTRODUCTION TO PHILOSOPHY
(CSU breadth area C2) (IGETC area 3B)
3 units: 3 hours lecture.
Limitation on enrollment: Enrollment in the Honors program. See the college catalog for a description of enrollment requirements.
Advisory: ENGL-01A
This course introduces perennial questions in philosophy, such as: Who am I? What is the nature of reality? How do we know what we know? What is the nature of religious belief? These questions will be discussed in light of philosophical readings taken from classical and modern Western sources, as well as from non-Western sources. There will be an emphasis on collaborative learning, research, and writing. Students enrolled in this class must be enrolled in the Honors Program. (4/06)

PHIL-03 ANCIENT PHILOSOPHY
(CSU breadth area C2) (IGETC area 3B)
3 units: 3 hours lecture.
Prerequisites: ENGL-A, ENGL-AL.
This course presents an introduction to the history of philosophy from the Pre-Socratics to the Renaissance, with emphasis on the Pre-Socratics through Aristotle. (10/07)

PHIL-04 MODERN PHILOSOPHY
(CSU breadth area C2) (IGETC area 3B)
3 units: 3 hours lecture.
Prerequisites: ENGL-A, ENGL-AL.
This course presents an introduction to the history of philosophy from the Renaissance to the present, with emphasis on Descartes through Kant. (10/07)

PHIL-05 CONTEMPORARY MORAL AND SOCIAL ISSUES
(CSU breadth area C2) (IGETC area 3B)
3 units: 3 hours lecture.
Prerequisites: ENGL-A. Advisories: ENGL-01A.
This course is concerned with the philosophical examination of moral and social issues, such as capital punishment, abortion, war, animal rights, and economic justice. These issues will be discussed in light of ethical theories and moral reasoning stemming from Western and non-Western philosophical sources. (3/08)

PHIL-10 CRITICAL THINKING
(CSU breadth area A3) [CILC area G]
3 units: 3 hours lecture.
Prerequisites: ENGL-A. Advisories: ENGL-01A.
This is a practical course in sound and logical reasoning. The focus of this course is to develop the abilities to analyze, to criticize, and to reach reasoned conclusions. This includes the ability to recognize and avoid common fallacies in reasoning, and on constructing cogent arguments and essays. (3/08)

PHIL-12 LOGIC
(CSU breadth area A3)
3 units: 3 hours lecture.
Prerequisites: ENGL-A, ENGL-AL.
This course presents a study of correct reasoning, concentrating on developing the skills for distinguishing logically correct from logically incorrect arguments. The emphasis is on the formal aspects of modern symbolic logic and informal fallacies, although the classical syllogism and scientific method are also covered. (5/07)

PHIL-13 CRITICAL REASONING AND WRITING
(Also: ENGL-13)
(CSU breadth area A3) (IGETC area 1B) [CILC area G]
3 units: 3 hours lecture.
Prerequisite: ENGL-01A.
ENGL-13/PHIL-13 meets the IGETC critical thinking/composition requirement. The course emphasizes the development of critical thinking skills through instruction in reading and writing arguments. Readings feature mostly non-fictional essays and books that reflect diverse cultural and gender perspectives on a variety of contemporary political and social issues, especially those involving race, ethnicity, and gender. (5/06)

PHIL-13H HONORS CRITICAL REASONING AND WRITING
(Also: ENGL-13H)
(CSU breadth area A3) (IGETC area 1B) [CILC area G]
3 units: 3 hours lecture.
Limitation on enrollment: Enrollment in the Honors Program.
Prerequisite: ENGL-01A.
This course emphasizes the development of critical thinking skills through instruction in reading and writing arguments. Readings feature mostly non-fictional essays and books that reflect diverse cultural and gender perspectives on a variety of contemporary political and social issues, especially those involving race, ethnicity, and gender. (5/06)

PHIL-15 COMPARATIVE RELIGIONS
(CSU breadth area C2) (IGETC area 3B)
3 units: 3 hours lecture.
Advisory: ENGL-01A.
This course surveys the historical background and fundamental philosophical concepts of the major religions of the world, including Hinduism, Buddhism, Shinto, Confucianism, Judaism, Christianity, Islam, and some typical basic religions. (4/06)

PHIL-39H SPECIAL TOPICS IN PHILOSOPHY
1 unit: 1 hour lecture.
Limitation on enrollment: Admission to the Honors Program.
This course is designed to allow students to do specialized reading and research in areas of philosophy not offered in regular classes or to do advanced reading and research on topics that were introduced in survey classes. Areas of study may include environmental ethics, Native American philosophy, aesthetics, or a particular philosopher or school of philosophy. (11/04)
DEGREE
A.A. - Photography

CERTIFICATE
Photography

Program Description
The study of photography will enrich the student’s experience of the world and encourage the student to draw upon creative resources. An education in photography can lead to professional or vocational careers, as well as enhance abilities in other fields. The photography department offers a foundation in theoretical and practical skills, and the opportunity to work in a wide variety of photographic and digital media.

The Photography Program provides transfer, professional preparation, personal development, general interest, and general education, as well as an Associate in Arts degree and a Certificate in Photography.

DEGREE
A.A. - Photography (10500.AA)

For an Associate in Arts Degree in Photography, students must meet the graduation requirements and complete the 28-unit curriculum listed below. The courses listed below must be in addition to those taken to satisfy basic graduation requirements.

Program Student Learning Outcomes
A. Demonstrate a knowledge of the techniques and processes involved in a variety of photographic art forms, including traditional black and white photography, and digital photography.
B. Create photographic works of art integrating aesthetics with the elements and principles of design theory and composition.
C. Identify, distinguish and assess individual photographic styles.
D. Build upon their appreciation and understanding of the various multicultural and philosophical patterns of traditional and contemporary photography as it relates to the development of art throughout history.

Units

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART-15</td>
<td>Fundamentals of Design in Art</td>
<td>3</td>
</tr>
<tr>
<td>ART-40A</td>
<td>Digital Art</td>
<td>3</td>
</tr>
<tr>
<td>PHOT-10A</td>
<td>Basic Photography</td>
<td>3</td>
</tr>
<tr>
<td>PHOT-10B</td>
<td>Intermediate Photography</td>
<td>3</td>
</tr>
<tr>
<td>PHOT-11A</td>
<td>Digital Camera Basics</td>
<td>3</td>
</tr>
<tr>
<td>PHOT-30</td>
<td>Introduction to Color Photography</td>
<td>3</td>
</tr>
<tr>
<td>PHOT-31</td>
<td>Basic View Camera</td>
<td>2</td>
</tr>
<tr>
<td>PHOT-32</td>
<td>Studio Photography</td>
<td>2</td>
</tr>
</tbody>
</table>

Plus three units of Art History from:
- ART-02 Art History - Renaissance through Modern
- ART-06 Art of the 20th Century

Plus three units from the following photo electives:
- JOUR-32 Newspaper Staff
- PHOT-34 Photo Expression
- PHOT-49 Independent Study in Photography

28
CERTIFICATE

**Photography (10500.CL)**

A Certificate of Achievement in Photography may be earned by completing the 28-unit curriculum listed below.

**Program Student Learning Outcomes**

A. Demonstrate a knowledge of the techniques and processes involved in a variety of photographic art forms, including traditional black and white photography, and digital photography.

B. Create photographic works of art integrating aesthetics with the elements and principles of design theory and composition.

C. Identify, distinguish and assess individual photographic styles.

D. Build upon their appreciation and understanding of the various multicultural and philosophical patterns of traditional and contemporary photography as it relates to the development of art throughout history.

<table>
<thead>
<tr>
<th>Units</th>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>ART-15</td>
<td>Fundamentals of Design in Art</td>
</tr>
<tr>
<td>3</td>
<td>ART-40A</td>
<td>Digital Art</td>
</tr>
<tr>
<td>3</td>
<td>PHOT-10A</td>
<td>Basic Photography</td>
</tr>
<tr>
<td>3</td>
<td>PHOT-10B</td>
<td>Intermediate Photography</td>
</tr>
<tr>
<td>3</td>
<td>PHOT-11A</td>
<td>Digital Camera Basics</td>
</tr>
<tr>
<td>3</td>
<td>PHOT-30</td>
<td>Introduction to Color Photography</td>
</tr>
<tr>
<td>2</td>
<td>PHOT-31</td>
<td>Basic View Camera</td>
</tr>
<tr>
<td>2</td>
<td>PHOT-32</td>
<td>Studio Photography</td>
</tr>
</tbody>
</table>

Plus three units of Art History from:

<table>
<thead>
<tr>
<th>Units</th>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>ART-02</td>
<td>Art History - Renaissance through Modern</td>
</tr>
<tr>
<td>3</td>
<td>ART-06</td>
<td>Art of the 20th Century</td>
</tr>
</tbody>
</table>

Plus three units from the following photo electives:

<table>
<thead>
<tr>
<th>Units</th>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>JOUR-32</td>
<td>Newspaper Staff</td>
</tr>
<tr>
<td>2</td>
<td>PHOT-34</td>
<td>Photo Expression</td>
</tr>
<tr>
<td>1</td>
<td>PHOT-49</td>
<td>Independent Study in Photography</td>
</tr>
</tbody>
</table>

**PHOTOGRAPHY (PHOT)**

**PHOT-10A BASIC PHOTOGRAPHY**

3 units: 2 hours lecture, 3 hours lab.
Advisory: ENGL-A.
This is an elementary course covering camera and darkroom techniques of black and white photography. Topics include exposure control, film development, contact printing, enlarging, composition, lighting, filters, print finishing, and mounting. (11/04)

**PHOT-10B INTERMEDIATE PHOTOGRAPHY**

3 units: 2 hours lecture, 3 hours lab.
Prerequisites: PHOT-10A or PHOT-11A.
This is a course dealing with the practical application of the basic principles of photography, emphasizing technical and artistic control and the perfection of processing, and composition. The course also provides a broad introduction to studio lighting. (11/04)

**PHOT-11A DIGITAL CAMERA BASICS**

3 units: 2 hours lecture, 3 hours lab.
Advisory: ENGL-A.
This course introduces students to digital cameras through lectures, hands-on experience, and computer use. Instruction includes digital camera functions, technical and creative control, computer processing of images, and digital output options. (11/04)

**PHOT-30 INTRODUCTION TO COLOR PHOTOGRAPHY**

3 units: 2 hours lecture, 3 hours lab.
Prerequisite: PHOT-10B.
This course covers the introduction to theory and practice of color photography. Students will learn color processing and printing as well as lighting and exposure for color. (11/04)

**PHOT-31 BASIC VIEW CAMERA**

2 units: 1 hour lecture, 3 hours lab.
Prerequisite: PHOT-10B.
Basic view camera is a class in the fundamentals of operating a 4x5 view camera in the studio and the field. Processing and printing of large format film is included as a regular part of class assignments. (11/04)

**PHOT-32 STUDIO PHOTOGRAPHY**

2 units: 1 hour lecture, 3 hours lab.
Prerequisite: PHOT-10B.
This course includes advanced black and white and some color assignments. Students will become acquainted with commercial equipment and processing. Assignments will include portraiture, lighting, and small and large products. Design and layout may be incorporated into assignments. (11/04)

**PHOT-34 PHOTO EXPRESSION**

2 units: 1 hour lecture, 3 hours lab.
Prerequisite: PHOT-10B.
Photo expression is a course which explores the possibilities of the use of visual language in relation to the thought process. Advanced techniques of camera use, film handling, and printing will be included, but emphasis will be placed on the personal expression of ideas. (11/04)

**PHOT-49 INDEPENDENT STUDY IN PHOTOGRAPHY**

1 unit: 3 hours lab.
Prerequisite: PHOT-10A or PHOT-11A.
This course covers a variety of topics and/or activities of current interest in the field of photography. This course may be repeated three times. (11/04)
**DEGREE**

**A.A. - Physical Education**

**Program Description**

GENERAL INFORMATION: All physical education classes are co-ed unless otherwise stated in the course description and/or Schedule of Classes.

The dress for Merced College Physical Education activities classes is dependent upon the nature of activity; students will be advised of proper dress at time of orientation.

Staff members of the Life Fitness and Health Division will screen all students participating in physical activity classes who show a medical problem which may adversely affect their participation. Students so identified will be required to obtain a physician’s clearance. When appropriate, screening may be achieved through the Disabled Student Services Office. Students who lead a sedentary lifestyle or who have a history of heart disease or other medical conditions should check with their physician before starting any exercise program.

Students are advised to use caution when participating in physical activity classes. Strains, pulls, and similar injuries may be caused by improper use of equipment, or failure to follow directions of instructors.

**DEGREE** *(1/05)*

**A.A. - Physical Education (08500.AA)**

For an Associate in Arts Degree in Physical Education, students should meet the graduation requirements and complete the 20-unit curriculum listed below.

### PHYSICAL EDUCATION (PHED)

#### PHED-01 INTERCOLLEGIATE ATHLETICS

3 units: 10 hours lab.

**Limitation on enrollment:** This is a varsity team sport requiring coach’s or academic athletic advisor’s approval.

This is a course teaching theory, practice, and game performance of the designated competitive sport. This course may be repeated three times.

- PHED-01A Baseball (Men) Advisory: PHED-12A *(4/08)*
- PHED-01C Cross Country (Men/Women) Advisory: PHED-03 *(2/08)*
- PHED-01D Football (Men) Advisory: PHED-12C *(12/07)*
- PHED-01G Swimming (Men/Women) Advisory: PHED-13H *(12/07)*
- PHED-01I Track and Field (Men/Women) Advisory: PHED-03 *(2/08)*
- PHED-01J Water Polo (Men/Women) Advisory: PHED-13F *(12/07)*
- PHED-01K Softball (Women) Advisory: PHED-12H *(2/08)*
- PHED-01L Volleyball (Women) Advisory: PHED-12E *(2/08)*

- PHED-01B Basketball (Men/Women) Advisory: PHED-12B *(4/08)*

1.5-3 units: 5-10 hours lab.

**Limitation on enrollment:** This is a varsity team sport requiring coach’s or academic athletic advisor’s approval.

This is a course teaching theory, practice, and game performance of the designated competitive sport. This course may be repeated three times.

#### PHED-02 PEP SQUAD

1-2 units: 3-6 hours lab.

**Limitation on enrollment:** Enrollment limited to try-outs and instructor’s or academic athletic advisor’s approval. **Advisories:** Good general health; absence of medical conditions that would prevent planned physical activity.

This is a course designed to teach the cheerleaders/pep squad members the drill routines and activities for athletic events. This course may be repeated three times. *(12/06)*

#### PHED-03 VARSITY CONDITIONING

1-2 units: 3-6 hours lab.

**Advisories:** Good general health; absence of medical conditions that would prevent planned physical activity.

This is an open laboratory experience designed for those people who desire an individualized strength and conditioning program using a combination of exercise machines, free weights, and aerobic training methods. This class is geared to athletes and individuals who are interested in preparing for varsity competition. Multiple workouts are required per week. This course may be repeated three times. *(1/06)*

### LIFE FITNESS ACTIVITY

#### PHED-10A AEROBICS

0.5 - 1 unit: 1.5 - 3 hours lab.

**Advisories:** Good general health; absence of medical conditions that would prevent planned physical activity.

This is a choreographed exercise program set to music which improves cardiovascular fitness while conditioning and toning the whole body. Strenuous physical activity is required. Good general health is advised. This course may be repeated three times. *(1/06)*
PHED-10B AEROBIC CIRCUIT TRAINING
1 unit: 3 hours lab.
Advisory: Good general health; absence of medical conditions that would prevent physical activity.
This course is designed to improve cardiovascular efficiency, flexibility and strength through the use of walking and related activities. Students will use the latest techniques and equipment to improve walking performance. This course may be repeated three times. (12/07)

PHED-10C CIRCUIT WEIGHT TRAINING
0.5 - 1 unit: 1:5 - 3 hours lab.
Advisory: Good general health; absence of medical conditions that would prevent physical activity.
This is a fitness class requiring three workouts per week. The equipment (single station exercise machines) and routine utilized in the fitness lab are designed to exercise all major muscle groups for a well-rounded fitness program with the non-athletic in mind. In addition to regular students, circuit training has proven especially beneficial for women, older men, and others not interested in weight training but who desire increased muscle tone and cardiovascular fitness. This course may be repeated three times. (4/04)

PHED-10D WEIGHT TRAINING
0.5 - 1 unit: 1:5 - 3 hours lab.
Advisory: Good general health; absence of medical conditions that would prevent physical activity.
This course teaches basic skills of badminton. The following shots, backhand and forehand smash, overhead clear, drop shot and serve, will be covered along with rules and strategy of the game. Class play will consist of singles, doubles, mixed doubles, and tournaments. This course may be repeated three times. (12/07)

PHED-10E FITNESS THROUGH ACTIVITY
0.5 - 1 unit: 1:5-3 hours lab.
Advisory: Good general health; absence of medical conditions that would prevent physical activity.
This is an open-laboratory experience for those people who desire an individualized strength program using a combination of exercise machines and free weights. This class is designed specifically to improve strength. The class is suited for athletes and men and women of all age groups who are interested in muscle toning and muscle building. This course may be repeated three times. (1/06)

PHED-10F FLEXIBILITY AND CARDIOVASCULAR FITNESS
2 units: 6 hours lab.
Advisory: Good general health; absence of medical conditions that would prevent physical activity.
Prerequisite/Advisory: None.
209.384.6000
This class also includes student participation, practicing golf shots, playing golf holes and learning about tournament competition. This course may be repeated three times. (12/07)

PHED-10G FITNESS EVALUATION AND EXERCISE PRESCRIPTION
2 units: 1 hour lecture, 3 hours lab.
Prerequisite/Advisory: None.
Students in this physiologically-based program will receive individualized exercise programs based on results obtained from tests administered in the fitness laboratory. Tests given include VO2, strength, flexibility, body fat, cholesterol level, and nutritional analysis. In addition to fitness evaluation and exercise prescription, the course will include lectures, consultations, and demonstrations on a variety of physiologically-based exercise and nutrition material. Lab fees will be charged for some optional tests.

PHED-10H WALKING FOR CARDIOVASCULAR CONDITIONING AND FLEXIBILITY
1 units 3 hours lab.
Advisory: Good general health; absence of medical conditions that would prevent planned physical activity.
This course offers the student opportunity to develop and improve fundamental skills involved in basketball, such as ball handling, shooting, defensive and offensive tactics, and physical endurance. Rules, strategy and sportsmanship are also stressed. This course may be repeated three
PHED-12C FOOTBALL
1 unit: 3 hours lab.
Advisory: Good general health; absence of medical conditions that would prevent planned physical activity.
This course offers the student opportunity to develop and improve the fundamental skills involved in football, such as passing, receiving, kicking, blocking (with the aid of blocking dummies), team play, and strategy. Rules and class competition will also be included. This course may be repeated three times. (3/08)

PHED-12D SOCCER
1 unit: 3 hours lab.
Advisory: Good general health; absence of medical conditions that would prevent planned physical activity.
This is a course designed to present basic fundamentals, tactics, and techniques of soccer with emphasis on learning through playing. Rules, strategy, and class competition will be included. This course may be repeated three times. (12/07)

PHED-12E VOLLEYBALL
1 unit: 3 hours lab.
Advisory: Good general health; absence of medical conditions that would prevent planned physical activity.
The course begins with basic skills and court positions necessary to enjoy the sport. Intermediate and advanced skills and court positions are introduced as the level of ability of the class will allow, with classes progressing to playing multiple offenses. Each class session begins with warm-up exercises and "dry-land" drills. The skill period ends with class participation in a volleyball match. This course may be repeated three times. (2/08)

PHED-12F RECREATION VOLLEYBALL
1 unit: 3 hours lab.
Advisory: Good general health; absence of medical conditions that would prevent planned physical activity.
Recreation volleyball is designed to develop, through participation in team play, the basic skills and strategy of the sport. History, rules, officiating, and etiquette will be included. This course may be repeated three times. (2/08)

PHED-12G INTRAMURAL ACTIVITIES
0.5 unit: 1.5 hours lab.
Prerequisite/Advisory: None.
This course is designed to allow all students opportunity to engage in a variety of competitive sports and activities in an intramural environment. This course may be repeated three times. (9/99)

PHED-12H SOFTBALL
1 unit: 3 hours lab.
Prerequisite/Advisory: None.
This is a course designed to teach fundamentals of softball. Batting, throwing, catching, base running, team play, rules, and strategy will be covered. Team competition is also included. This course may be repeated three times. (9/99)

AQUATICS
PHED-13A BEGINNING SWIMMING
.5-1 unit: 1.5-3 hours lab.
Advisory: Good general health; absence of medical conditions that would prevent planned physical activity.
This is an introductory course for non-swimmers or those with limited skills in swimming. Basic swimming strokes taught will be the crawl, back crawl, elementary backstroke, breaststroke, basic front dive, underwater swimming, and other related aquatic skills. May be repeated three times. (12/07)

PHED-13B LIFEGUARD TRAINING
2 units: 1.5 hours lecture, 1.5 hours lab.
Limitation on Enrollment: Students must pass the American Red Cross Swimming requirement. Advisory: PHED-13H.
This course teaches theory and analysis of advanced swimming skills, instruction and certification in lifesaving, Title 22 (First Aid), and cardiovascular resuscitation. A course recommended for anyone who wishes to become a lifeguard, it may be repeated one time. (4/05)

PHED-13C WATER CALISTHENICS
.5-1 unit: 1.5-3 hours lab.
Advisory: Good general health; absence of medical conditions that would prevent planned physical activity.
This course will include isometric calisthenics and aerobic types of exercise performed in water to increase one's strength, flexibility, and cardiovascular fitness. No swimming skills are required, as exercises are done in waist- to chest-deep water. Water games, relays, and music will add further interest to the exercising. Both swimmer and non-swimmer will benefit from this class. This course may be repeated three times. (12/07)

PHED-13D FITNESS THROUGH AQUATICS
1 unit: 3 hours lab.
Advisory: PHED-13A.
The course is a personal fitness program designed to use swimming as a method to reach a desired level of cardiovascular fitness. May be repeated three times. (5/07)

PHED-13E WATER SAFETY INSTRUCTION
2 units: 1.5 hours lecture, 1.5 hours lab.
Prerequisites: PHED-13B or PHED-13H.
This course is designed to certify students who complete all required work as certified Red Cross swimming instructor. It includes instruction in teaching techniques, stroke analysis, skilled swimming, class organization, and pool safety. There will be practice teaching assignments with peers and a practical and written final. This course is offered during spring semester only. (12/06)

PHED-13F WATER POLO
.5-1 unit: 1.5-3 hours lab.
Advisory: PHED-13A.
This course is designed to develop the basic skills, rules, and strategy of water polo. Opportunity will be given for class participation through which students will increase their swimming skills and conditioning. This course may be repeated three times. (12/06)

PHED-13G DIVING
.5-1 unit: 1.5-3 hours lab.
Advisory: PHED-13A.
Basic techniques of diving are presented in this course, which includes approach, position, and form of water entry for front, reverse, inward and twisting dives. This course may be repeated three times. (12/06)

PHED-13H SWIMMING SKILLS
1 unit: 0.5 hour lecture: 1.5 hours lab.
Advisory: PHED-13A.
The course will include review of fundamental swimming strokes and skills. Additional strokes taught will include the butterfly, inverted breaststroke, overarm sidestroke, and trudgen strokes. Also included in the course will be shallow dives, flip turns, treading water, and underwater skills. This course may be repeated three times. (4/05)

DANCE
PHED-14A DANCE CHOREOGRAPHY (Also: DNCE-14A)
1 unit: 0.5 hour lecture, 1.5 hours lab.
Prerequisite/Advisory: None.
This is a course teaching the student of dance how to use “language of the body” to communicate an idea, theme, or story. Utilizing time, space, and energy, the student learns to conceive, develop, and put movements together. May be repeated three times.
PHED-14B MODERN DANCE (Also: DNCE-14B)  
1 unit: 0.5 hour lecture, 1.5 hours lab.  
Prerequisite/Advisory: None.  
This is a course designed for the students to express themselves creatively through various modern dance forms, and to increase skills of body posture, flexibility, coordination, and strength. Students will study technical components which include time, effort and kinetic awareness. May be repeated three times.

PHED-14C BALLET (Also: DNCE-14C)  
1 unit: 0.5 hour lecture, 1.5 hours lab.  
Prerequisite/Advisory: None.  
This is a course designed to teach the basic steps and skills of ballet. Students will have the opportunity to learn and perform routines. History and terminology will also be covered. May be repeated three times.

PHED-14D1 BEGINNING JAZZ DANCE (Also: DNCE-14D1)  
1 unit: 0.5 hour lecture, 1.5 hours lab.  
Advisories: Good general health; absence of medical conditions that would prevent planned physical activity.  
This is a course designed to introduce the basic techniques, rhythms, and combinations of jazz movement. The class will include stretching exercises, coordination exercises, and general body conditioning exercises. This course may not be repeated. (3/06)

PHED-14D2 INTERMEDIATE JAZZ DANCE (Also: DNCE-14D2)  
1 unit: 0.5 hour lecture, 1.5 hours lab.  
Prerequisite: PHED-14D1. Advisories: Good general health; absence of medical conditions that would prevent planned physical activity.  
Students will be introduced to intermediate dance techniques. Basic skills will be reviewed along with an emphasis on conditioning and flexibility. Additional technical study includes double pirouettes, chaîne and piqué turns. Students will be required to develop and perform short routines in class. This course may not be repeated. (3/06)

PHED-14D3 ADVANCED JAZZ DANCE (Also: DNCE-14D3)  
1 unit: 0.5 hour lecture, 1.5 hours lab.  
Prerequisite: PHED-14D2. Advisories: Good general health; absence of medical conditions that would prevent planned physical activity.  
This course emphasizes advanced conditioning, control, stage presence and dance quality performances. Students must be available for rehearsal and performances of productions to which they may be assigned. This course may not be repeated. (3/06)

ADAPTIVES  
PHED-15 ADAPTIVE PHYSICAL EDUCATION  
1 unit: 3 hours lab.  
Advisory: Good general health; absence of medical conditions that would prevent planned physical activity. Advise that student provide medical verification of disability and recommendation of medical intervention.  
Adapted Physical Education provides individual instruction for the physically disabled student or other students requiring individual approaches to health-related fitness activities. Students will engage in health-building activities designed to create self confidence, enhanced self image, and physical independence. May be repeated three times. (5/08)

THEORY AND PRACTICUM  
PHED-20 INTRODUCTION TO PHYSICAL EDUCATION AND EXERCISE SCIENCE  
3 units: 3 hours lecture.  
Advisory: ENGL-A.  
This is a survey class designed to introduce the professional foundations of physical education and exercise science. The course includes historical and philosophic development of physical education. This course will also acquaint the student with current issues, qualifications, and opportunities in the field. (1/05)

PHED-31 TECHNIQUES OF SPORTS OFFICIATING  
2 units: 1 hour lecture, 3 hours lab.  
Advisory: ENGL-A.  
This is a course designed to provide the individual with knowledge, rules, skills, methods, and techniques of officiating football, volleyball, and basketball. Emphasis will be on attaining practical experience in a classroom situation while laboratory hours by arrangement will include officiating competitive events such as physical education games, intramural, junior high school games and recreational games. (12/06)

PHED-32 TECHNIQUES OF SPORTS OFFICIATING  
2 units: 1 hour lecture, 3 hours lab.  
Advisory: ENGL-A.  
This is a course designed to provide the individual with knowledge, rules, skills, methods, and techniques of officiating track and field, baseball and softball. Emphasis will be on attaining practical experience in a classroom situation while laboratory hours by arrangement will include officiating competitive events such as physical education games, intramural, junior high school games and recreational games. (12/06)

PHED-36A THEORY AND ANALYSIS OF FOOTBALL  
1 unit: 1 hour lecture.  
Advisory: ENGL-A.  
This course presents the fundamental knowledge of football through lecture and discussions. This course is recommended for physical education, recreation, and recreation-aide majors and varsity football players. This course may be repeated once. (12/06)

PHED-36B THEORY AND ANALYSIS OF BASKETBALL  
1 unit: 1 hour lecture.  
Advisory: ENGL-A.  
This course presents the fundamental knowledge of basketball through techniques of lecture, discussions, and video analysis. This course is recommended for physical education, recreation, and recreation-aide majors and varsity basketball players. (12/06)

PHED-36C THEORY AND ANALYSIS OF BASEBALL  
1 unit: 1 hour lecture.  
Advisory: ENGL-A.  
This course presents the fundamental knowledge of baseball through techniques of lecture, discussions, and video analysis. This course is recommended for physical education, recreation, and recreation-aide majors and varsity baseball players. (12/06)

PHED-36D THEORY AND ANALYSIS OF TRACK AND FIELD  
1 unit: 1 hour lecture.  
Advisory: ENGL-A.  
This course presents the fundamental knowledge of track and field through techniques of lecture, discussions, and video analysis. This course is recommended for physical education, recreation, and recreation-aide majors and varsity baseball players. (12/06)

PHED-70L5 SPECIAL TOPICS IN WATER EXERCISE  
1 unit: 3 hours lab.  
Prerequisite/Advisory: None.  
This course uses water exercises as a means to improve strength, flexibility, and cardiovascular fitness. Swimmers and non-swimmers may take the course. This course may be repeated three times. (3/00)

PHED-70L6 SPECIAL TOPICS IN PHYSICAL EDUCATION LAB  
1 unit: 3 hours lab.  
Prerequisite/Advisory: None.  
This is a course teaching a variety of special topics in physical education which have current interest to students. This course may be repeated three times. (3/00)

PHED-90 ADAPTIVE PE  
1 unit: 3 hours lab.  
Prerequisite/Advisory: None.  
This course is a continuing program of individualized instruction for the physically disabled student, allowing that student long-range participation in an adapted exercise physiology environment designed to create more physical independence for the student. May be repeated three times. (5/97)
DEGREE
A.A. - Physical Science

DEGREE
A.A. - Physical Science (19600.AA)

To earn an Associate in Arts Degree in Physical Science it is expected that a student will have completed math through a pre-calculus course (the courses at Merced College that will satisfy that requirement are MATH-02, or MATH-25 and MATH-26). The student must complete the basic graduation requirements (BIOL-01 or BIOL-04A or BIOL-04AH are recommended for science breadth) and the courses listed below.

Program Student Learning Outcomes
A. Student will be able to draw qualitative conclusions as to the type of reaction, type of bonds,
B. A student will be able to solve using the appropriate mathematical method.
C. A student will learn the physical properties, scale, and motions of the stars, planets and universe.
D. The student will answer questions on exams, and perform lab exercises.

<table>
<thead>
<tr>
<th>Units</th>
<th>CHEM-02A Introductory Chemistry .................................................. 4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>orCHEM-04A General Chemistry .................................................................. 5</td>
</tr>
<tr>
<td></td>
<td>GEOL-01 Physical Geology ........................................................................ 4</td>
</tr>
<tr>
<td></td>
<td>PHYS-02A General Physics ........................................................................ 4</td>
</tr>
</tbody>
</table>

Plus select six units from the following:

<table>
<thead>
<tr>
<th>Units</th>
<th>ARCH-01 Introduction to Archaeology .................................................. 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ASTR-01 Principles of Astronomy ......................................................... 3</td>
</tr>
<tr>
<td></td>
<td>CHEM-04B General Chemistry .................................................................... 5</td>
</tr>
<tr>
<td></td>
<td>GEOG-01 Physical Geography .................................................................... 3</td>
</tr>
<tr>
<td></td>
<td>GEOE-02 Historical Geology ...................................................................... 4</td>
</tr>
<tr>
<td></td>
<td>PHYS-02B General Physics ........................................................................ 4</td>
</tr>
</tbody>
</table>

Recommended Sequence: A.A. - Physical Science (19600.AA)

Fall 1
CHEM-02A Introductory Chemistry .................................................. 4
GEOL-01 Physical Geology ......................................................... 4
Additional units can be taken as breadth and/or elective courses.

Spring 1
PHYS-02A General Physics ......................................................... 4
Additional units can be taken as breadth and/or elective courses.

Fall 2
Additional units can be taken as breadth and/or elective courses.

Spring 2
Additional units can be taken as breadth and/or elective courses.

PHYSICAL SCIENCE (PHSC)
PHSC-01 INTRODUCTION TO PHYSICAL AND EARTH SCIENCE
(CSU breadth area B1) (IGETC area 5A)
3 units: 3 hours lecture.
Advisories: ENGL-A; MATH-A or MATH-B.
This is an introductory course presenting the nature of physical, earth, and space sciences and their relationship to other areas of scientific knowledge. The course will develop the major concepts and give an understanding of the general principles of physical, earth, and space science. As an introductory class, the course of study will focus on major principles and applications to modern observations and phenomena. This course is designed to meet the content requirement for physical science and for earth and space science for the Liberal Studies - Elementary Teaching preparation pathway. (12/04)

PHSC-01L INTRODUCTION TO PHYSICAL AND EARTH SCIENCE LABORATORY
(CSU breadth areas B3) (IGETC area 5A)
1 unit: 3 hours lab.
One-way corequisite: PHSC-01. Advisories: ENGL-A; MATH-A or MATH-B.
This introductory laboratory is designed to provide hands-on exploration in parallel with topics covered in the lecture course, PHSC-01. Emphasis will be placed on 1) classical science experimentation, 2) laboratory activities in the real world, and 3) support of the laboratory activities through use of modern technologies. Students planning on becoming K-12 teachers will find materials applicable to their future profession. (3/05)
Program Description
The following curriculum is designed for students planning to transfer to a four-year university. Students should check the specific requirements of their intended transfer school and work with his/her counselor.

DEGREE
A.S. - Physics

For an Associate in Science Degree in Physics, students must meet the graduation requirements and complete the 33-unit curriculum listed below. The courses listed below must be in addition to the basic graduation requirements. (PHYS-04A and a life science course are recommended to satisfy science breadth.)

Program Student Learning Outcomes
A. Given a variety of physics or physical problems from college physics to engineering physics a student will be able to solve using appropriate physics/physical/mathematical principles and express their answer in appropriate form.
B. Given a physical situation, a student will be able to determine the nature of and the causal relationships to the situation and use appropriate tools and technology to analyze and measure the behavior.
C. During the course of the program the student will be able to communicate their knowledge of physics principles in oral and written form using the language of physics.
D. Given a physical situation the student will be able to predict the properties, outcome, and mathematical or physical result of a physical situation.
E. Given a physical situation the student will be able to construct an experiment to test the behavior of a system.
F. Given physics as a central science the student will be able to identify applications to other scientific, technological, or societal areas.

Program Student Learning Outcomes
A. Given a variety of physics or physical problems from college physics to engineering physics a student will be able to solve using appropriate physics/physical/mathematical principles and express their answer in appropriate form.
B. Given a physical situation, a student will be able to determine the nature of and the causal relationships to the situation and use appropriate tools and technology to analyze and measure the behavior.
C. During the course of the program the student will be able to communicate their knowledge of physics principles in oral and written form using the language of physics.
D. Given a physical situation the student will be able to predict the properties, outcome, and mathematical or physical result of a physical situation.
E. Given a physical situation the student will be able to construct an experiment to test the behavior of a system.
F. Given physics as a central science the student will be able to identify applications to other scientific, technological, or societal areas.

Fall 1
CPSC-01 INTRODUCTION TO MANAGEMENT INFORMATION SYSTEMS ............................... 4
MATH-04A CALCULUS I ........................................................................................................ 4
MATH-04B ANALYTICAL GEOMETRY AND CALCULUS ................................................. 4
MATH-06 ELEMENTARY DIFFERENTIAL EQUATIONS .................................................. 3
MATH-08 LINEAR ALGEBRA ................................................................................................. 3
PHYS-04B FORTRAN PROGRAMMING .............................................................................. 3
PHYS-04C PHYSICS .............................................................................................................. 4

Units 33

Spring 1
CPSC-01 INTRODUCTION TO MANAGEMENT INFORMATION SYSTEMS ............................... 4
MATH-04A CALCULUS I ........................................................................................................ 4
MATH-04B ANALYTICAL GEOMETRY AND CALCULUS ................................................. 4
MATH-06 ELEMENTARY DIFFERENTIAL EQUATIONS .................................................. 3
MATH-08 LINEAR ALGEBRA ................................................................................................. 3
PHYS-04B FORTRAN PROGRAMMING .............................................................................. 3
PHYS-04C PHYSICS .............................................................................................................. 4

Units 33

Recommended Sequence: A.S. - Physics (19700.AS)

Fall 1
CPSC-01 INTRODUCTION TO MANAGEMENT INFORMATION SYSTEMS ............................... 4
MATH-04A CALCULUS I ........................................................................................................ 4

Additional units can be taken as breadth and/or elective courses.

Spring 1
PHYS-04B PHYSICS
(CSU breadth area B1/B3) (IGETC area 5A)
4 units: 3 hours lecture, 3 hours lab.
Prerequisites: MATH-04B; PHYS-04A. One-way corequisite: MATH-04C. Advisory: ENGL-A.
PHYS-04B is a continuation of PHYS-04A with emphasis on the areas of electricity, magnetism, and light. (1/07)

PHYS-04C PHYSICS
(CSU breadth area B1/B3) (IGETC area 5A)
4 units: 3 hours lecture, 3 hours lab.
Prerequisite: PHYS-04B. Advisory: ENGL-A.
PHYS-04C is a continuation of PHYS-04B. It emphasizes the laws of thermodynamics, relativity, and topics of modern physics. (1/07)

PHYS-10 CONCEPTS IN PHYSICS
(CSU breadth area B1) (IGETC area 5A)
3 units: 3 hours lecture.
Advisories: ENGL-A; MATH-A or MATH-B.
This course is a survey of major concepts covered in physics. The concepts, as well as the understanding of general principles, will be developed through lecture, demonstrations, and discussion of everyday phenomena. Both classical and modern topics will be covered, to include mechanics, properties of matter, heat, sound, electricity, magnetism, light, atomic and nuclear physics, relativity, and astrophysics. This course provides an opportunity to work with the concepts of physics in a qualitative manner. (1/07)
**Political Science**  
Social Sciences, Humanities, and Fine Arts

**POLITICAL SCIENCE (POSC)**

**POSC-01 ESSENTIALS OF AMERICAN POLITICAL SYSTEM**  
(CSU breadth area D8) (IGETC area 4H)  
3 units: 3 hours lecture.  
Advisory: ENGL-A.  
This course will introduce students to institutions of American national government, the American political system, and California state and local government. The course includes a study of the United States Constitution and its application to federal, state, and local government. Emphasis is placed upon various roles of national and state government, constitutional rights and obligations of citizens, and the evolution and development of California state political institutions. This course meets the United States Constitution requirement and the federal, California state, and local government requirement. (10/09)

**POSC-02 AN INTRODUCTION TO WORLD POLITICAL SYSTEMS**  
(CSU breadth area D8) (IGETC area 4H)  
3 units: 3 hours lecture.  
Advisory: ENGL-A.  
This course is a comparative study of the theory, history, structure, and application of the governmental systems of major European nations, as well as non-European countries. Emphasis will be placed on the governments of England, France, Germany, Russia, and Japan. (2/06)
**Psychology**
Social Sciences, Humanities, and Fine Arts

**DEGREE**
A.A. - Psychology

**Program Description**
The Psychology major is designed for students planning to major in psychology at a California State University. The students should work with their counselors for specific university requirements.

**DEGREE** (1/07)
A.A. - Psychology (20500.AA)

For an Associate in Arts Degree in Psychology, students must meet the graduation requirements and complete the 18-unit curriculum listed below. These courses must be in addition to the basic graduation requirements.

**Program Student Learning Outcomes**
A. Demonstrate effective knowledge, skills, and abilities related to major theoretical explanations of behavior in the field of psychology.
B. Evaluate the credibility of a claim by differentiating empirical evidence from supposition.
C. Develop an understanding of the applications of psychology by demonstrating knowledge of the impact of healthy lifestyles and personal choices on psychological wellbeing.
D. Display effective writing skills using APA format.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSYC-01A</td>
<td>Introduction to Psychology</td>
<td>3</td>
</tr>
<tr>
<td>or PSYC-01AH</td>
<td>Honors introduction to Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSYC-01B</td>
<td>Introduction to Psychological Methods</td>
<td>3</td>
</tr>
</tbody>
</table>

Plus 12 units from the following electives:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTH-02</td>
<td>Cultural Anthropology</td>
<td>3</td>
</tr>
<tr>
<td>BIOL-01</td>
<td>General Biology for Non-Majors</td>
<td>4</td>
</tr>
<tr>
<td>MATH-10</td>
<td>Elementary Statistics</td>
<td>3</td>
</tr>
<tr>
<td>PSYC-05</td>
<td>Introduction to Statistics for Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSYC-09</td>
<td>Human Development</td>
<td>3</td>
</tr>
<tr>
<td>PSYC-15</td>
<td>Biological Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSYC-20</td>
<td>Social Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSYC-22</td>
<td>Human Sexuality</td>
<td>3</td>
</tr>
<tr>
<td>PSYC-23</td>
<td>Personal and Social Adjustment</td>
<td>3</td>
</tr>
<tr>
<td>PSYC-25</td>
<td>Abnormal Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSYC-35</td>
<td>Developmental Psychology; Childhood</td>
<td>3</td>
</tr>
<tr>
<td>PSYC-36</td>
<td>Developmental Psychology; Adolescence</td>
<td>3</td>
</tr>
<tr>
<td>PSYC-49A-ZZ</td>
<td>Special Topics in Psychology</td>
<td>3</td>
</tr>
<tr>
<td>SOC-01</td>
<td>Introduction to Sociology</td>
<td></td>
</tr>
</tbody>
</table>

**Total Units**: 18

---

**PSYCHOLOGY (PSYC)**

**PSYC-01A INTRODUCTION TO PSYCHOLOGY**
(CSU breadth area D9) (IGETC area 4I) [CILC area E]
3 units: 3 hours lecture.
Advisory: ENGL-A.
PSYC-01A is a survey course designed to provide an introduction to the facts and theories underlying human behavior. Special emphasis is given to the following topics: schools of psychology, physiological factors, sensation, perception, motivation, learning, thinking, emotion, abnormal behavior, personality, heredity, environment, and social factors. (12/08)

**PSYC-01AH HONORS INTRODUCTION TO PSYCHOLOGY**
(CSU breadth area D9) (IGETC area 4I) [CILC area E]
3 units: 3 hours lecture.
Limitation on enrollment: Enrollment in the Honors Program. See the current college catalog for a description of enrollment requirements.
Advisories: ENGL-01A.
PSYC-01AH is an in-depth survey course designed to provide an introduction to facts and theories underlying human behavior. Special emphasis is given to the following topics: schools of psychology, physiological factors, sensation, perception, motivation, learning, thinking, emotion, abnormal behavior, personality, heredity, environment, and social factors. There will also be an emphasis on research, writing, and critical thinking. (2/06)

**PSYC-01B INTRODUCTION TO PSYCHOLOGICAL METHODS**
[CILC area E]
3 units: 3 hours lecture.
Prerequisite: PSYC-01A or PSYC-01AH.
This course is a continuation of PSYC-01A with emphasis on psychological theory and a detailed treatment of the scientific method as applied to the study of human behavior. Experimental design, basic assumptions, and limitations and advantages of the experimental method are considered along with an introduction to descriptive and inferential statistics. (1/05)

**PSYC-05 INTRODUCTION TO STATISTICS IN PSYCHOLOGY**
(CSU breadth area B4) (IGETC area 2)
3 units: 3 hours lecture.
Prerequisite: MATH-C. Advisories: ENGL-01A.
The theory of parametric and nonparametric statistical methods and their application to psychological data. Topics include: descriptive statistics, probability and sampling distributions; statistical inference and power, linear correlation and regression, chi-square; t-tests; and one-way analysis of variance (ANOVA). Application of both hand-computation and statistical software printouts to data in a psychology context, including the interpretation of the relevance of the statistical findings. (1/07)

**PSYC-09 HUMAN DEVELOPMENT (Also: CLDV-09)**
(CSU breadth area E)
3 units: 3 hours lecture.
Advisory: ENGL-A.
This course is an introduction to the scientific study of human development from conception through death. It examines the interplay of biological, psychological, social, and cultural forces on the developing human being. (3/06)

---

**Dean**
John Graulty
(209) 384-6314

**Counseling**
(209) 384-6073

**Cooperative Work Experience**
(209) 384-6364

**Area Office**
IAC Social Sciences Bldg, 2nd floor

---

WWW.MCCD.EDU 2010-2011 CATALOG
PSYC-15 BIOLOGICAL PSYCHOLOGY
(CSU breadth area D9) (IGETC area 4I)
3 Units: 3 hours lecture.
Advisory: ENGL-A.
An introduction to the scientific study of the biological bases for human thought and behavior. Topics include basic neuroanatomy and neurophysiology, research methods in biological psychology, the autonomic and peripheral nervous system; and the physiological mechanisms underlying sensation, perception, consciousness, motivation, emotion, learning, memory, and psychological disorders. (1/07)

PSYC-20 SOCIAL PSYCHOLOGY
(CSU breadth area D9) (IGETC area 4I)
3 Units: 3 hours lecture.
Advisory: ENGL-A.
This course analyzes human behavior in relation to the social environment. Topics include aggression, prejudice, attraction, altruism, attitude change, conformity, gender roles, cultural norms, person perception, obedience, and social cognition. Emphasis will be placed on the application of the scientific method and research strategies in social psychology. (1/07)

PSYC-22 HUMAN SEXUALITY
(CSU breadth area D9/E) (IGETC area 4I)
3 units: 3 hours lecture.
Advisory: ENGL-A.
This course explores the psychology of human sexuality. Biological, psycho-social, and socio-cultural research is presented concerning all aspects of human sexuality in contemporary society. Specific topics include human development and sexuality, sexual orientation and behavior, contraception and sexually transmitted infections, sexual dysfunction, and prostitution. (1/05)

PSYC-23 PERSONAL AND SOCIAL ADJUSTMENT
(CSU breadth area D9/E) (IGETC area 4I)
3 units: 3 hours lecture.
Advisory: ENGL-A.
PSYC-23 is a course which examines personality factors as they relate to problems of growth and adjustment. Concepts covered in the course are personality development, psychological bases of behavior, mental health, and interpersonal relations. Stress is placed on the importance of applying therapeutic principles and techniques in everyday life. (2/09)

PSYC-25 ABNORMAL PSYCHOLOGY
(CSU breadth area D9) (IGETC area 4I)
3 units: 3 hours lecture.
Advisory: ENGL-A.
This course is designed to provide the student with an understanding of abnormal behavior as delineated in the "Diagnostic and Statistical Manual of Mental Disorders." Topics include classifications, clinical pictures, casual factors, treatment, and outcomes of maladaptive behavior. Special emphasis will be placed on assessment, therapy, and prevention of maladaptive behavior. (1/07)

PSYC-33 WORKING EFFECTIVELY WITH FAMILIES (Also: CLDV-33 and SOC-33)
1 unit: 1 hour lecture.
Advisory: ENGL-A.
This is a course designed to teach students how to work with parents in school settings. Students will examine current ways of parent involvement, parent rights and responsibilities, and ways of keeping parents informed. (11/05)

PSYC-35 DEVELOPMENTAL PSYCHOLOGY: CHILDHOOD
(CSU breadth area D9/E) (IGETC area 4I)
3 units: 3 hours lecture.
Advisory: ENGL-A.
This course is a study of human development from conception to adolescence. The focus is on major theories and psychological research relating to the physical, cognitive, and psychosocial aspects of development during childhood, with an emphasis on the influence of culture. (1/07)
Program Description
The Diagnostic Radiologic Technology Program is a full-time Associate Degree and Certificate of Achievement program to which a minimum of 20 students are admitted each fall semester. The entire program is 29 consecutive months in length and is composed of five semesters and two twelve-week summer sessions. Students wishing to enter the program must make formal application, including verification of completion of program prerequisites. Upon verification that all prerequisites have been met, the applicant will be placed on a waiting list. Prerequisites completed more than ten years ago are subject to evaluation, and repetition of course work may be required when deemed appropriate. Applications are accepted year-round.

Mission Statement
The mission of the Merced College Diagnostic Radiologic Technology Program is to prepare our students for careers as diagnostic radiographers by providing a continually-improving educational program which is accredited by the *JRCERT and by instilling in our students a commitment to continued professional growth and lifelong learning.

*JRCERT-Joint Review Committee on Education in Radiologic Technology; 20 N. Wacker Dr, Suite 2850; Chicago, IL 60606-3182; www.jrcert.org

Requirements for Application (program prerequisites)
ALLH-67, BIOL-16, CHEM-02A, ENGL-01A, MATH-C, and RADT-50. All prerequisites and program requirements must be passed with a grade of "C" or better, and their combined GPA must be 2.35 or higher.

Effective June 1, 2010 ENGL-01A and MATH-C will replace ENGL-A and MATH-A as program prerequisites. Applications submitted after this date must have these new prerequisites to be accepted. At that time, any student that is already on the program waiting list but does not have these new program prerequisites, will have until May 31, 2011 to satisfactorily complete these new program prerequisites and maintain their position on the waiting list, otherwise their application will be removed from consideration. ENGL-01A and MATH-C are the current A.S. Degree graduation requirements. See an Allied Health Counselor for further clarification.

Program requirements must be satisfied prior to submitting an application to the program. An official transcript listing all program prerequisites must accompany an application before the application will be officially accepted. Applications are accepted year-round. For additional program information and application forms, refer to the Diagnostic Radiologic Technology Handbook available at the Merced College Bookstore, or visit the RADT program web site and download the forms at: www.mccd.edu/alliedhealth/radtechhp.htm.

Upon admission to the program, students are required to have a physical examination providing evidence of good health and immunization, and must provide annual proof of a negative TB skin test OR an annual TB screening and a chest X-ray at least every two years. Students will also have to supply a criminal background clearance upon admission to the program. A negative criminal background clearance may deny the student’s eligibility to sit for the ARRT national exam. If you are unsure about your eligibility status, the ARRT has an exam pre-clearance process that will help identify your eligibility to sit for this exam prior to beginning or completing the program. It is recommended that you request this evaluation as soon as possible so that your ability to sit for the ARRT exam is not jeopardized. Further information can be found at www.ARRT.org.

Also upon admission, additional information on uniforms will be provided. While enrolled in the program, students will be assigned to various clinical facilities in addition to the on-campus portions of the program. This ensures the strongest educational experience for each student. By application and acceptance into this program, the student agrees to accept clinical assignments in whatever hospital or clinical site the student is assigned within our 75 mile service area. During internship, clinical assignments may include day, evening, and weekend hours.

Career Opportunities
Licensure/certification as a Radiographer provides for employment opportunities primarily in hospitals, clinics, imaging centers, and doctors offices. Employment opportunities for Radiographers are expected to remain satisfactory. With experience and/or additional education, graduates can work in the following areas:
• Radiology Department Administration
• Hospital Administration
• Radiography Education
Associated fields:
- Computerized Tomography Sonography
- Magnetic Resonance Imaging
- Digital Vascular Imaging
- Cardiovascular Technology
- Radiation Oncology
- Nuclear Medicine
- Equipment Sales/Service
- Technical Representative.

Highlights
The Allied Health Center houses two radiography suites, large computer lab, conference rooms, study rooms and multiple small and large classrooms. The Diagnostic Radiologic Technology Program has two computerized radiography x-ray suites and a PACS system that provides students hands-on-experience with state-of-the-art equipment.

Note to Transfer Students
Schedule an appointment with an Allied Health Counselor to discuss any questions concerning prerequisite or A.S. Degree coursework.

Advisement
The Diagnostic Radiologic Technology Program is a demanding full-time program. Some students may find it difficult to work while attending. Students are also expected to complete intense homework assignments.

In order to progress satisfactorily in the RADT program, students must complete Diagnostic Radiologic Technology courses in the specified sequence with a minimum grade of “C” in each course, and maintain an overall G.P.A. of 2.35 in supportive and RADT course work.

DEGREE  (12/04)
A.S. - Diagnostic Radiologic Technology
(12700.AS)
A.S. Degree breadth requirements and the below listed courses must be completed by the end of the fourth session (i.e., Third Semester - Fall), at which time an Associate in Science Degree in Diagnostic Radiologic Technology is awarded.

Program Student Learning Objectives
A. Employ the principles of radiation protection measures
B. Demonstrate entry level clinical competency
C. Distinguish between correct and incorrect answers on practice national exam questions
D. Demonstrate effective communication skills
E. Demonstrate critical thinking skills
F. Demonstrate an appreciation of life-long learning
G. Evaluate and adhere to the ethical and compassionate treatment of patients

Required:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Semester (Fall)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RADT-41</td>
<td>Introduction to Medical Imaging</td>
<td>4</td>
</tr>
<tr>
<td>RADT-42</td>
<td>Radiologic Procedures I</td>
<td>4</td>
</tr>
<tr>
<td>Second Semester (Spring)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RADT-40</td>
<td>Radiologic Science I</td>
<td>3</td>
</tr>
<tr>
<td>RADT-43A</td>
<td>Radiologic Procedures II</td>
<td>4</td>
</tr>
<tr>
<td>RADT-43B</td>
<td>Clinical Education I</td>
<td>5</td>
</tr>
<tr>
<td>First Summer Session</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RADT-44A</td>
<td>Radiologic Science II</td>
<td>2</td>
</tr>
<tr>
<td>RADT-44B</td>
<td>Clinical Education II</td>
<td>3.5</td>
</tr>
<tr>
<td>Third Semester (Fall)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RADT-45A</td>
<td>Radiologic Procedures III</td>
<td>1</td>
</tr>
<tr>
<td>RADT-45B</td>
<td>Clinical Education III</td>
<td>5.5</td>
</tr>
<tr>
<td>RADT-45C</td>
<td>Advanced Radiologic Procedures I</td>
<td>2</td>
</tr>
<tr>
<td>RADT-45D</td>
<td>Radiologic Pathology</td>
<td>1.5</td>
</tr>
<tr>
<td>The internship portion of the RADT Program commences with:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fourth Semester (Spring)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RADT-67A</td>
<td>Advanced Radiologic Procedures II</td>
<td>2</td>
</tr>
<tr>
<td>RADT-67B</td>
<td>Advanced Clinical Education I</td>
<td>10</td>
</tr>
<tr>
<td>RADT-67D</td>
<td>Fluoroscopy</td>
<td>2</td>
</tr>
<tr>
<td>Second Summer Session</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RADT-68A</td>
<td>Radiologic Science III</td>
<td>2</td>
</tr>
<tr>
<td>RADT-68B</td>
<td>Advanced Clinical Education II</td>
<td>7</td>
</tr>
<tr>
<td>Fifth Semester (Fall)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RADT-69A</td>
<td>Integrative Study In Radiography</td>
<td>2</td>
</tr>
<tr>
<td>RADT-69B</td>
<td>Advanced Clinical Education III</td>
<td>9</td>
</tr>
<tr>
<td>RADT-69C</td>
<td>Sectional Anatomy</td>
<td>1</td>
</tr>
<tr>
<td>RADT-69D</td>
<td>Principles of Venipuncture</td>
<td>0.5</td>
</tr>
<tr>
<td>Total Units</td>
<td></td>
<td>71</td>
</tr>
</tbody>
</table>
American Registry of Radiologic Technologist (ARRT) Examination for Radiography

Upon successful completion of the Associate in Science Degree AND Certificate of Achievement in Diagnostic Radiologic Technology, graduates are eligible to write the American Registry of Radiologic Technologist (ARRT) Examination for Radiography, and, if successful, to obtain the credentials necessary for employment in the field.
RADT-43B CLINICAL EDUCATION I  
[CILC Area B, C, F]  
5 units: 15 hours lab (270 total hours).  
Limitation on enrollment: Enrollment in Radiography Program.  
One-way corequisite: RADT-43A.  
This course provides clinical experience for application of theoretical  
principles and concepts covered in previous and current didactic course  
work. Clinical experience in patient care and handling, positioning skills,  
equipment utilization, radiation protection application, patient information  
management, work efficiency and image evaluation is provided. This  
course is part of the second semester of a twenty-nine month program in  
Diagnostic Radiologic Technology and is only offered during spring  
semester. (12/05)

RADT-44A RADIOLOGIC SCIENCE II  
2 units: 27 total hours lecture, 27 total hours lab.  
Limitation on enrollment: Enrollment in the Radiography Program.  
This course covers the theory and application of factors that govern and  
influence the production of the radiographic image. The evaluation of  
radiographic systems to assure consistency in the production of quality  
images will also be introduced. The laboratory component of this course  
will provide "live lab" experience conducting radiation exposure experiments  
that demonstrate clinical applications of the theoretical principles and  
concepts presented. A review of radiographic procedures, anatomy, and  
film critique will also be presented. This course is part of the first summer  
session of a twenty-nine month program in Radiography and is only offered  
during summer session which runs approximately 12 weeks. (12/05)

RADT-44B CLINICAL EDUCATION II  
[CILC Area B, C, F]  
3.5 units: 189 total hours lab.  
Limitation on enrollment: Enrollment in the Radiography Program.  
This course provides clinical experience for application of theoretical  
principles and concepts covered in previous and current didactic coursework.  
Clinical experience in patient care and handling, positioning skills,  
equipment utilization, radiation protection application, patient information  
management, work efficiency and image evaluation is provided. This  
course is part of the first summer session of a twenty-nine month program in  
Radiography and is only offered during summer session which runs approximately 12 weeks in duration. (12/05)

RADT-45A RADIOLOGIC PROCEDURES III  
1 unit: .50 hours lecture, 1.5 hours lab.  
Limitation on enrollment: Enrollment in the Diagnostic Radiologic  
Technology Program.  
This course is designed to provide a knowledge base necessary to  
perform standard radiographic procedures of the cranium, facial bones  
and paranasal sinuses. The laboratory portion of this course will include  
positioning exercises and film evaluation of these areas to achieve both  
accuracy and speed. This course is part of the third semester of a  
twenty-nine month program in Radiography and is only offered during fall  
semester. (2/08)

RADT-45B CLINICAL EDUCATION III  
[CILC Area B, C, F]  
5.5 units: 16.5 hours lab (297 total hours).  
Limitation on enrollment: Enrollment in the Radiography Program.  
This course provides clinical experience for application of theoretical  
principles and concepts covered in previous and current didactic course  
work. Clinical experience in patient care and handling, positioning skills,  
equipment utilization, radiation protection application, patient information  
management, work efficiency and image evaluation is provided. This  
course is part of the third semester of a twenty-nine month program in  
Radiography and is only offered during fall semester. (12/05)

RADT-45C ADVANCED RADIOLOGIC PROCEDURES I  
2 units: 2 hours lecture.  
Limitation on enrollment: Enrollment in the Radiography Program.  
This course covers advanced radiographic positioning of vascular and  
non-vascular advanced procedures and interventional radiology. This course is  
part of the third semester of a twenty-nine month program in Radiography  
and is only offered during fall semester. (12/05)

RADT-45D RADIOLOGIC PATHOLOGY  
[CILC Area E, G]  
1.5 units: 1.5 hours lecture.  
Limitation on enrollment: Enrollment in the Radiography Program.  
This course presents an introductory study of basic disease processes,  
nature and causes of disease and injury and their related radiographic  
significance. This course is part of the third semester of a twenty-nine  
month program in Radiography and is only offered during fall semester. (12/05)

RADT-49A-ZZ SPECIAL TOPICS IN MEDICAL IMAGING  
.50-3 units: .50-3 hours lecture, 1 1/2-9 hours lab.  
Limitation on enrollment: Current or previous student in an approved  
school of radiography or California-Certified in Diagnostic Radiology  
Technology or special approval of instructor.  
This course is designed to address special topics in radiography and  
advanced imaging modalities to meet current communities of interest needs.  
Specific classes will be offered to help medical imaging technologists cope  
with the rapidly-changing imaging environment (units do not count toward  
graduation). (4/07)

RADT-50 CAREER EXPLORATION IN MEDICAL IMAGING  
1 unit: 54 total hours lab.  
Limitation on enrollment: Negative TB Screening Test or Chest X-ray  
within last 6 months.  
This course allows students to sample an experience in a medical imaging  
setting in order to enhance a student’s understanding of the challenges and  
opportunities in considering a career in radiography and related imaging  
modalities. The instructor of record will be responsible for arranging the  
student’s clinical placement during the course’s orientation meeting. The  
course is repeatable three times. With each subsequent enrollment,  
different clinical competencies will be assigned. (5/08)

RADT-67A ADVANCED RADIOLOGIC PROCEDURES II  
2 units: 2 hours lecture.  
Limitation on enrollment: Enrollment in the Radiography Program.  
This course covers advanced digital radiography and the basic principles  
of CT, MRI, and Sonography. It will provide the student with a broad  
understanding of the purpose, imaging techniques, equipment and  
application of the listed modalities. This course is part of the fourth  
semester of a twenty-nine month program in Radiography and is only  
offered during spring semester. (12/05)

RADT-67B ADVANCED CLINICAL EDUCATION I  
[CILC Area B, C, F]  
10 units: 540 total hours lab.  
Limitation on enrollment: Enrollment in the Radiography Program.  
This course provides clinical experience for application of theoretical  
principles and concepts covered in previous and current didactic course  
work. Clinical experience in patient care and handling, positioning skills,  
equipment utilization, radiation protection application, patient information  
management, work efficiency and image evaluation is provided. This  
course is part of the fourth semester of a twenty-nine month program in  
Radiography and is only offered during spring semester. This course is  
offered during the first of three phases of internship. (12/05)

RADT-67D FLUOROSCOPY  
2 units: 40 total hours lecture.  
Limitation on enrollment: Enrollment in the Diagnostic Radiologic  
Technology Program.  
This course is designed to prepare the senior radiography student or  
radiographer (CRT) to sit for the California state fluoroscopic radiation  
protection examination. Upon successful completion of the course,  
students will receive a fluoroscopy permit certificate. This course is part of  
the fifth semester of a twenty-nine month program in Diagnostic Radiologic  
Technology and is only offered during fall semester. (2/08)
RADT-68A  RADIOLOGIC SCIENCE III
2 units: 2 hours lecture.
Limitation on enrollment: Enrollment in the Radiography Program.
This course is designed to provide an overview of the principles of the interaction of radiation with living systems. Radiation effects on molecules, cells, tissues and the body as a whole as presented as are factors affecting biologic response, including acute and chronic effects of radiation. The course will also present an overview of the principles of radiation protection including the responsibilities of the radiographer for patients, personnel and the public. Radiation health and safety regulatory involvement is also incorporated. This course is part of the second summer session of a twenty-nine month program in radiography and is only offered during summer session. (12/05)

RADT-68B  ADVANCED CLINICAL EDUCATION II
[CILC Area B, C, F]
7 units: 378 total hours lab.
Limitation on enrollment: Enrollment in the Radiography Program.
This course provides clinical experience for reapplication of theoretical principles and concepts covered in previous and current didactic coursework. Clinical experience in patient care and handling, positioning skills, equipment utilization, radiation protection application, patient information management, work efficiency and image evaluation is provided. This course is part of the second summer session of a twenty-nine month program in Radiography and is only offered during summer session which runs approximately 12 weeks in duration. This course is offered during the second of three phases of internship. (12/05)

RADT-69A  INTEGRATIVE STUDY IN RADIOGRAPHY
2 units: 2 hours lecture.
Limitation on enrollment: Enrollment in the Radiography Program.
This course covers a comprehensive analysis and assessment of all previous radiography instructional course work in preparation for writing the national registry examination and state certification. Job market readiness skills will also be presented. This course is part of the fifth semester of a twenty-nine month program in Radiography and is only offered during fall semester. (12/05)

RADT-69B  ADVANCED CLINICAL EDUCATION III
[CILC Area B, C, F]
9 units: 486 total hours lab.
Limitation on enrollment: Enrollment in the Radiography Program.
This course provides clinical experience for re-application of theoretical principles and concepts covered in previous and current didactic course work. Clinical experience in patient care and handling, positioning skills, equipment utilization, radiation protection application, patient information management, work efficiency and image management and evaluation is provided. This course is part of the fifth semester of a twenty-nine month program in Radiography and is only offered during fall semester. This course is offered during the third and last phase of internship. (12/05)

RADT-69C  SECTIONAL ANATOMY
[CILC Area E, G]
1 unit: 1 hour lecture.
Limitation on enrollment: Enrollment in the Radiography Program.
This course covers introduction to sectional anatomy. Emphasis will be the major anatomic structures normally seen in transverse sections. Current imaging applications will also be included. This course is part of the fifth semester of a 29-month program in Diagnostic Radiologic Technology and is only offered during fall semester. (12/05)

RADT-69D  PRINCIPLES OF VENIPUNCTURE
.50 units: .50 hour lecture.
Limitation on enrollment: Enrollment in the Radiography Program or be a Certified Radiographer (CRT).
This course is designed to introduce the radiography student or radiographer to the basic skills and knowledge necessary to perform venipuncture. Upon completion of the course, students will receive a Certificate in Venipuncture for the Radiographer (Phase I) indicating that s/he has completed the required amount of didactic hours. This course is part of the fifth semester of a twenty-nine month program in radiography and is only offered during the fall semester. Upon completion of ten additional successful venipunctures on live human subjects under direct supervision in the clinical setting, an individual will be eligible to receive a Certificate in Venipuncture for the Radiographer (Phase II). Arrangements for the actual clinical experience, as well as any liability, is the student’s responsibility. No additional credit is awarded for Phase II. (12/05)
DEGREE
A.A. - Real Estate

CERTIFICATE
Real Estate

Program Description
The Associate in Arts in Degree in Real Estate is in preparation for the California Real Estate Salesman’s License and Broker’s License.

Entry positions open to graduates who pass the California State examination for a salesperson’s or broker’s license include those of sales agent, junior appraiser, rental agent, or property manager for a bank or land-development company; or in the property department of a corporation, a savings-and-loan company, or an insurance company. Graduates may also search titles and close transactions in the escrow departments of any of these establishments or for escrow companies.

The course of study includes instruction in the following: principles of real estate, real estate practices, legal aspects of real estate, real estate finance, real estate appraisal, real property management, and escrow procedure.

Program Requirements

Career Opportunities
• Real Estate Agent
• Broker
• Appraiser
• Banking
• Property Management
• Real Estate Consulting

Off-Site Resources
California Department of Real Estate
www.dre.ca.gov
California Association of REALTORS®
www.car.org
California Real Estate Education Association
www.creea.org
California Office of Real Estate Appraisers
www.orea.ca.gov

Program Requirements

Students must meet the graduation requirements and complete the major requirements with the following courses.

Program Student Learning Outcomes
A. Students will have the knowledge and skills required to pass the California Real Estate Salesman’s licensing exam and when accompanied by the statutory two-years of salesperson experience, the Broker’s licensing exam. They will have a basic platform which to continue their education in real estate, and have the knowledge and skills to invest prudently and knowledgeably in real estate.
B. Apply time value of money concepts to a variety of situations.
C. Explain the major financial markets and institutions and then compare and contrast the roles they play in our economic system.
D. Explain the relationship between risk and return.
E. Compare and contrast the various real estate financial markets.
F. Analyze, compare, and contrast various real estate investment opportunities.
G. Evaluate and understand the implementation of mortgage loans.
H. Analyze, compare and contrast various real estate appraisal valuation methods.
I. Compare and contrast the various laws and ethics surrounding real estate activities.

<table>
<thead>
<tr>
<th>Units</th>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>ACTG-04A</td>
<td>Fundamentals of Financial Accounting</td>
</tr>
<tr>
<td>or</td>
<td>ACTG-51</td>
<td>Applied Accounting</td>
</tr>
<tr>
<td>4</td>
<td>BUS-18A</td>
<td>Business Law</td>
</tr>
<tr>
<td>3</td>
<td>CPSC-30</td>
<td>Computer Applications</td>
</tr>
<tr>
<td>3</td>
<td>REAL-42</td>
<td>Real Estate Principles</td>
</tr>
<tr>
<td>3</td>
<td>REAL-43</td>
<td>Real Estate Practices</td>
</tr>
<tr>
<td>3</td>
<td>REAL-45</td>
<td>Real Estate Finance</td>
</tr>
<tr>
<td>3</td>
<td>REAL-46</td>
<td>Real Estate Appraisal</td>
</tr>
<tr>
<td>3</td>
<td>REAL-48</td>
<td>Real Property Management</td>
</tr>
<tr>
<td>3</td>
<td>REAL-49</td>
<td>Escrow Procedure</td>
</tr>
</tbody>
</table>

Completion of these core courses plus appropriate experience in real estate sales will qualify the student to take the broker’s examination.

Suggested electives include:

<table>
<thead>
<tr>
<th>Units</th>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>BUS-10</td>
<td>Introduction to Business</td>
</tr>
<tr>
<td>3</td>
<td>BUS-43</td>
<td>Business Communication</td>
</tr>
<tr>
<td>3</td>
<td>CPSC-01</td>
<td>Introduction to Management Information Systems</td>
</tr>
<tr>
<td>3</td>
<td>ECON-01A</td>
<td>Introduction to Macroeconomics</td>
</tr>
<tr>
<td>or</td>
<td>ECON-01B</td>
<td>Introduction to Microeconomics</td>
</tr>
<tr>
<td>3</td>
<td>MDSE-32</td>
<td>Salesmanship</td>
</tr>
<tr>
<td>3</td>
<td>MDSE-33</td>
<td>Advertising</td>
</tr>
<tr>
<td>3</td>
<td>AOM-50B</td>
<td>Document Formatting &amp; Keyboarding</td>
</tr>
</tbody>
</table>
CERTIFICATE
Real Estate (05600.CL)

A. Certificate of Achievement will be awarded upon the satisfactory completion of the required courses for the A.A. Degree in Real Estate.

Program Student Learning Outcomes
A. Students will have the knowledge and skills required to pass the California Real Estate Salesman’s licensing exam and when accompanied by the statutory two-years of salesperson experience, the Broker’s licensing exam. They will have a basic platform which to continue their education in real estate, and have the knowledge and skills to invest prudently and knowledgeably in real estate.
B. Apply time value of money concepts to a variety of situations.
C. Explain the major financial markets and institutions and then compare and contrast the roles they play in our economic system.
D. Explain the relationship between risk and return.
E. Compare and contrast the various real estate financial markets.
F. Analyze, compare, and contrast various real estate investment opportunities.
G. Evaluate and understand the implementation of mortgage loans.
H. Analyze, compare and contrast various real estate appraisal valuation methods.
I. Compare and contrast the various laws and ethics surrounding real estate activities.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACTG-04A</td>
<td>Fundamentals of Financial Accounting</td>
<td>4</td>
</tr>
<tr>
<td>or ACTG-51</td>
<td>Applied Accounting</td>
<td>4</td>
</tr>
<tr>
<td>BUS-18A</td>
<td>Business Law</td>
<td>4</td>
</tr>
<tr>
<td>CPSC-30</td>
<td>Computer Applications</td>
<td>3</td>
</tr>
<tr>
<td>REAL-42</td>
<td>Real Estate Principles</td>
<td>3</td>
</tr>
<tr>
<td>REAL-43</td>
<td>Real Estate Practices</td>
<td>3</td>
</tr>
<tr>
<td>REAL-45</td>
<td>Real Estate Finance</td>
<td>3</td>
</tr>
<tr>
<td>REAL-46</td>
<td>Real Estate Appraisal</td>
<td>3</td>
</tr>
<tr>
<td>REAL-48</td>
<td>Real Property Management</td>
<td>3</td>
</tr>
<tr>
<td>REAL-49</td>
<td>Escrow Procedure</td>
<td>3</td>
</tr>
</tbody>
</table>

Recommended Sequence: A.A. - Real Estate (05600.AA)

Fall 1
REAL-42 Real Estate Principles .................................. 3
REAL-45 Real Estate Finance ........................................ 3

Spring 1
REAL-42 Real Estate Principles .................................. 3
REAL-43 Real Estate Practices .................................... 3
REAL-46 Real Estate Appraisal ..................................... 3

Recommended Sequence: Certificate Real Estate (05600.CL)

Fall 1
REAL-42 Real Estate Principles .................................. 3
REAL-45 Real Estate Finance ........................................ 3

Spring 1
REAL-42 Real Estate Principles .................................. 3
REAL-43 Real Estate Practices .................................... 3
REAL-46 Real Estate Appraisal ..................................... 3

Recommended Sequence: Certificate Real Estate (05600.CL)

Fall 1
REAL-42 Real Estate Principles .................................. 3
REAL-45 Real Estate Finance ........................................ 3

Spring 1
REAL-42 Real Estate Principles .................................. 3
REAL-43 Real Estate Practices .................................... 3
REAL-46 Real Estate Appraisal ..................................... 3

REAL ESTATE (REAL)

REAL-42 REAL ESTATE PRINCIPLES
3 units: 3 hours lecture.
Advisories: ENGL-A; MATH-80.
This course is an analysis of principles of real estate in California, history of California real estate, property, contracts, agency, listings, real estate financing, deeds, liens and encumbrances, escrows and title insurance, land descriptions, real estate mathematics, and real estate licensing and state regulations. (1/09)

REAL-43 REAL ESTATE PRACTICES
3 units: 3 hours lecture.
One-way corequisite: REAL-42; Advisories: ENGL-A; MATH-80.
This course is an analysis of problems related to establishing and conducting a real estate business: the real estate office valuations of listings, prospecting, advertising, the selling process, closing the sale, financing real estate, exchanges and specializing brokerage, income properties, management and leasing, taxes and real estate deals, land utilization, and professional and public relations. (1/09)

REAL-45 REAL ESTATE FINANCE
3 units: 3 hours lecture.
Prerequisite: REAL-42; Advisories: ENGL-81, ENGL-84.
This course is a practical applied study and analysis of money markets, interest rates, and real estate financing. Actual case illustrations will demonstrate lending policies, and problems and rules involved in financing real property, including residential, multi-family, commercial, and special purpose properties. (11/06)

REAL-46 REAL ESTATE APPRAISAL
3 units: 3 hours lecture.
Prerequisite: REAL-42; Advisories: ENGL-81, ENGL-84.
This course explains methods and techniques for analyzing data used in the valuation of real property. Case study methods are employed; field work and demonstration and/or form appraisal reports are required. Principles and theories of real estate valuations, as well as the approaches to value (cost, market, income) are studied with an emphasis on residential properties. (11/06)

REAL-48 REAL PROPERTY MANAGEMENT
3 units: 3 hours lecture.
Prerequisite REAL-42; Advisories: ENGL-81, ENGL-84.
This course provides a practical approach to management of developed real estate. Emphasis is given to economics of real estate; neighborhood analysis and rent schedules; management procedures; selection of personnel; contracts and purchasing; interior and exterior maintenance repair; leasing, advertising, and publicity; managing family residences, apartment buildings, store buildings, office buildings, and other commercial properties; management accounting; modernization and rehabilitation; and adequate insurance plans. (11/06)

REAL-49 ESCROW PROCEDURE
3 units: 3 hours lecture.
Prerequisite: REAL-42. Advisories: ENGL-81, ENGL-84.
This course covers the principles and procedures involved in the process of opening and closing real estate escrow transactions. The course will define legal documents and terminology used in escrow procedure as well as explain the processing of documents and transfer of title combined with sale and closing procedures for several different types of escrows. (1/04)
RECREATION (RECR)
RECR-30 INTRODUCTION TO COMMUNITY RECREATION
3 units: 3 hours lecture.
Advisory: ENGL-A.
This course teaches a general orientation to the field of recreation and parks. It will include a history of the recreation and leisure services, a description of recreational forms, and the nature, scope, and significance of leisure, and recreation as a social force in contemporary society. Emphasis is placed on the role of the professional leader in a variety of settings. (12/06)

SCIENCE (SCI)
SCI-30ABCD (1-3) SCIENCE LABORATORY EXPERIENCE
1 - 3 units: 3-9 hours lab.
(Note: The number designation following the letter indicates unit value, "1" being for 1 unit, "2" for 2 units, and "3" for 3 units.)
This course consists of special projects for students desiring hands-on experience in lab operation and/or techniques. Each letter (i.e., A, B, C, or D) may be taken only once.

SCI-39A-ZZ SPECIAL TOPICS IN SCIENCE
1 - 3 units: 0-3 hours lecture, 0-9 hours lab.
Advisories: ENGL-A; LRNR-30.
This course is designed to address topics not covered in current science courses. It will assist students in acquiring the most-up-to-date information possible in order to cope with the rapidly changing world of science. The course may be lecture only, lecture and laboratory, or laboratory only. (2/09)
Sociology & Social Sciences
Social Sciences, Humanities, and Fine Arts

DEGREE
A.A. - Social and Behavioral Sciences

Program Description
The degree in Social and Behavioral Science offers a focus on the interrelationships between individuals, families, groups, communities, societies, cultures, and historical time periods. This area of emphasis prepares students to understand people and their actions and is useful for a variety of careers that involve relating to people such as those in public service, education, law enforcement, government, and general business.

Students are strongly encouraged to consult with a counselor for specific information regarding their career planning.

DEGREE (5/08)
A.A. - Social and Behavioral Sciences (22600.AA)

For an Associate in Arts Degree with an area of emphasis in Social and Behavioral Science, students must meet the basic graduation requirements and complete 18 units from the courses listed below.

Select nine units from each of the following two categories. Courses listed below may be counted as general education requirements as well as area of emphasis requirements.

Program Student Learning Outcomes
A. develop an understanding of various aspects of human nature and behavior, and how those impact social behavior and relationships.
B. develop a broader understanding of diverse cultures and historical perspectives to better understand human behavior in contemporary society.
C. develop an understanding of individual motivation and behaviors within various social constructs, including economic, psychological, and sociological.

Category 1
AGBS-11 Agricultural Economics.................................3
AGRI-10 Agriculture, Environment, and Society........3
ANTH-01 Physical Anthropology.................................3
ANTH-02 Cultural Anthropology.................................3
ANTH-10 Southeast Asian Culture: Emphasis Hmong Culture 3
CLDV-08 Families and Society.................................3
CLDV-09 Human Development................................3
COMM-30 Introduction to Intercultural Communication........3
CRIM-01 Criminology........................................3
CRIM-02 Introduction to Criminal Justice................3
ECON-01A Introduction to Macroeconomics........3
ECON-01B Introduction to Microeconomics........3
GEOG-02 World Geography........................................3
PSYC-01A Honors Introduction to Psychology..............3
PSYC-01AH Honors Introduction to Psychology........3
PSYC-15 Biological Psychology...............................3
PSYC-20 Social Psychology.................................3
PSYC-22 Human Sexuality........................................3
PSYC-23 Personal and Social Adjustment................3
PSYC-25 Abnormal Psychology.................................3
PSYC-51 Applied Psychology....................................3
SOC-01 Introduction to Sociology..............................3
SOC-02 Contemporary Social Problems................3

Category 2
HIST-04B History of Civilization: Part II...................3
HIST-08A History of the Americas: Part I..................3
HIST-08B History of the Americas: Part II................3
HIST-09A Introduction to East Asian Civilization: China..3
HIST-09B Introduction to East Asian Civilization: Japan......3
HIST-17A United States History and United States Constitution........................................3
HIST-17AH Honors United States History and United States Constitution..................3
HIST-17B U.S. History and California State & Local Government..........................3
HIST-17BH Honors U.S. History and California State & Local Government................3
HIST-21 The History of Minorities in America – Ethnic Groups, 19th Century to Present........3
HIST-22 History of Minorities – Black Emphasis................3
HIST-23 U.S. History of Hispanic-Americans in the Southwest.................................3
HIST-24 History of the Native American........................3
HIST-29 History of California....................................3
HIST-39ABC Exploring California’s Past: Pre-European Contact to the 20th Century........3
HUM-15 Comparative Cultures......................................3
POSC-01 Essentials of the American Political System........3
POSC-02 An Introduction to World Political Systems........3
SCSC-01 Introduction to Social Science.........................3

SOCIAL SCIENCE (SCSC)

SCSC-01 INTRODUCTION TO SOCIAL SCIENCE
(CSU breadth area D7) (IGETC area 4G)
3 units: 3 hours lecture.
Advisory: ENGL-A.

Introduction to Social Science offers an interdisciplinary view of society and of the individual. The course studies effects of technology, ideology, and historical experience on institutional and personal behavior. In addition, the course surveys important knowledge and research in the fields of anthropology, economics, education, history, political science, psychology, and sociology. (3/06)

SOCIOLOGY (SOC)

SOC-01 INTRODUCTION TO SOCIOLOGY
(CSU breadth area D0) (IGETC area 4J)
3 units: 3 hours lecture.
Advisories: ENGL-01A.

This course provides an introduction into what it means to be “sociologically mindful” and to think “sociologically” while understanding the difference from other ways of seeing the social world. The course begins with the understanding of the differences between personal troubles and public issues, and how sociologist apply various theoretical perspectives to a wide range of issues, such as: culture; socialization; social structure of society; deviance; issues of feminization; family; gender; race; inequality; economics; politics and population; and the relationship between the...
individual and society. The course accents international comparisons to show how similar institutions are structures and function differently in different societies around the world. (2/06)

**SOC-02 CONTEMPORARY SOCIAL PROBLEMS**
3 units: 3 hours lecture.
Advisories: ENGL-01A.
SOC-02 introduces fundamental theories and methodologies employed in the study of contemporary social problems. An emphasis is placed on analysis of causes and possible solutions to such problems as poverty, discrimination, crime, delinquency, alcoholism, drug abuse, suicide, family, and politics. A global perspective focuses on the international influences and contributions to various contemporary social problems. (2/06)

**SOC-28 MARRIAGE AND THE FAMILY**
3 units: 3 hours lecture.
Advisory: ENGL-A.
This course provides an overview of sociological theories and concepts utilized to investigate marriage and family relationships. An empirical as well as experiential analysis of marriage and family functions, structures, and roles is emphasized. Special focus is paid to contemporary issues, concerns, and debates regarding marriage and family dynamics. (2/06)

**SOC-33 WORKING EFFECTIVELY WITH FAMILIES** (Also: CLDV-33 and PSYC-33)
1 unit: 1 hour lecture.
Advisory: ENGL-A.
This is a course designed to teach students how to work with parents in school settings. Students will examine current ways of parent involvement, parent rights and responsibilities, and ways of keeping parents informed. (11/05)
**Sonography**

**Allied Health, Business and Public Safety**

---

### CERTIFICATES

Diagnostic Medical Sonography

Diagnostic Medical Sonography (Cardiac Track)

---

**Web site**

www.mccd.edu/alliedhealth

---

### Program Description

The Merced College Diagnostic Medical Sonography and Cardiac Track Programs have been fully accredited by the Joint Review Committee on Education in Diagnostic Medical Sonography *(JRC-DMS)* and the Commission on Accreditation of Allied Health Education Programs **(CAAHEP)** in General Sonography and Echocardiography in September 2006.

JRC-DMS - Joint Review Committee on Education in Diagnostic Medical Sonography; 2025 Woodlaine dr; St. Paul, MN 55125-2998; www.jrcdms.org

CAAHEP - Commission on Accreditation of Allied Health Education Programs; 1361 park St; Clearwater, FL 33756; www.caahep.org

---

### Program Start Dates

January 2011, 2013 (Cardiac Track)

June 2011, 2013 (General)

---

### Highlights

The Allied Health Center houses a complete Sonography Suite, large computer lab, conference rooms, study rooms and multiple large and small classrooms. The Sonography Programs have state-of-the-art equipment and software that assist students with learning current procedures.

---

### CERTIFICATE

Diagnostic Medical Sonography (12800.CT)

**ABDOMINAL AND OB/GYN**

This option is a full-time Certificate of Achievement program. The entire program is 18 months in length, and is composed of two summer sessions and three semesters. If you wish to enter the program, you must make a formal application, including verification of completion of prerequisites listed below. Upon submission of a COMPLETED application, the date and time received will be stamped on the application. After your records have been verified, that date and time will become your official application date. You will receive a notice in the mail, advising you of the following:

- that you “Meet All Program Requirements/Prerequisites”
- your official application date and time, and
- your number on the enrollment list.

If you do NOT meet all the application requirements, your application will be returned, nullifying any application receipt date. If you are accepted into the program but must decline, your application will be kept on file. Enrollment will be based on a first-come, first-served basis. Only one class is in session at a time.

**Requirements for Application and Prerequisites**

Requirements:

Completion of a two-year Allied Health program that is patient-care related, such as radiologic technology, registered nursing, respiratory therapist, physical therapy, associate degree licensed vocational nurse, or baccalaureate degree and health care experience.

**Prerequisites:**

BIOL-16; BIOL-18: MATH-A; ALLH-67; and PHYS-10 or RADT-40. All program prerequisites must be passed with a grade of “C” or higher with a minimum cumulative grade of 2.35 GPA

Contact the Allied Health Office for an application or visit our website at: www.mccd.edu/alliedhealth/sonohp.htm.

Upon admission to the program, you are required to have a physical examination providing evidence of good health and immunization, and must provide annual proof of a negative TB skin test or TB screening, and must have a chest X-ray at least every two years. You must also comply with the technical standards set for working in this field. Additional information on uniforms will be provided at that time.

While enrolled in the program, you will be assigned to various clinical facilities in addition to the on-campus portions of the program. By application and enrollment into the program, you agree to accept clinical assignments in whatever clinical site you are assigned. Clinical assignments will be scheduled during the normal working day hours.

In order to continue in the program, you must complete the Diagnostic Medical Sonography courses in the specified sequence offered per session/semester with a minimum grade of “C” in each course. If you successfully complete the Diagnostic Medical Sonography Program, you will be awarded a Certificate of Achievement in Diagnostic Medical Sonography and will be eligible to write the following qualifying examinations of the American Registry of Diagnostic Medical Sonographers (ARDMS): 1) physical principles/instrumentation, and 2) Special Examination Option in Abdomen, and 3) Special Examination Option in OB/GYN.

**Program Student Learning Outcomes**

A. Student will develop the writing skills to prepare medical manuscripts and present clinical case studies

B. Student will analyze the theory of physics, anatomy and pathophysiology, and sonographic appearance of normal and disease processes

C. Student will meet medical ethical standards and provide proof of cultural competency

D. Student will be able to display both initial and final competencies in the various modalities of sonography
CERTIFICATE
Diagnostic Medical Sonography: Cardiac
Track (12801.CT)

ECHOCARDIOGRAPHY
This option is a full-time Certificate of Achievement program. The entire program is 24 months in length, and is composed of two summer sessions and four semesters. If you wish to enter the program, you must make a formal application, including verification of completion of prerequisites listed below. Upon submission of a COMPLETED application, the date and time received will be stamped on the application. After your records have been verified, that date and time will become your official application date. You will receive a notice in the mail, advising you of the following:

- that you “Meet All Program Requirements/Prerequisites”
- your official application date and time, and
- your number on the enrollment list.

If you do NOT meet all the application requirements, your application will be returned, nullifying any application receipt date. If you are accepted into the program but must decline, your application will be kept on file. Enrollment will be based on a first-come, first-served basis. Only one class is in session at a time.

Requirements for Application and Prerequisites
Requirements:
Completion of a two-year Allied Health program that is patient-care related, such as radiologic technology, registered nursing, respiratory therapist, physical therapy, associate degree licensed vocational nurse, or baccalaureate degree and health care experience.

Core Prerequisites
BIOL-16; BIOL-18; MATH-A: ALLH-67; and PHYS-10 or RADT-40. All option prerequisites must be passed with a grade of “C” or higher with a minimum cumulative grade of 2.35 GPA

Track 1 - Prerequisites
Candidates following this track must have completed a two-year Allied Health Degree, i.e., radiologic technology, respiratory therapist, registered nursing, physical therapy, associate degree licensed vocational nurse, or baccalaureate degree and health care experience. These candidates are eligible to take their ARDMS exam immediately upon graduation.

Track 2 - Prerequisites
Candidates following this track must be an EKG technician in addition to completing the core prerequisites. These candidates are eligible to write the ARDMS Echocardiography and Cardiovascular Physics exams under the ARDMS’s Prerequisite No. 1 examination option.

This option provides the didactic and clinical experience to meet the ARDMS guidelines for registry eligibility in the areas of Adult Echocardiography and...
SONOGRAPHY, DIAGNOSTIC MEDICAL
(SONO)

SONO-36B BEGINNING CLINICAL EXPERIENCE I
9 units: 486 total hours lab.
Limitation on enrollment: Enrollment in the Diagnostic Medical Sonography Program (Cardiac Track). Prerequisite: SONO-46A. Two-way corequisite: SONO-36C.
This course provides clinical experience for application of theoretical principles and concepts covered in previous and current didactic coursework. Clinical experience in patient care and handling, scanning techniques, instrumentation, work efficiency and image evaluation for cardiac imaging is provided. This course is part of the Diagnostic Medical Sonography Program (Cardiac Track) and is only offered during the fall semester. (3/05)

SONO-36C ADVANCED ECHOCARDIOGRAPHY
4 units: 3 hours lecture, 3 hours lab.
Limitation on enrollment: Enrollment in the Diagnostic Medical Sonography Program (Cardiac Track). Prerequisite: SONO-46A. Two-way corequisite: SONO-36B.
This course covers advanced echocardiographic sonographic positioning and scanning protocol including transthoracic, transesophageal, pediatric, and fetal echocardiography; related anatomy and physiology to include cardiac pathology and clinical symptomology and how they relate to the sonographic appearance of these structures. Interpretation and critique of normal and abnormal anatomy with correction of clinical, didactic and image information will be presented. The laboratory component of this course will include demonstration and scanning exercises to provide a “live lab” experience in conducting echocardiographic sonographic procedures. This course is part of the Diagnostic Medical Sonography Program (Cardiac Track). (3/05)

SONO-37A CARDIOVASCULAR PHYSIOLOGY AND PRINCIPLES
2 units: 1.5 hours lecture, 1.5 hours lab.
Limitation on enrollment: Enrollment in the Diagnostic Medical Sonography Program (Cardiac Track). Prerequisites: SONO-40, SONO-46A. Two-way corequisite: SONO-37B.
This course covers cardiac physiology and cardiac physics as it relates to echocardiography. The emphasis will describe the effects of pressure, loading, and volume as they relate to the following disease states: heart failure, shock, valvular stenosis and regurgitation, intracardiac shunts, pulmonary disease, pericardial disease, and cardiomyopathies. Hemodynamics, spectral Doppler, and color flow technologies will be described. The laboratory component of this course will include demonstration and scanning exercises to provide a “live lab” experience in conducting echocardiographic procedures. This course is a continuation of the Diagnostic Medical Sonography Program (Cardiac Track). (3/05)

SONO-37B BEGINNING CLINICAL EXPERIENCE II
9 units: 486 total hours lab.
Limitation on enrollment: Enrollment in the Diagnostic Medical Sonography Program (Cardiac Track). Prerequisite: SONO-36B. Two-way corequisite: SONO-37A.
This course provides clinical experience for application of theoretical principles and concepts covered in previous and current didactic coursework. Clinical experience in patient care and handling, scanning techniques, instrumentation, work efficiency and image evaluation for cardiac imaging is provided. This course is part of the Diagnostic Medical Sonography Program (Cardiac Track). (3/05)

SONO-38B ADVANCED CLINICAL EXPERIENCE I
4.5 units: 243 total hours lab.
Limitation on enrollment: Enrollment in the Diagnostic Medical Sonography Program (Cardiac Track). Prerequisite: SONO-37B. This course provides continued clinical experience for application of theoretical principles and concepts covered in previous and current didactic coursework. Clinical experience inpatient care and handling, scanning techniques, instrumentation, work efficiency and image evaluation for cardiac imaging is provided. This course is part of the Diagnostic Medical Sonography Program (Cardiac Track). (4/05)

SONO-39B ADVANCED CLINICAL EXPERIENCE II
9 units: 486 total hours lab.
Limitation on enrollment: Enrollment in the Diagnostic Medical Sonography Program (Cardiac Track). Prerequisite: SONO-38B.
This course provides clinical experience for advanced application of theoretical principles and concepts covered in previous and current didactic coursework. Clinical experience in patient care and handling, scanning techniques, instrumentation, work efficiency and image evaluation for cardiac imaging is provided. This course is part of the Diagnostic Medical Sonography Program (Cardiac Track). (4/05)

SONO-40 BASIC ULTRASOUND PHYSICS
[CILC area B] 1.5 units: 18 total hours lecture, 27 total hours lab.
Limitation on enrollment: Enrollment in the Diagnostic Medical Sonography program. Prerequisites: MATH-A or MATH-B; PHYS-10 or RADT-40.
This course covers basic principles and terminology of diagnostic ultrasound physics to include: a review of mathematical skills, transducers, beam dynamics, and instrumentation. Hands-on instruction will be provided to introduce the student to necessary elementary skills in scanning as it pertains to the physical nature of ultrasound. (2/08)

SONO-41 INTRODUCTION TO SONOGRAPHY
[CILC area A,B,C,D,E,F] 1.5 units: 18 total hours lecture, 27 total hours lab.
Limitation on enrollment: Completion of a two-year Allied Health program that is patient-care related, such as radiologic technology, registered nursing, respiratory therapist, physical therapy, associate degree-licensed vocational nurse, or a baccalaureate degree in biological sciences with patient care experience; minimum cumulative GPA of 2.35 in prerequisite course work; enrollment in the Diagnostic Medical Sonography Program. Prerequisite: ALLH-67.
This course is an overview of diagnostic medical sonography (DMS) and its role in health care delivery. Students will be oriented to the academic and administrative structure of the program, clinical affiliates, and to the profession as a whole. Ethical and legal responsibilities of the professional relative to health care delivery will be addressed. An introduction to the principles, instruments, and routine sonographic procedures will be emphasized. The laboratory portion of this course will include a hands-on orientation to the computerized equipment and instrumentation. An orientation in the use of the library and library materials will also be presented. (2/08)

SONO-42A ABDOMINAL SONOGRAPHY
[CILC area B] 4 units: 3 hours lecture, 3 hours lab.
Limitation on enrollment: Enrollment in the Diagnostic Medical Sonography Program—Abdominal & OB/GYN Track. Prerequisites: BIOL-16, BIOL-18.
This course covers abdominal sonographic positioning and scanning protocol; related anatomy and physiology to include the retroperitoneum; pathology and clinical symptomology and how they relate to the sonographic appearance of these structures. Interpretation and critique of normal and abnormal anatomy with correlation of clinical, didactic, and image information will be presented. The laboratory component of this course will include demonstration and scanning exercises to provide a “live lab” experience in conducting abdominal sonographic procedures. (2/08)

SONO-42B BEGINNING CLINICAL EXPERIENCE I
[CILC area B] 9 units: 28 hours lab.
Limitation on enrollment: Enrollment in the Diagnostic Medical Sonography Program—Abdominal & OB/GYN Track. Two-way corequisite: SONO-42A.
This course provides clinical experience for application of theoretical principles and concepts covered in previous and current didactic course work. Clinical experience in patient care and handling, scanning techniques, instrumentation, work efficiency, and image evaluation for abdominal imaging is provided. (2/08)
This course is designed to address special topics in diagnostic medical sonography to meet the current needs of students. It will provide students access to instruction that will assist them in acquiring the most up-to-date information possible in order to cope with the rapidly changing health care environment. (4/05)
Spanish
Social Sciences, Humanities and Fine Arts

DEGREE
A.A. - Spanish

Program Description
Studies in foreign languages provide specialists to work in areas such as anthropology, economics, political science, literature, international business, and the travel industry. While teaching is one of the principal areas of employment, other careers may be found in interpreting, translating, research, diplomacy, libraries, publishing, and the service industries.

DEGREE
A.A. - Spanish (11600.AA)

For an Associate in Arts Degree in Spanish, students should meet the graduation requirements and complete the 26-unit curriculum as listed below. The courses listed below must be in addition to the basic graduation requirements.

Program Student Learning Outcomes
A. Speaking: Initiate, minimally sustain, and close in a simple way basic communicative tasks.
B. Listening: Distill information from such discourse and demonstrate understanding.
C. Writing: Compose a simple narrative and meet practical needs.
D. Culture: Recognize pervasive values of the culture.
E. Reading: Understand main ideas.

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPAN-01</td>
<td>5</td>
</tr>
<tr>
<td>SPAN-02</td>
<td>5</td>
</tr>
<tr>
<td>SPAN-03</td>
<td>5</td>
</tr>
<tr>
<td>SPAN-04</td>
<td>5</td>
</tr>
<tr>
<td>HIST-04A</td>
<td>3</td>
</tr>
<tr>
<td>HIST-04B</td>
<td>3</td>
</tr>
<tr>
<td>Fall 1</td>
<td></td>
</tr>
<tr>
<td>SPAN-01</td>
<td>5</td>
</tr>
<tr>
<td>or</td>
<td></td>
</tr>
<tr>
<td>SPAN-10</td>
<td>5</td>
</tr>
<tr>
<td>SPAN-02</td>
<td>5</td>
</tr>
<tr>
<td>or</td>
<td></td>
</tr>
<tr>
<td>SPAN-11</td>
<td>5</td>
</tr>
<tr>
<td>Spring 1</td>
<td></td>
</tr>
<tr>
<td>SPAN-02</td>
<td>5</td>
</tr>
<tr>
<td>or</td>
<td></td>
</tr>
<tr>
<td>SPAN-11</td>
<td>5</td>
</tr>
</tbody>
</table>

Recommended Sequence: a.a. - Spanish (11600.AA)

Fall 1
- SPAN-01  Elementary Spanish 5 units
- SPAN-10  Spanish for Spanish Speakers 5 units
- HIST-04A History of Civilization: Part I 3 units

Spring 1
- SPAN-02  Elementary Spanish 5 units
- SPAN-11  Spanish for Spanish Speakers 5 units

SPANISH (SPAN)

SPAN-01 ELEMENTARY SPANISH
(CSU breadth area C2) (IGETC area 6)
5 units: 5 hours lecture.
Prerequisite: SPAN-01 or two years of high school Spanish.
Advisory: ENGL-84.
This course will focus on the development of listening, speaking, reading, and writing in a cultural context, with primary emphasis on communicative competency. Students will learn how to express in Spanish the most basic functions of everyday life. This course is not recommended for native speakers – native speakers should enroll in SPAN-10. (10/03)

SPAN-02 ELEMENTARY SPANISH
(CSU breadth area C2) (IGETC area 3B/6)
5 units: 5 hours lecture.
Prerequisite: SPAN-01 or two years of high school Spanish.
SPAN-02 is the continuation of SPAN-01. This course will focus on the further development of listening, speaking, reading, and writing in a cultural context with primary emphasis on communicative competency. Students will learn how to express in Spanish the most basic functions of everyday life. This course is recommended for students who have completed two years of high school Spanish; it is not recommended for native speakers. Native speakers should enroll in SPAN-11. (11/03)

SPAN-03 INTERMEDIATE SPANISH
(CSU breadth area C2) (IGETC area 3B/6)
5 units: 5 hours lecture.
Prerequisite: SPAN-02 or SPAN-11. Advisory: LRNR-30.
Intermediate Spanish is a continuation of SPAN-02 and SPAN-11. This course reviews and further develops grammatical concepts introduced in SPAN-02 and SPAN-11, as well as introduces the student to the remaining major linguistic concepts of the language. Through varied readings, composition, and discussion, the student will increase his or her vocabulary and cultural knowledge. (11/03)

SPAN-04 INTERMEDIATE SPANISH
(CSU breadth area C2) (IGETC area 3B/6)
5 units: 5 hours lecture.
Prerequisite: SPAN-03. Advisory: LRNR-30.
This course is a thorough review of the fundamentals of reading, writing, speaking, and understanding Spanish designed to aid the student in preparing for advanced studies in Spanish composition, grammar, and conversation, as well as literature in Spanish, history, and culture. (11/03)

SPAN-10 SPANISH FOR SPANISH SPEAKERS
(CSU breadth area C2) (IGETC area 3B/6)
5 units: 5 hours lecture.
Advisory: ENGL-84 or high school Spanish 2; LRNR-30.
This course is designed for students who are fluent in Spanish and who are ready to develop literacy skills. The course will focus on extensive reading of all types of texts and their reworking in written form with the intention of expanding the vocabulary, creating an incipient awareness of linguistic registers, discussing items beyond the familial routine, improving written expression, and developing an appreciation for Hispanic culture as manifested in Spanish speaking countries and the U.S. (3/08)
SPAN-11 SPANISH FOR SPANISH SPEAKERS
(CSU Breadth C2) (IGETC area 3B/6)
5 units: 5 hours lecture.
Prerequisite: SPAN-10 or two years of "Spanish for Spanish Speakers." Advisory: LRNR-30.
This course represents the continuation of SPAN-10. It is designed for students who are fluent in Spanish and who are ready to develop literacy skills. This course continues to focus on extensive reading of all types of texts and their reworking in written form with the intention of expanding the vocabulary, increasing the awareness of linguistic registers, discussing items beyond the familial routine, improving written expression -- particularly accentuation and spelling -- and developing an appreciation for Latino culture as manifested in any of the Spanish-speaking countries, including the USA. (9/04)

SPAN-35 WRITTEN ACCENTS
1 unit: 1 hour lecture.
Advisory: SPAN-02.
This course teaches the student how to correctly place written accents on Spanish words. It includes the division of syllables and the accentuation of groups of words that do and do not require an accent either because of stress patterns or semantic criteria. This course is recommended for students who know how to correctly pronounce the vocabulary taught in Span-02, Elementary Spanish, or those who speak Spanish with family and friends. (2/08)

SPAN-39 ADVANCED SPANISH
1 unit: 1 hour lecture.
Prerequisite: SPAN-04. Advisory: LRNR-30
This course is designed to acquaint the advanced student with specific items of Spanish language, literature, and culture, including history, political thought and sociological change. Papers will be written which will enforce knowledge of these areas and critical analysis of current Spanish intellectual and social thinking. This course may be repeated three times. (10/06)
Sports Medicine
Allied Health, Business, and Public Safety

Dean
Bobby Anderson
Phone
(209) 384-6309
Area Office
AHC-126

Sports Medicine  •  241

Web site
www.mccd.edu/alliedhealth/

SPORTS MEDICINE (SPMD)

SPMD-41  SPORTS MEDICINE PROFESSIONS
1 unit: 1 hour lecture.
Advisory: ENGL-A.
This course presents the scope of practice of the various sports medicine professional career opportunities. (5/03)

SPMD-42  INTRODUCTION TO ATHLETIC TRAINING
3 units: 2 hours lecture, 3 hours lab.
Advisory: ENGL-A.
This is an introductory course in recognition, assessment, management, care, and prevention of injuries occurring in physical activities. (1/04)

SPMD-43  REHABILITATION IN SPORTS MEDICINE
3 units: 2.5 hours lecture, 1.5 hours lab.
Prerequisite: SPMD-42. Advisory: ENGL-A.
This course, through lecture and lab, will include applications and methods in athletic injury treatment and rehabilitation. It will teach a practical approach to rehabilitation programs through design, implementation, and supervision. (05/03)
STUDENT GOVERNMENT (STGV)
STGV-33ABCD STUDENT GOVERNMENT
2 units: 1 hour lecture, 3 hours lab.
(Note: Students may enroll without holding an office.)
This course surveys theory and practice of parliamentary law, committee
techniques, and democratic organization. Students will study some of
the factors of successful leadership and effective group membership.
Participation in student organization events, such as lectures, leadership
workshops, and conferences, is required.

TUTORIAL (TUTR)
TUTR-35 TUTORIAL SEMINAR
1 unit: 3 hours lab.
Advisories/prerequisites: none
This is a course designed to provide tutors in the Merced College Tutorial
program with opportunity to explore more fully their experiences in the
program. Tutors will receive instruction in the areas of tutorial technique,
group organizations, relationships with faculty and peers, evaluation
techniques, and content tutoring. (5/08)
Visual Arts
Social Sciences, Humanities, and Fine Arts

DEGREE
A.A. - Visual Arts

Program Description
The study of art will enrich the student’s experience of the world and encourage the student to draw upon creative resources. An education in art can lead to professional or vocational careers, as well as enhance abilities in other fields. The Art Department offers a foundation in theoretical and practical skills, and the opportunity to work in a wide variety of specific art media. The Art Program provides transfer, professional preparation, personal development, general interest, and general education, as well as an Associate in Arts degree.

Career Opportunities in ART
Some careers may require more than two years of college study.

| Art Instructor | Product Design |
| Art Historian  | Jewelry Design |
| Art Critic / Writer | Fashion Design |
| Art Therapist  | Color Consultant |
| Arts Administrator | Interior Design |
| Painter / Sculptor | Furniture Design |
| Ceramist       | Textile Design |
| Printmaker     | Landscape Design |
| Illustrator    | Floral Design |
| Graphic Designer | Stage Design |
| Film and Story Board Illustrator | Set and Lighting Designer |
| Cartoonist     | Digital Media Artist |
| Typographer    | Sign Painter |
| Photographer   | Television |
| Animator       | Advertising |

The Art Program provides transfer, professional preparation, personal development, general interest, and general education, as well as an Associate in Arts degree.

Program Student Learning Outcomes
A. Demonstrate a knowledge of the techniques and processes involved in a variety of two and three dimensional art media.
B. Create works of art integrating aesthetics with the elements and principles of design theory as applied to their area of emphasis: painting, printmaking, sculpture, ceramics, photography, etc.
C. Identify, distinguish and assess individual styles as applied to various media.
D. Build upon their appreciation and understanding of the various multicultural and philosophical patterns of traditional and contemporary art throughout history.

DEGREE
A.A. - Visual Arts (10700.AA)

For an Associate in Arts Degree in Visual Arts, students should meet the graduation requirements and complete the following courses.

Program Student Learning Outcomes

<table>
<thead>
<tr>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art History</td>
</tr>
<tr>
<td>ART-12A</td>
</tr>
<tr>
<td>ART-15</td>
</tr>
<tr>
<td>ART-24A</td>
</tr>
<tr>
<td>ART-26A</td>
</tr>
<tr>
<td>ART-25A</td>
</tr>
<tr>
<td>or</td>
</tr>
<tr>
<td>ART-28A</td>
</tr>
</tbody>
</table>

Plus nine units from the following courses:

<table>
<thead>
<tr>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART-17A</td>
</tr>
<tr>
<td>ART-17B</td>
</tr>
<tr>
<td>ART-17C</td>
</tr>
<tr>
<td>ART-20 A*</td>
</tr>
<tr>
<td>ART-20 B*</td>
</tr>
<tr>
<td>ART-20 C*</td>
</tr>
<tr>
<td>ART-20 D*</td>
</tr>
<tr>
<td>ART-28 A</td>
</tr>
<tr>
<td>ART-28 B</td>
</tr>
<tr>
<td>ART-28 C</td>
</tr>
<tr>
<td>ART-29 A**</td>
</tr>
<tr>
<td>ART-29 B**</td>
</tr>
<tr>
<td>ART-29 C**</td>
</tr>
<tr>
<td>ART-29 D**</td>
</tr>
<tr>
<td>ART-41 A</td>
</tr>
<tr>
<td>ART-41 B</td>
</tr>
<tr>
<td>ART-41 C</td>
</tr>
<tr>
<td>PHOT-10A</td>
</tr>
</tbody>
</table>

**Offered in the spring semester only.
*Offered in the fall semester only.

Recommended Sequence: A.A. - Visual Arts (10700.AA)

<table>
<thead>
<tr>
<th>Fall 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art History</td>
</tr>
<tr>
<td>ART-15</td>
</tr>
<tr>
<td>ART-24A</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Spring 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art History</td>
</tr>
</tbody>
</table>
ART elective ..........................................................3

ART-28A Oil Painting I
ART-25A Acrylic Painting I
Spring 2
ART elective ..........................................................3

unity, variety, balance, emphasis, rhythm, scale and proportion. Subject
space, value, color, texture, movement, compositional substructures,
elements and principles of design, including: line, shape, iconography,

This is a foundation course for the study of the Visual Arts. Lectures and
studio projects explore and analyze concepts and theories related to the

ART elective ..........................................................3

ART-12A SCULPTURE
(CSU breadth area C1)
3 units: 2 hours lecture, 3 hours lab.
Prerequisite/Advisory: None.
This course is a survey of fundamentals of the sculpting process and a
study of materials related to sculpture. Work explores projects in 3-D to bas
relief and covers styles from realism to abstract. (1/05)

ART-12B INTERMEDIATE SCULPTURE
3 units: 2 hours lecture, 3 hours lab.
Prerequisite: ART-12A.
Students will explore sculpture materials, methods, techniques, and 3-D
project problem-solving related to intermediate-level course work. (1/05)

ART-12C ADVANCED SCULPTURE
3 units: 2 hours lecture, 3 hours lab.
Prerequisite: ART-12B.
Students will explore sculpture materials, methods, techniques, and 3-D
project problem-solving related to advanced-level course work. (1/05)

ART-15 FUNDAMENTALS OF DESIGN IN ART
(CSU breadth area C1)
3 units: 2 hours lecture, 3 hours lab.
Advisory: ENGL-01A.
This is a foundation course for the study of the Visual Arts. Lectures and
studio projects explore and analyze concepts and theories related to the
elements and principles of design, including: line, shape, iconography,
space, value, color, texture, movement, compositional substructures,
unity, variety, balance, emphasis, rhythm, scale and proportion. Subject
matter is applicable to professional fields in fine art (2D & 3D), graphic
design, commercial art, photography, applied arts, environmental design,
arhitecture, interior design and fashion. (2/10)

ART-17A CERAMICS - POTTERY
3 units: 2 hours lecture, 3 hours lab.
Advisory: ENGL-A.
This course is a survey of ceramic materials (clays and glazes) and their
function in relation to design as an art form. Basic studio practice in the
hand-building processes, decorating, glazing, and firing of ware, and an
introduction to the potter’s wheel are included. (1/08)

ART-17B INTERMEDIATE CERAMICS - POTTERY
3 units: 2 hours lecture, 3 hours lab.
Prerequisite: ART-17A. Advisory: ENGL-A.
This is an intermediate course in ceramic pottery and sculpture design
and construction, non-technical glaze composition, and kiln firing. Stress is
placed upon the attainment of skill on the potter’s wheel and organization
of construction problems. Students pursue projects of individual interest.
(1/08)

ART-17C ADVANCED CERAMICS - POTTERY
3 units: 2 hours lecture, 3 hours lab.
Prerequisite: ART-17B. Advisory: ENGL-A.
This is an advanced course in ceramic pottery with emphasis on more
complicated sculpture and wheel construction and design techniques.
Students will participate in glaze composition and experience advanced
decorating and glazing techniques. Students will pursue projects of
individual interest related to the objectives of the course. (1/08)

ART-20A PRINTMAKING I
3 units: 2 hours lecture, 3 hours lab.
Prerequisite/Advisory: None.
This course covers the fundamental printmaking processes including relief
and intaglio methods. It includes exploration of black and white as well as an
introduction to color techniques. Students will produce limited editions
and survey the history of printmaking. (1/05)

ART-20B PRINTMAKING II: INTAGLIO AND COLOR
3 units: 2 hours lecture, 3 hours lab.
Prerequisite: ART-20A.
This course deals with black and white as well as color printmaking
techiques with an emphasis on intaglio processes. (1/05)

ART-20C PRINTMAKING III: LITHOGRAPHY
3 units: 2 hours lecture, 3 hours lab.
Prerequisite: ART-20B.
This course focuses on the lithographic printmaking techniques in which
images are printed from limestone slabs. (1/05)

ART-20D PRINTMAKING IV: EXPLORATION
3 units: 2 hours lecture, 3 hours lab.
Prerequisite: ART-20C.
This course is an advanced study of printmaking techniques with focus on the
individual student’s ideas. Students will work towards the development of
the personal set of aesthetic requisites necessary for advanced study
and independent work. (1/05)

ART-24A DRAWING I
(CSU Breadth Area C1)
3 units: 2 hours lecture, 3 hours lab.
Prerequisite/Advisory: None.
This course is an introduction to the principles, theories, and techniques of
drawing and composition. Students will explore foundation-level concepts
while surveying materials used in drawing as an art form, as well as the
history of their development. (1/05)

ART-24B DRAWING II
3 units: 2 hours lecture, 3 hours lab.
Prerequisite: ART-24A.
This course is an intermediate-level study of the theories and practice of
drawing as an art form. Problems in perspective, proportion, and form will
be addressed. A more advanced approach to concept and techniques in
media are also included, as well as the history of their development. (1/05)
ART-24C DRAWING III
3 units: 2 hours lecture, 3 hours lab.
Prerequisite: ART-24B.
This course is an advanced-level study of drawing as an art form. More advanced problems in the aesthetics and techniques of drawing will be addressed. The approach is individualized. Contemporary as well as historical concepts will be addressed. (1/05)

ART-25A ACRYLIC PAINTING I
3 units: 2 hours lecture, 3 hours lab.
Prerequisite/Advisory: None.
This is a course in the fundamentals of acrylic painting as an art form. Students will address problems in portrayal, proportion, composition, and color. (1/05)

ART-25B ACRYLIC PAINTING II
3 units: 2 hours lecture, 3 hours lab.
Prerequisite: ART-25A.
This course is a study of the materials and methods of acrylic painting. Students will explore creative and conceptual solutions to problems in portrayal, composition, and color. (1/05)

ART-25C ACRYLIC PAINTING III
3 units: 2 hours lecture, 3 hours lab.
Prerequisite: ART-25B.
This course is an advanced study of acrylic painting techniques. Students will apply these techniques with emphasis on conceptual development and critical evaluation. (1/05)

ART-25D ACRYLIC PAINTING IV
3 units: 2 hours lecture, 3 hours lab.
Prerequisite: ART-25C.
This course is an exploration of acrylic painting with focus on the students’ individual ideas. Students will work towards the development of the personal set of aesthetic requisites necessary for advanced study and independent work. (1/05)

ART-26A FIGURE DRAWING I
3 units: 2 hours lecture, 3 hours lab.
Prerequisite/Advisory: None.
This is a basic course in drawing the human form and proportion. Models are used in both rapid and extended studies with a variety of drawing media. (1/05)

ART-26B FIGURE DRAWING II
3 units: 2 hours lecture, 3 hours lab.
Prerequisite: ART-26A.
This is an intermediate study of human form and proportion. Models are used in both rapid and extended studies with a variety of drawing and painting media. (1/05)

ART-26C FIGURE DRAWING III
3 units: 2 hours lecture, 3 hours lab.
Prerequisite: ART-26B.
This course is an advanced study of human form and proportions. Models are used in both rapid and extended studies with a variety of drawing and painting media. (1/05)

ART-28A OIL PAINTING I
3 units: 2 hours lecture, 3 hours lab.
Prerequisite/Advisory: None.
This is a course in the fundamentals of oil painting as an art form. Students will address problems in portrayal, proportion, composition, and color. (1/05)

ART-28B OIL PAINTING II
3 units: 2 hours lecture, 3 hours lab.
Prerequisite: ART-28A.
This course is a study of the materials and methods of oil painting. Students will explore creative and conceptual solutions to problems in portrayal, composition, and color. (1/05)

ART-28C OIL PAINTING III
3 units: 2 hours lecture, 3 hours lab.
Prerequisite: ART-28B.
This course is an advanced study of oil painting techniques. Students will apply these techniques with emphasis on conceptual development and critical evaluation. (1/05)

ART-28D OIL PAINTING IV
3 units: 2 hours lecture, 3 hours lab.
Prerequisite: ART-28C.
This course is an exploration of oil painting with focus on the students’ individual ideas. Students will work towards the development of the personal set of aesthetic requisites necessary for advanced study and independent work. (1/05)

ART-29A WATERCOLOR PAINTING I
3 units: 2 hours lecture, 3 hours lab.
Prerequisite/Advisory: None.
This is a course in the fundamentals of watercolor painting as an art form. Students will address problems in portrayal, proportion, composition, and color. (1/05)

ART-29B WATERCOLOR PAINTING II
3 units: 2 hours lecture, 3 hours lab.
Prerequisite: ART-29A.
This course is a study of the materials and methods of watercolor painting. Students will explore creative and conceptual solutions to problems in portrayal, composition, and color. (1/05)

ART-29C WATERCOLOR PAINTING III
3 units: 2 hours lecture, 3 hours lab.
Prerequisite: ART-29B.
This course is an advanced study of watercolor painting techniques. Students will apply these techniques with emphasis on conceptual development and critical evaluation. (1/05)

ART-29D WATERCOLOR PAINTING IV
3 units: 2 hours lecture, 3 hours lab.
Prerequisite: ART-29C.
This course is an exploration of watercolor painting with focus on the students’ individual ideas. Students will work towards the development of the personal set of aesthetic requisites necessary for advanced study and independent work. (1/05)

ART-40A DIGITAL ART I: INTRODUCTION TO DIGITAL MEDIA
[CILC area A]
3 units: 2 hours lecture, 3 hours lab.
Limitation on enrollment: Limited to the number of licenses available.
Advisory: ENGL-A.
This studio survey course introduces image creation and manipulation using and vector software programs. Students will learn basic design principles and software technique to create, edit, and output digital images. The emphasis is on developing creative thinking, design skills, a visual esthetic sensibility, and technical ability in the medium. (1/08)

ART-41A GRAPHIC DESIGN I
[CILC area A]
3 units: 2 hours lecture, 3 hours lab.
Advisory: ENGL-A.
This course provides an introduction to graphic design and the visual communication arts. It emphasizes skills in design, problem analysis, conceptual thought, layout, typography, visualization, and production workflow in creating compositions and designs to visually inform and communicate to a mass audience. (1/08)
This course is an intermediate level in graphic design and the visual communication arts. It emphasizes the further development of skills in design including use of computer software and integrating visuals and typography. Students will spend considerable time on the production of projects on both computer and the drawing board. (1/08)

**ART-41C  GRAPHIC DESIGN III**  
[CILC area A]  
3 units: 2 hours lecture, 3 hours lab.  
Prerequisite: ART-41B. Advisory: ENGL-A.  
This is an advanced course in graphic design and the visual communication arts. It emphasizes integrating design skill sets including computer software to create graphic design solutions across different media applications. Students will spend considerable time on the production of projects on both computer and the drawing board. (1/08)

**ART-43  DIGITAL MEDIA - PHOTOSHOP**  
3 units: 2 hours lecture, 3 hours lab.  
Limitation on enrollment: Limited to the number of licenses available.  
Prerequisites: ART-40. Advisories: ART-15, ART-24A; ENGL-A.  
This studio course continues development in creative thinking, design skills, and technical ability in the use of Photoshop software. Students will develop a personal expressive vision through extended art and design projects. Advanced techniques in Photoshop will extend student capability in producing works for print, web and multimedia outputs. (11/08)

**ART-48 A-ZZ  ADVANCED SPECIAL PROBLEMS IN ART**  
3 units: 2 hours lecture, 3 hours lab.  
Limitation on enrollment: Before enrolling, the student must complete a contract detailing proposed area of study. Completed contract requires signatures: a) the instructor of the course section the student will be attending; b) the Arts Division Chairperson.  
This course is designed to provide students with the opportunity to do advanced, specialized work, under the supervision of an instructor in areas not offered in regular classes. Students must develop an advanced problem in the area of art that they wish to explore. (1/08)
WATER/ WASTEWATER TECHNOLOGY (WWT)

WWT-60 WATER TREATMENT PLANT OPERATIONS
3 units: 3 hours lecture.
Advisories: ENGL-81, ENGL-84; MATH-80.
This course is an introduction to water treatment plant operations and processes. It will include the study of sources of water supply, water quality, treatment of water for domestic use, operations of water treatment systems, and introduction to water treatment operations arithmetic. This course prepares the student to test for state certification for water treatment plant operator grade 1 and 2. (11/03)

WWT-61 INTRODUCTION TO WASTEWATER TREATMENT
3 units: 3 hours lecture.
Advisories: ENGL-81, ENGL-84; MATH-80.
This course is an introduction to wastewater treatment plant operations and processes. It will include the study of wastewater terminology; current methods of wastewater treatment – primary, secondary, and advanced; wastewater quality; and basic wastewater mathematics. This course prepares the student to test for state certification for wastewater treatment plant operation grade 1 and 2 (entry-level). (11/03)

WWT-62 WATER AND WASTEWATER CALCULATIONS
3 units: 3 hours lecture.
Advisories: ENGL-81, ENGL-84; MATH-80.
This course provides for mastery of mathematical calculations specifically involving water and wastewater treatment plant operations and processes. It incorporates use of a handheld calculator, scientific notation, and use of dimensional analysis as tools of problem solving. This course prepares the student to test for state certification for wastewater treatment plant operator grade 1 and 2 (entry-level). (11/03)

WWT-63 ADVANCED WATER TREATMENT PLANT OPERATIONS
3 units: 3 hours lecture.
Prerequisite: WWT-60. Advisory: ENGL-81.
This course is a continuation of study of water treatment plant operations and processes with emphasis on knowledge and skills needed by operators of conventional surface and ground treatment. Topics include control of metallic ions, trihalomethanes, disposal of wastes in the operation of water plants, instrumentation and advanced laboratory procedures, and safety and drinking water regulations. The course provides classroom background to prepare students to take state certification exams. (11/03)

WWT-64 ADVANCED WASTEWATER TREATMENT
3 units: 3 hours lecture.
Prerequisite: WWT-61. Advisory: ENGL-81.
This course is a continuation of study of wastewater treatment plant operations and processes. It will emphasize details of the processes that occur in a wastewater treatment plant including aeration, maintenance of microbe populations, sludge digestion, and chemical removal. This course is designed for students who are in grades III and IV of state certification and satisfies eight educational points towards certification as a wastewater treatment operator. (11/03)
An Associate in Arts Degree in Welding Technology is available for students who complete the graduation requirements and successfully complete the courses required below for the certificate.

Program Student Learning Outcomes
A. Demonstrate competencies in job safety skills and awareness of workplace hazards.
B. Follow written and oral instructions in the interpretation of simple drawings and sketches, including welding symbols and the execution of the fabrication process.
C. Set up, maintain, and adjust welding related equipment.
D. Acquire skills and knowledge to make a successful transition to an entry-level position in the work force.
E. Pass workmanship tests using common welding processes.

<table>
<thead>
<tr>
<th>Units</th>
<th>DRFT-59 Basic Drafting .................................................. 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MATH-B Applied Mathematics ........................................... 5</td>
</tr>
<tr>
<td></td>
<td>WELD-06 Fundamentals of Oxy-Fuel &amp; Shielded Metal Arc Welding ..................................................................... 3</td>
</tr>
<tr>
<td></td>
<td>WELD-07 Fundamentals of T.I.G. and M.I.G. Welding ................ 3</td>
</tr>
<tr>
<td></td>
<td>WELD-40A* Welding Design and Construction .......................... 3</td>
</tr>
<tr>
<td></td>
<td>WELD-40B* Welding Design and Construction .......................... 3</td>
</tr>
<tr>
<td></td>
<td>WELD-45** Advanced Arc Welding Procedures ........................ 3</td>
</tr>
<tr>
<td></td>
<td>WELD-48 Special Problems in Welding Technology .................. 2</td>
</tr>
</tbody>
</table>

*Offered in the fall semester as a night class only. Offered in the spring semester as a day class only.
**Offered in the spring semester as a night class only.

Recommended Sequence: A.A. - Welding Technology (09800.AA) and Certificate Welding Technology (09800.CL)

<table>
<thead>
<tr>
<th>Fall 1</th>
<th>Basic Drafting ........................................................................3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Applied Mathematics ................................................................5</td>
</tr>
<tr>
<td></td>
<td>Fundamentals of Oxy-Fuel &amp; Shielded Metal Arc Welding .......... 3</td>
</tr>
<tr>
<td></td>
<td>Fundamentals of T.I.G. and M.I.G. Welding ......................... 3</td>
</tr>
<tr>
<td></td>
<td>Welding Design and Construction ......................................... 3</td>
</tr>
<tr>
<td></td>
<td>Advanced Arc Welding Procedures ......................................... 3</td>
</tr>
</tbody>
</table>

*Offered in the fall semester as a night class only. Offered in the spring semester as a day class only.
**Offered in the spring semester as a night class only.
WELDING TECHNOLOGY (WELD)

WELD-06 FUNDAMENTALS OF OXY-FUEL WELDING AND SHIELDED METAL ARC WELDING (Also: MECH-06)
3 units: 2 hour lecture, 3 hours lab.
Advisories: ENGL-81, ENGL-84; MATH-80.
This course emphasizes development of minimum skill standards in welding. The Shielded Metal Arc Welding (SMAW), Oxy-Fuel Welding (OFW) and Oxy-Fuel Cutting (OFC) processes are covered as prescribed in the (AWS) American Welding Training Qualification (QC 10) entry-level standards. (2/06)

WELD-07 FUNDAMENTALS OF T.I.G. AND M.I.G. WELDING (Also: MECH-07)
3 units: 2 hours lecture, 3 hours lab.
Advisories: ENGL-81, ENGL-84; MATH-80.
This course emphasizes the development of minimum skill standards in welding. The Gas Metal Arc Welding (GMAW)/(MIG), Gas Tungsten Arc Welding (GTAW)/(TIG) and Plasma Arc Cutting (PAC) processes are studied as prescribed in the American Welding Society (AWS) Training Qualification (QC 10) entry-level standards. (2/06)

WELD-40A WELDING DESIGN AND CONSTRUCTION (Also: MECH-19A)
3 units: 2 hours lecture, 3 hours lab.
Prerequisite: WELD-07 or MECH-07. Advisories: ENGL-81, ENGL-84; MATH-80.
This course covers basic metal fabrication skills as well as the design and construction of special industrial and agricultural equipment. (2/06)

WELD-40B WELDING DESIGN AND CONSTRUCTION (Also: MECH-19B)
3 units: 2 hours lecture, 3 hours lab.
Prerequisite: WELD-40A/MECH-19A. Advisories: ENGL-81, ENGL-84; MATH-80.
This course is a continuation of WELD-40A/MECH-19A. It covers basic and advanced metal fabrication skills as well as the design and construction of special agricultural and industrial equipment. (2/06)

WELD-45 ADVANCED ARC WELDING PROCEDURES (Also: MECH-45)
3 units: 2 hours lecture, 3 hours lab.
Advisories: ENGL-B; MATH-80; WELD-06/MECH-06 and WELD-07/MECH-07.
This course is designed to emphasize advanced skills and techniques of Shielded Metal Arc Welding, Gas Metal Arc Welding, Gas Tungsten Arc Welding, Air Carbon Arc Cutting, and Oxyacetylene Flame Cutting as related to pipe and structural members. Included will be welding assembly print interpretation, weld symbol interpretation, and weld joint preparation. Students will be prepared to take an AWS Welder Certification Test during this course. (2/06)

WELD-48 SPECIAL PROBLEMS IN WELDING TECHNOLOGY
2 units: 6 hours lab.
Prerequisites: WELD-06/MECH-06, WELD-07/MECH-07. Advisories: ENGL-81, ENGL-84; MATH-80.
This course prepares the student for employment in the welding trades with entry-level skills. Trade techniques and information needed for employment in trade occupations will receive special attention. (2/06)
CERTIFICATES
Basic Skills
Court Interpreter
English as a Second Language
Medical Assistant
Technical Office Occupations

Web site
www.mccd.edu/programs/cont_ed/index.html

Program Description
Continuing Education (Noncredit) Program Description
The Continuing Education (Noncredit) program office is located at the Merced Tri-College Center on the College campus. This program offers a wide variety of classes to the community with no registration fees. Classes are offered to assist students seeking employment, help them relearn skills and meet current job requirements, and promote skills for physical and emotional well-being. Call Janet Lyle, Director, at (209) 381-6540 for further information.

Career Opportunities
• Court Interpreter
• Medical Assistant
• Technical Office Occupation

Highlights
Noncredit Adult Continuing Education - Lifelong Learning for all Californians is part of the community colleges system of instruction. As a key aspect of lifelong learning, noncredit instruction:
• serves as a gateway to college and/or a career path
• assists parents in developing the skills needed to help their children succeed in school and life;
• provides programs for immigrants to actively engage in the economy and civic life;
• supports persons with disabilities to develop ways to be self-sufficient;
• increases community awareness of health, safety, family and consumer issues;
• provides access to basic skills and English as a Second Language; and
• keeps older adults active and healthy.

CERTIFICATE (5/06)
Basic Skills Certificates of Completion
(49165.NC)
The basic skills program consists of a sequence of courses to provide instruction for individuals in elementary and secondary-level reading, writing, computation and problem-solving skills in order to assist them in achieving their academic, vocational, and personal goals.

Program Student Learning Outcomes
Upon completion of the basic skills program the student will be able to addresses the content and proficiencies at levels through the twelfth grade and may incorporate a high school diploma.

SOCL-760 Career and Life Planning
SOCL-761 Vocational Life Planning
EDU-110 Reading and Computers I
EDU-111 Reading and Computers II
GED-101 Basic Skills and GED Preparation
EDU-112A Skills Acquisition for Student Success - General
EDU-112B Skills Acquisition for Student Success - Math
GUI-101 Introduction to College
GUI-102 Probation Solutions - Level 1

CERTIFICATE (5/04)
Court Interpreter (21078.NC)
This is a short-term vocational program with high employment potential within the state of California. The program consists of a sequence of courses leading to a vocational/career technical objective and certificate that is directly related to employment.

Program Student Learning Outcomes
Upon completion of the Court Interpreter program students will be better prepared to pass state and federal examinations for certification as Spanish to English interpreters.

BUSN-752 Introduction to Microcomputers
LAW-765 Court Interpreter and Administrative Hearings
CERTIFICATE (5/06)

**English as a Second Language Certificate of Completion (49194.NC)**

The English as a Second Language (ESL) program consists of a sequence of courses to provide instruction in the English language to adult, non-native English speakers with varied academic, vocational and personal goals.

Program Student Learning Outcomes
Upon completion of the ESL program students will be prepared to advance to credit ESL courses, career-technical and personal growth opportunities.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG-801</td>
<td>ESL Level 1</td>
</tr>
<tr>
<td>ENG-802</td>
<td>ESL Level 2</td>
</tr>
<tr>
<td>ENG-803</td>
<td>ESL Level 3</td>
</tr>
<tr>
<td>ENG-804</td>
<td>ESL Level 4</td>
</tr>
<tr>
<td>ENG-805</td>
<td>ESL Level 5</td>
</tr>
<tr>
<td>ENG-806</td>
<td>ESL Level 6</td>
</tr>
<tr>
<td>HIST-908</td>
<td>U.S. Civics</td>
</tr>
</tbody>
</table>

**CERTIFICATE (5/06)**

**Medical Assistant Certificate Of Competency (10100.NC)**

This is a Short-term vocational program with high employment potential. The program consists of a sequence of courses leading to a vocational/career technical objective and certificate that is directly related to employment.

Program Student Learning Outcomes
Upon completion of the Medical Assistant program the student will be prepared to seek employment directly related to the Medical Assisting career pathway.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUSN-752</td>
<td>Intro to Microcomputers</td>
</tr>
<tr>
<td>EDU-112C</td>
<td>Skills Acquisition for Student Success - Allied Health</td>
</tr>
<tr>
<td>MED-717</td>
<td>Medical Assisting</td>
</tr>
</tbody>
</table>

**CERTIFICATE (5/06)**

**Technical Office Occupations Certificate Of Competency (07744.NC)**

This is a Short-term vocational program with high employment potential. The program consists of a sequence of courses leading to a vocational/career technical objective and certificate that is directly related to employment.

Program Student Learning Outcomes
Upon completion of the Technical Office Occupations program the student will be prepared to seek employment directly related to the Technical Office Occupations career pathway.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUSN-749</td>
<td>Microcomputers and Business</td>
</tr>
<tr>
<td>BUSN-752</td>
<td>Introduction to Microcomputers</td>
</tr>
</tbody>
</table>

**BASIC SKILLS**

**EDU-110 READING AND COMPUTERS**
Course duration: 324 hours; open entry format.
This course is best-suited for adult learners below a third grade reading ability who need individual attention and a lot of encouragement and reinforcement while learning basic phonics, reading, spelling, and vocabulary skills. The student can learn at his/her own rate of speed with computer-assisted instruction. (12/05)

**EDU-111 READING AND COMPUTERS II**
Course duration: 324 hours, open entry format.
Advisory: EDU-110
This course is best suited for adult learners at third grade level reading and vocabulary level up to approximately sixth grade level who require individual attention and reinforcement while reviewing basic phonics to improve reading, spelling, and vocabulary skills. (12/05)

**EDU-112A SKILLS ACQUISITION FOR STUDENT SUCCESS – GENERAL**
Course duration: 90 hours; open entry format.
This course provides a supervised learning experience for students who can benefit from individualized instruction in study skills and study habits in a laboratory setting. The study skills and study habits learned depend on the needs of the individual students and include educational computer applications, knowledge of college resources, and application of composition skills across the curriculum. (5/06)

**EDU-112B SKILLS ACQUISITION FOR STUDENT SUCCESS – MATH**
Course duration: 90 hours; open entry format.
This course provides a supervised learning experience for students who can benefit from individualized instruction in study skills and study habits in a laboratory setting. The study skills and study habits learned depend on the needs of the individual students and include educational computer applications, knowledge of college resources, and application of computation skills across the curriculum. (5/06)

**EDU-112C SKILLS ACQUISITION FOR STUDENT SUCCESS – ALLIED HEALTH**
Course duration: 25 hours; open entry format.
This course is designed to provide students the opportunity to improve and enhance their nursing skills through any number of training exercises that assist in the clinical development of, and reinforcement of, the practical nursing skills. The course is a lab setting enriched with a resource library, manikins (for skills practice), and computer stations. (5/06)

**GED-101 BASIC SKILLS AND GED PREPARATION**
Course duration: 324 hours; open entry format.
This course is designed to build the basic skills of adults in the areas of writing, reading comprehension, and mathematics. Special emphasis is placed on analytical reading skills, problem solving, and test preparation. Subject matters included are the areas covered by the GED exam such as science, social studies, literature, mathematics, and writing. This course utilizes a computer software program to assist students to learn at their own pace. (12/05)

**GUI-101 INTRODUCTION TO COLLEGE**
Course duration: 1.5 hours; open entry format.
This course will acquaint students with the College, academic regulations, the availability of campus resources, and the importance of educational planning. (1/06)

**GUI-102 PROBATION SOLUTIONS – LEVEL 1**
Course duration: 1.5 hours; open entry format.
This course is required for Level 1 probation students. Successful completion of this course is required for students to enroll. The student will learn strategies to get off probation status and become successful in reaching their educational goals. (1/06)
TUT-106 SUPERVISED TUTORING
Course duration: 102 hours; open entry format.
This course is designed to assist students who are experiencing difficulty in their college courses. The course provides tutoring from qualified tutors in either a one-to-one or small group setting. (4/06)

DISABLED STUDENTS
ARTS-209 ARTS AND CRAFTS FOR DISABLED ADULTS
Course duration: 54 hours; open entry format.
This course is designed to help disabled persons acquire skills, knowledge, and an appreciation of a variety of art forms. Students will have an opportunity to participate in and learn about a variety of art subjects such as sculpture, design, basic use of color, drawing, painting, decorative arts, and needlework. (1/06)

HLT-215 COMMUNITY LIVING SKILLS: HEALTH EDUCATION
This course is designed to develop skills in individuals who need guidance in pre-vocational skills and work-readiness skills. (5/05)

LDIP-224 LEARNING DISABILITY IDENTIFICATION AND PLANNING
Course duration: 9 hours; open entry format.
Limitation on enrollment: Students must be enrolled in Merced College credit courses.
This course is designed to provide enrolled Merced College students with the assessment necessary to identify themselves as learning disabled using the California Community College Learning Disability Model (CCCLDM), and how to identify and understand the support services necessary for academic success. (5/06)

PHYC-206 BALANCE AND MOTOR SKILLS FOR THE PHYSICALLY LIMITED
Course duration: 54 hours; open entry format.
This course is a specialized exercise program for those in assisted living environments. Exercise routines provide physical, mental, and sensory stimulation, improve posture, and increase overall mobility and knowledge of proper body mechanics. (4/06)

SKLS-210 DAILY LIVING SKILLS
Course duration: 324 hours; open entry format.
This course is designed primarily for mentally and/or physically disabled students who are functioning at very low levels. The course teaches the basic living skills necessary for successful social interaction and self-care to help enhance self-esteem. (4/06)

SLAN-201 BEGINNING SIGN LANGUAGE
Course duration: 36 hours; open entry format.
This course is designed to teach beginning students how to communicate with the hearing impaired. Communication skills are acquired through signed words, gestures, finger spelling, and facial expression. Course instruction includes American Sign Language vocabulary taught concurrently with an overview of all sign systems. There is also minor emphasis on Signing Exact English (SEE). The course will include an overview of deaf culture and the history of deaf education. (5/06)

HEALTH AND SAFETY
PHYC-305 PHYSICAL CONDITIONING
Course duration: 54 hours; open entry format.
This course is designed to help students of varying fitness levels attain optimal fitness levels through physical conditioning and exercise. Course topics may include cardiovascular routines, floor exercise, and stretching. (4/06)

PHYC-308 AQUATIC FITNESS
Course duration: 18-90 hours; open entry format.
This course provides personalized aquatics programs designed to develop and maintain cardiovascular and muscular fitness. The course promotes exercise, through such means as water aerobics, swimming, and water sports, as a way to maintain good health. (3/06)

PHYC-310 FLEXIBILITY AND CARDIOVASCULAR FITNESS
Course duration: 90 hours; open entry format.
This exercise course is designed to improve flexibility and cardiovascular fitness of all major muscle groups. The class provides a well-rounded fitness program that will strengthen, condition, and improve sports performance. Specialized classes are available for badminton, baseball, basketball, football, soccer, softball, tennis, and volleyball. (4/06)

TRNG-324 CIVILIAN HANDGUN SAFETY TRAINING
Course duration: 12 hours; open entry format.
This course is designed to familiarize the student with state laws and local ordinances pertaining to the use of handguns as a means of self-defense. The course provides awareness of laws regarding handgun ownership. The course also provides discussion of the moral aspects of the use of deadly force, even when there is a genuine threat of death or great bodily harm to one’s self or others. (4/06)

HOME ECONOMICS
SEW-402 BEGINNING QUILTING
Course duration: 54 hours; open entry format.
This course will teach students the fundamentals of quilting. Students will learn ideas and techniques for creating quilted and patchwork bed covers, wall art, clothing, and other quilted projects. Topics include piecing, appliqué, and other quilting skills. (1/06)

SEW-407 NEEDLECRAF TS AND SEWING
Course duration: 54 hours; open entry format.
This is a course with instruction in knitting, crocheting, stitchery, and sewing. Each student will choose an area of needlework and learn to master the skills for that area. (12/05)

SEW-408 SEWING SPECIALTY FABRICS
Course duration: 54 hours; open entry format.
This course is designed to provide the technical knowledge for specialty fabric construction. Emphasis will be placed on fabric identification and selection, sewing techniques, and an overview of sewing and pressing equipment. (4/06)

OLDER ADULTS
ARTS-501 PAINTING TECHNIQUES FOR OLDER ADULTS
Course duration: 54 hours; open entry format.
This course provides beginning and intermediate instruction in painting and drawing techniques using a variety of mediums. Classes and topics include drawing, watercolor, charcoal, acrylic, pen, pencil, oil, gourd painting, and fabric painting. (1/06)

ARTS-502 ARTS AND CRAFTS FOR OLDER ADULTS
Course duration: 54 hours; open entry format.
This course provides the fundamentals for designing and creating self-expression through art mediums. Instruction may include fundamentals for woodworking, bonsai, quilting, working with paper and fiber materials, macramé, needlework, stained glass, and beading. (4/06)

ARTS-503A POURED CERAMICS FOR OLDER ADULTS
Course duration: 54 hours; open entry format.
This course is designed to teach students to work with ceramic pieces (greenware) and provide training in different greenware techniques. Students will create ceramic pieces from molds. The class provides the opportunity for creation of individual ceramic projects through the use of a variety of finishing techniques including hand painting, relief work, clay lifting, halos gold, lusters, washes, spirit, and firing. (4/06)

ARTS-503B WHEEL THROWN/HAND BUILT CERAMICS FOR OLDER ADULTS
Course duration: 72 hours; open entry format.
This course is designed to teach students to work with clay, creating ceramic pieces utilizing hand building and wheel throwing techniques. Students work with a variety of relief carving and finishing applications, including slip trailing, hand building, use of the potter’s wheel, hand painting, pit firing, raku firing, and high and low fire glazing. (4/06)
ARTS-505 CREATING EXPRESSION FOR OLDER ADULTS
Course duration: 54 hours; open entry format.
This course is designed to assist adults in developing and writing their personal memories or life stories in a manner that will be of interest to families, heirs, and friends. Completed works will be treasured, preserved, and possibly published by the student. (4/06)

ARTS-507A MUSIC THERAPY FOR OLDER ADULTS (BEGINNING)
Course duration: 54 hours; open entry format.
This beginning course provides group instruction in band instruments. The course is designed to teach beginning students to sight read music, develop correct timing, and increase knowledge of a variety of music styles and compositions. Students may be invited to participate in recitals and public performances, depending on their ability. (4/06)

ARTS-507B MUSIC THERAPY FOR OLDER ADULTS (INTERMEDIATE)
Course duration: 54 hours; open entry format.
Limitation on enrollment: Students must demonstrate ability to sight-read music for their instrument.
This course provides experience in performing concert and symphonic band literature. Public performance and exchange concerts are scheduled in addition to class instruction and rehearsals. (4/06)

ARTS-512 SENIOR CHORAL DYNAMICS
Course duration: 54 hours; open entry format.
Limitation on enrollment: Ability to accurately match pitch and correctly follow verbal instructions.
This course is a study of standard choral literature. It emphasizes part-singing, intonation, breath control, vocal development, style, eras, musical devices, etc. The ensemble makes several public concert appearances each year. (4/06)

EDU-508 MATURE DRIVER IMPROVEMENT
Course duration: 8 hours; open entry format.
This course is designed primarily for drivers age 55 and older and includes classroom instruction on safety, road courtesy, improving driving performance, safe driving techniques for emergencies, and general vehicle maintenance. (12/05)

EDU-510 GROWING YOUNGER
Course duration: 54 hours; open entry format.
This course is designed to help older adults maintain and improve the cognitive functions of the brain that tend to diminish as part of the normal aging process. Students will engage in a course of mental “calisthenics” to enhance memory, cognitive skills, creative thinking, and problem solving. Topics include exploration of basic mathematical concepts, ancient and cultural board games, word games, puzzles, anagrams, and probability. (5/06)

PHYS-506 MIND AND BODY FITNESS FOR OLDER ADULTS
Course duration: 36-54 hours; open entry format.
This course is designed to provide a full range of motion with flexibility and stretching that includes activities such as full range of motion in joints, gentle aerobic exercise for heart and lungs, hand weights for strengthening muscles and bones, and floor exercises to tone the muscles of the back, buttocks, and legs. (1/06)

SEW-509 SEWING FOR SENIORS
Course duration: 36–54 hours; open entry format.
This course provides instruction in clothing construction with an emphasis on learning techniques specific to fabrics, pattern analysis, figure analysis, and construction skills. (1/06)

PTG-612 PARENTING SERIES
Parenting is designed to provide quality education and support opportunities to caregivers of children and youth in out-of-home care. The courses will help providers meet the educational, emotional, behavioral, and developmental needs of children in their care. Topics include accessing education and health services; permanency planning and reunification; child development; cultural diversity and sensitivity; parenting skills and positive discipline; and self-esteem. Additional topics are designed to provide caregivers with the skills needed to care for children with medical, learning, and behavioral difficulties.

VOCAITION
BUSN-749 MICROCOMPUTERS AND BUSINESS
Course duration: 720 hours; open entry format.
Advisory: None.
This program is a project-based course designed to develop student entry-level skill proficiency in using stat-of-the-art technology to solve problems. Various simulations reflective of real life experiences will be a major part of the instructional units. (5/07)

BUSN-752 INTRODUCTION TO MICROCOMPUTERS
Course duration: 24 hours; open entry format.
This course is designed to introduce students to microcomputers and the Windows software environment. Students will learn to identify the components of desktop screens and learn to execute basic computer commands. The class may also cover Internet browsing, e-mail, web site navigation, and downloading files. (4/06)

LANG-716 SPANISH IN THE WORKPLACE
Course duration: 54 hours; open entry format.
This introductory course is designed for non-Spanish speakers who wish to develop specific conversational skills that are related to their work or community environment. Special words and phrases are taught with an emphasis on basic vocabulary and word recognition skills that will result in improved communication with Spanish speaking customers, patients, and clients. (4/06)

LAW-765 COURT INTERPRETER AND ADMINISTRATIVE HEARINGS
Course duration: 54 hours; open entry format.
This course is designed to help prepare students to take the state and/or federal exams for Spanish language interpreters. It provides an introduction to the court system and an overview of the administrative hearing process. Topics also include public speaking, memory development, note taking, and simultaneous interpretation. (5/06)

MED-717 MEDICAL ASSISTING
Course duration: 960 hours; open entry format.
Advisory: none.
This entry-level course is designed for adult students who desire vocational training in the field of medical assisting. Course instruction includes an overview of the career of medical assisting, knowledge of medical law and ethics, oral and written communication skills, medical terminology, anatomy and physiology, and administrative and clinical office procedures. (5/07)

SOC-760 CAREER AND LIFE PLANNING
Course duration: 495 hours; open entry format.
This course is designed for adults who function at limited level of cognitive development. It is designed to help each student acquire positive work habits, attitude, and motivation so that he/she can achieve their fullest vocational potential. Course content will include training in basic work habits that include promptness, social skills, accepting work supervision, appropriate dress, and grooming. Students will learn about the value of work, career options, and effective strategies for obtaining employment. (5/06)
MERCED COLLEGE

SOCL-761 VOCATIONAL LIFE PLANNING
Course duration: 8 hours; open entry format.
This course is designed primarily for students who are part of the Merced College Independent Living Program (ILP). The course addresses issues and barriers that students will typically encounter while seeking and maintaining employment and success in becoming an independent adult. Course content includes instruction in the areas of education, employment, housing, money management, and daily living skills. (5/06)

SKLS-745 SKILLS FOR SUCCESS (NURSING SUCCESS CAMPS)
Course duration: 72 hours; open entry format.
This support course is designed to provide students the opportunity to enhance the skills needed for success and retention in the nursing program. Intensive review and practical application of content areas related to the nursing program is emphasized. (4/06)

TRNG-768 BUS DRIVER TRAINING/RECERTIFICATION
Course duration: 30 hours; open entry format.
This course is designed to improve the bus driver’s public relations ability and to provide a basic and refresher course information on vehicle checkout procedures, first aid, and emergency procedures. This course also includes good driving fundamentals, assessing and adjusting to road conditions, and techniques for safe downhill driving. Defensive driving skills and passenger discipline are addressed. A discussion of new state laws and requirements and an analysis of bus accidents is provided. (12/05)

CITIZENSHIP FOR IMMIGRANTS
HST-908 UNITED STATES CIVICS
Course duration: 25 hours; open entry format.
This course is designed to prepare students to meet the United States history, government, and English requirements necessary to become a United States citizen. The course covers the symbols and beliefs of the United States; federal, state, and local government; the Constitution; the Bill of rights; U.S. history, and a review of the interview and testing process required by the immigration services. (4/07)

ENGLISH AS A SECOND LANGUAGE (ESL)
ENG-801 ESL (ENGLISH AS A SECOND LANGUAGE) LEVEL 1
Course duration: 324 hours; open entry format.
This course is for preliterate and non-literate ESL students who have no, or very few English language skills. Emphasis of the course is on aural/oral skills and visual reinforcement. (3/06)

ENG-802 ESL (ENGLISH AS A SECOND LANGUAGE) LEVEL 2
Course duration: 324 hours; open entry format.
Advisory: ENG-801.
This course is designed for preliterate and non-literate ESL students who have minimal English language skills. Emphasis in this course is on aural/oral skills with visual reinforcement. The student will be introduced to reading, writing, and math skills. (3/06)

ENG-803 ESL (ENGLISH AS A SECOND LANGUAGE) LEVEL 3
Course duration: 324 hours; open entry format.
Advisory: ENG-802.
This course is for beginning level students who are familiar with the printed and written alphabet but have minimal ability to use English. This course includes practice in listening, speaking, reading, and writing English on a beginning level. (3/06)

ENG-804 ESL (ENGLISH AS A SECOND LANGUAGE) LEVEL 4
Course duration: 324 hours; open entry format.
Advisory: ENG-803.
This course is designed for high-beginning level students who need more practice with English skills. This course includes practice in listening, speaking, reading, and writing on an advanced beginning level. (3/06)

ENG-805 ESL (ENGLISH AS A SECOND LANGUAGE) LEVEL 5
Course duration: 324 hours; open entry format.
Advisory: ENG-804.
This course is for low-intermediate students who need practice and expansion of their communication skills. This course includes practice in listening, speaking, reading, and writing on a low to intermediate level. (3/06)
ADRIAN, APRIL  
Chemistry  
B.S., M.S., California State University, Stanislaus

ALBANO, JOHN  
Music History, Jazz Ensemble, Instrumental Music  
B.A., Sonoma State University,  
M. M., University of Southern California

ALBANO, VALERIE  
Biology  
B.S., University of Washington;  
Ph.D., University of Southern California

ARGUELLES, MARCUS  
Anthropology, Archaeology  
A.A., Merced College; B.A., San Jose State University;  
M.A., American University of Beirut

BARBA, MICHAEL  
English  
A.A., Modesto Junior College;  
B.A. Humboldt State University;  
M. Ed., University of Massachusetts

BARNETT, CHERYL  
Art  
B.A., University of California, Santa Cruz;  
M.A., California State University, Fresno

BARRY, JEAN  
Counseling, Division Chair  
A.A., Merced College  
B.P.A., M.A., University of San Francisco  
Ed. D, Argosy University

BELL, STEPHEN  
Plant Science, Soil Science  
A.A., Merced College;  
B.S., M.S., California Polytechnic State University, San Luis Obispo

BENNETT, CHARLIE  
Counseling  
A.A., Merced College;  
B.A., M.S., University of Colorado

BONSTEIN, JAMES  
Communication Studies  
A.A., Long Beach City College;  
B.A., M.A., California State University, Long Beach

BOYLE, STEVEN  
Metal Fabrication  
A.A., Merced College;  
B.A., California State University, Fresno

BRULEY, MARIE  
Mathematics  
B.S. California State University, Stanislaus;  
M.A. California State University, Sacramento

BRUSH, EDWIN  
Associate Librarian  
A.A., Modesto Junior College;  
B.A., California State University, Stanislaus;  
M.L.S., San Jose State University

BRYAN, JAMES K.  
Mathematics  
A.A., Fresno City College  
B.A., M.A., California State University, Fresno

BRZEZINSKI, JAMES  
Art  
A.A., College of the Redwoods  
B.A., Humboldt State University  
M.F.A., California College of Arts and Crafts

CABEZUT-ORTIZ, DELORES  
English, Liberal Studies, Co-op Education  
A.A., Merced College;  
B.A., M.A., California State University, Stanislaus

CAINE, ERIC  
English  
B.A., University of California, Berkeley;  
M.A., California State University, Stanislaus

CALITRI, ROBIN  
English  
B.A., California State University, Stanislaus;  
M.A., California State University, Fresno

CAMBRIDGE, ISABEL  
Counseling  
B.A., University of California, Los Angeles;  
M.S., San Diego State University

CASEY, JESSICA  
Head Coach, Women’s Volleyball  
A.A., Otero Junior College;  
B.S. Huron University

CAZARES, KITTY  
Nursing  
A.A., A.S., Merced College;  
B.S., California State University, Stanislaus  
M.S., University of Phoenix

CHAPPELL, SUSAN  
Child Development  
A.A., Modesto Junior College  
B.A., California State University, Stanislaus;  
M.A., Pacific Oaks College, Pasadena
CLARK, JULIE
Mathematics
B.A., M.A., California State University, Fresno

CLARK, STEVE
Counseling; ASMC Advisor
A.S., Santa Rosa Junior College
B.S., The Evergreen State College
M.S., California State University, Sacramento

CLIFFORD, JEANIE
Psychology
B.A., M.A., San Diego State University; Ph.D., University of California, San Diego

COBURN, CARY
Biology
A.A., Merced College
B.S., M.S., California State University, Chico
Ph.D., University of California, Riverside

COL-HAMM, CAREN
Nursing
B.S.N., Alfred University
M.S.N., Hunter College

COLOMER-FLORES, MARA
Spanish
B.A., M.A., California State University, Fresno

CONSTANTINESCU, EUGEN
Industrial Technology, Electronics, Drafting
B.S., M.A., Polytechnic Institute of Bucharest, Romania

COX, DEBORAH
Counselor
A.A., Merced College; B.S; M.S., University of San Francisco
M.A., St. Mary’s College

CROMBIE, KAREN
Biological Sciences
B.A., M.A., California State University, Fresno

CUARENTA-GALLEGOS, GABRIEL
Mathematics
B.A., California State University, Stanislaus
M.A., California State University, Sacramento
M.A., University of Phoenix

DAUGHRILL, JOSH
English
B.A., Humboldt State University;
M.A., California State University, Stanislaus

DAVIES, ROBERT
Physical Sciences
B.S., Sonoma State University
M.S., San Francisco State University

DAVIS, G. LYLE
Counseling, Cooperative Education
A.A., Merced College
B.S., M.S., California State University, Fresno
M.A., University of San Francisco

DAWSON, CAROLINE
Mathematics
B.S., M.B.A., California State University, Stanislaus; M.A., Fresno Pacific University

DAWSON, DENISHA
Chemistry
B.A, University of California, Santa Cruz
Ph.D., University of California, Berkeley

DEVINE, NATHAN
Physical Education/Assistant Baseball Coach
B.S., M.B.A., University of La Verne

DILLON, DALLAS E.
English
B.A., Baker University
M.A., St. John’s University;
Ph.D., Indiana University of Pennsylvania

DOIEL, MARK
Music History and Theory, Piano
A.A., College of the Canyons
B.F.A., M.F.A., California Institute of the Arts

DONAHER, KIMBERLY
Agriculture Business
A.S., Modesto Junior College;
B.S., M.S., California Polytechnic State University, San Luis Obispo

DONELLY, BRYAN
Fire Technology
B.S., University of San Francisco
M.A., St. Mary’s College of California

DONELLY, SHELLEY
Radiologic Technology
Clinical Coordinator of Diagnostic Radiologic Technology
A.S., Merced College
B.S., Florida Hospital College of Health Science

DONOGHUE, CARMELO
Nursing
A.A., Sacramento City College
B.S.N., California State University, Chico;
M.S., Texas Woman’s University

DUNN, PAUL
Diesel Mechanics
A.A., Merced College;
Diesel Equipment Mechanics Experience

ENRIQUEZ, MICHAEL
A.A., El Camino College
B.S., Loma Linda University;
M.P.A., Golden Gate University
ESTRELLA, CARL  
Biology  
A.A., Long Beach City College;  
B.S., M.A., California State University, Long Beach

FALAH, AMIR  
Counseling  
A.A., Merced College  
B.A., California State University, Stanislaus  
M.A., University of San Francisco

FALKOWSKI, DAVID  
Corrections, Criminal Justice  
A.A., Alpena Community College  
B.S., Eastern Michigan University

FARAO, JAIME  
Agriculture, Animal Science  
B.S., M.A., California Polytechnic State University, San Luis Obispo

FERGUSON, LOU  
Counseling  
A.A., Chabot College;  
B.A., M.S., California State University, Hayward

FISMAN, DAROL  
Mechanized Agriculture  
B.S., California State University, Fresno  
M.S., California Polytechnic State University, San Luis Obispo

FLATT, SUSAN  
English  
B.A., Fresno Pacific College;  
M.A., California Polytechnic State University, San Luis Obispo

FREGENE, PAUL  
Chemistry  
B.S., M.S., University of Ibadan, Nigeria  
Ph.D., State University of New York, Binghamton

FRETON, PAULA  
Business  
B.A., Chapman College;  
M.B.A., Western New Mexico University  
Ed.D, St. Mary's College of California

FRITZEMEIER, MARIAN  
Child Development  
A.A., Sacramento City College;  
B.A., M.S., California State University, Fresno

GARCIA, CRISTINA  
Counseling  
B.A., California State University, Stanislaus  
M.A., San Jose State University

GARGANO, GARY  
Psychology  
A.A., Cuesta College  
B.A., M.A., California State University, Fresno  
Ph.D., Washington State University

GARGOVA, SVETLA  
Engineering, Mathematics  
M.S., Technical University, Sofia, Bulgaria

GOLZ, NANCY  
Electronic Resources Librarian  
B.A., Fresno Pacific University  
M.S., Clarion University, Clarion, PA

GONZALEZ, Heather  
English  
A.A., Riverside Community College  
B.A., University of California, Santa Barbara  
M.A., University of California, Riverside

GREGORY, AARON  
Automotive Technology  
A.A., Merced College

GREGORY, BOBBY  
Criminology; Reserve Officer Training and In-Service Training Coordinator  
A.A., Merced College  
B.A., M.A., California State University, Stanislaus

GRISE, ROCHELLE  
Nursing  
A.S., Merced College;  
B.S.N., California State University, Fresno  
M.S., California College for Health Sciences

HALLMAN, MAX  
Honors Program Coordinator; Humanities, Philosophy  
B.A., M.A., University of South Carolina;  
Ph.D., Tulane University

HALPIN, WILLIAM  
Head Coach, Women's Water Polo and Swimming  
A.A., Merced College; B.S., Fresno College;  
M.A., Chapman University

HAMBY, HARRY  
Drafting, Industrial Technology  
A.A., Merced College; B.S., Texas A & M University;  
M.A.M., Embry-Riddle Aeronautics University

HEIDELBACK, CARIN  
Theatre  
B.A., California State University, Stanislaus  
M.F.A., Humbolt State University

HENNINGSGAARD, JILL  
Counseling  
A.A., Merced College  
B.A., California State University, Stanislaus  
M.S., California State University, Fresno

HICKS, TRAVIS  
Philosophy  
B.A., University of St. Thomas  
M.A., Loyola Marymount University
<table>
<thead>
<tr>
<th>Name</th>
<th>Department</th>
<th>Degrees and Institutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>HOBBS, LEE ANNE</td>
<td>Communication Studies</td>
<td>B.A., University of California, Davis; M.A., California State University, Fresno</td>
</tr>
<tr>
<td>HOORNAERT, DONALD J.</td>
<td>Automotive Technology</td>
<td>A.A., Diablo Valley Junior College; B.A., M.A., California State University, Fresno</td>
</tr>
<tr>
<td>HUDDLETON, ALLEN</td>
<td>Head Coach, Women's Basketball; Physical Education</td>
<td>A.A., Merced College; B.A., California State University</td>
</tr>
<tr>
<td>HUNDLEY, AMY</td>
<td>English</td>
<td>B.A., M.A., University of California, Irvine</td>
</tr>
<tr>
<td>HUNTINGTON, PAMELA L</td>
<td>English with Emphasis in Reading</td>
<td>A.A., American River College; B.A., M.A., University of California, Davis</td>
</tr>
<tr>
<td>IGO, MEGAN M.</td>
<td>Biology</td>
<td>B.S., University of California, Riverside; M.S., University of California, Los Angeles</td>
</tr>
<tr>
<td>JENSEN, TRACEY</td>
<td>Nursing</td>
<td>A.A., Indiana University; B.S., St. Francis University; M.B.A., Indiana Wesleyan University; M.A., M.S.N., Georgia College and State University</td>
</tr>
<tr>
<td>JOHL, AMERJIT</td>
<td>History</td>
<td>B.A., California State University, Chico; M.A., C. Phil, University of California, Los Angeles</td>
</tr>
<tr>
<td>JOHNSON, MICHAEL</td>
<td>Economics</td>
<td>B.S., M.B.A., Idaho State University</td>
</tr>
<tr>
<td>JORDAN, LANA</td>
<td>Mathematics, Physics</td>
<td>B.A., University of the Pacific; M.A., California State University, Stanislaus</td>
</tr>
<tr>
<td>KAANAPU, MARK</td>
<td>Head Football Coach, Physical Education, Business, Management</td>
<td>A.A., West Valley College; B.A., Pacific University; M.S., California University, PA</td>
</tr>
<tr>
<td>KAHLERT, SHIRLEY</td>
<td>English</td>
<td>B.A., California State University, Hayward; M.A., San Francisco State University; Ph.D., University of California, Los Angeles</td>
</tr>
<tr>
<td>KANEMOTO, KATHLEEN D.</td>
<td>Computer Science/Computer Applications</td>
<td>B.S., M.S.E., M.B.A., San Jose State University</td>
</tr>
<tr>
<td>KEHOE, JULIE</td>
<td>Mathematics</td>
<td>B.A., M.A., California State University, Fresno</td>
</tr>
<tr>
<td>KELLER, SUSAN</td>
<td>Anatomy, Physiology</td>
<td>B.S., University of California, Riverside; M.A., California State University, Fresno</td>
</tr>
<tr>
<td>KIMOTO, SUSAN</td>
<td>English</td>
<td>B.A., University of California, Santa Cruz; M.A., San Francisco State University</td>
</tr>
<tr>
<td>KLINE, SUSAN</td>
<td>Office Technologies, Computer Applications, Business</td>
<td>A.A., A.S., Mt. San Jacinto College; B.S., M.A., Azusa Pacific University</td>
</tr>
<tr>
<td>KREIDE, CAROLINE</td>
<td>German, Spanish</td>
<td>B.A., State University of New York; M.A., Pennsylvania State University; Ph.D., University of California, Berkeley</td>
</tr>
<tr>
<td>LACEY, VALARIE</td>
<td>Counseling</td>
<td>B.S., Morris College; M.A., Ball State University</td>
</tr>
<tr>
<td>LANKFORD, TAYLOR</td>
<td>English as a Second Language</td>
<td>A.A., Modesto Junior College; B.A., M.A., University of California, Davis</td>
</tr>
<tr>
<td>LATHAM, ELDON R.</td>
<td>Microbiology</td>
<td>B.S., M.S., California State University, Chico</td>
</tr>
<tr>
<td>LAW, KEITH</td>
<td>Humanities, Philosophy</td>
<td>B.A., California State University, Hayward; M.A., San Francisco State University</td>
</tr>
<tr>
<td>LENCZ, ROBERT B.</td>
<td>Counseling</td>
<td>A.A., Merced College; B.A., University of California, Irvine; M.A., San Francisco State University</td>
</tr>
<tr>
<td>LEONARD, BRANDON J.</td>
<td>Mathematics</td>
<td>B.A., M.A., California State University, Fresno</td>
</tr>
<tr>
<td>LEWIS, ANTHONY</td>
<td>Counseling</td>
<td>A.A., Merced College; B.S., California State University, Hayward; M.A., University of San Francisco</td>
</tr>
</tbody>
</table>
LONG, JOHN  
*English*
B.A., M.A., California State University, East Bay

LOR, SUTARA  
*Counseling*
B.S., DeVry Institute of Technology
M.A., Concordia University; M.S., National University

LORENZ, MICHAEL  
*History*
B.A., Pacific Union College;  
M.A., California State University, Stanislaus

MACIAS, MIREYA  
*Biology*
A.S., Merced College;  
B.S., University of California, Davis;  
M.S., California State University, Fresno

MATTOON, STAN  
*Math, Counseling*
B.S., California Polytechnic State University, San Luis Obispo;  
M.B.A., M.A., California State University, Fresno
Ed.D, University of the Pacific, Stockton

MAYER, JILL  
*Addiction Studies, Corrections, Criminal Justice, Fire Technology*
A.A., Merced College;  
B.A., St. Martin's College;  
M.S.W., California State University, Fresno

McBRIDE, JENNIFER  
*English*
A.A., Merced College;  
B.A., M.A., California State University, Sacramento

McCALL, SCOTT  
*Head Coach, Men's Water Polo and Swimming*
A.S. Merced College;  
B.S. University of Massachusetts, Amherst;  
M.S. California State University, Long Beach

McCANDLESS, MICHAEL  
*English*
B.A., University of California, Santa Barbara;  
M.A., California State University, Stanislaus

McCRANIE, WENDY  
*Counseling*
A.A., Palomar College;  
B.A., California State University;  
San Diego; M.S., National University

MEIDINGER, MAI  
*Mathematics*
B.A., California State University, Fullerton;  
M.S., University of Arizona

MEIDINGER, STEPHAN  
*Mathematics*
A.A., Rancho Santiago College;  
B.A., M.A., California State University, Fullerton

MITCHELL, PATRICK T.  
*Mathematics*
B.A., The College of New Jersey  
M.S., University of Delaware

MODAFFERI, EDWARD  
*Microbiology*
B.A., University of California, Santa Barbara;  
Ph.D., University of California, Los Angeles

MONTOYA, JOHN  
*Mathematics*
B.S., California State University, Stanislaus;  
M.A., Fresno Pacific University

MORIMOTO, DEBRA  
*Geography*
A.A., Cypress Community College;  
B.A., California State University, San Bernardino;  
M.S., Brigham Young University

MORRIS, RALPH  
*Political Science, History*
A.A., Merced College; B.A., University of California, Berkeley;  
M.P.A., California State University, Hayward;  
M.A., San Francisco State University

MUMFORD, JEREMY  
*English*
B.A., M.A., M.F.A., California State University, Fresno

NAGANO, JEFFREY  
*HVAC, Industrial Maintenance*
Industrial Technology Experience

NAVARES, DESMOND  
*Mathematics*
B.A., California State University, Sacramento;  
M.S., California State University, Hayward

NEAR, DELIA  
*Reference Librarian*
B.A., University of California, Riverside;  
M.L.S., University of California, Berkeley

NELSON, CURTIS  
*Music, Chorus*
B.M., University of Saskatchewan, Canada;  
M.C.M., Western Conservative Baptist Seminary

NICOLL-JOHNSON, MARK  
*English*
A.B, Occidental College;  
M.A., University of Oregon

PECCHENINO, MICHELLE  
*Nutrition*
A.A., Merced College  
B.S., California Polytechnic State University, San Luis Obispo;  
M.A., Chapman University
MERCED COLLEGE
209.384.6000

PEDRETTI, CHRISTOPHER
Head Baseball Coach; Physical Education
A.A., Merced College; B.S., San Jose State University; M.A., University of San Francisco

PENNEY, BARBARA
Child Development
B.A., University of California, Santa Barbara; M.A., California State University, Los Angeles

PIMENTEL, MYSHEL
English, Co-op Education
A.S., Merced College; B.S., M.A., California State University, Fresno

PIRO, VINCENT
English
B.A., M.A., San Jose State University

PISTORESI, JONAE
Business, Management
B.S.C., University of Santa Clara; M.B.A., Golden Gate University

PROVENCIO, GLORIA
Nursing
A.A., Merced College; B.S.N., M.S.N., California State University, Stanislaus

RANDALL, RICHARD
Political Science
A.A., Modesto Junior College; B.A., California State University, Stanislaus; M.A., University of California, Davis

RASMUSSEN, JACQUELIN
Office Technologies
Office Technology and Vocational Education Experience

REINTKE, TONI
Computer Applications, Office Technologies
Bachelor’s equivalent, Bournemouth University, England; M.S., Eastern Illinois University

RENTERIA, ENRIQUE
Counseling
A.A., Merced College; B.A., M.A., California State University, Fresno

RETEMeyer, Jim
Mathematics
A.A., Merced College; A.S., Community College of the Air Force; B.A., California State University, Stanislaus; M.A., Fresno Pacific University

RODUNER, STACEY
Child Development
B.A., San Francisco State University; M.A., Mills College

ROSE, K. JUDY
Director of Diagnostic Radiologic Technology
A.S., A.A., Merced College; B.S., Consortium of the California State University, Long Beach; M.A., John F. Kennedy University

RUSSELL, WILLIAM
Head Men’s Basketball Coach; Health, Physical Education
A.A., Merced College; B.S., University of the Pacific; M.A., University of San Francisco

SAICH, BRENT
Sociology, Human Services
B.A., California State University, Stanislaus; M.S.W., California State University, Fresno; Psy.D, Southern California University for Professional Studies

SAWYER, PENELOPE
Nursing Assistant Program
R.N., O’Connor Hospital School of Nursing; B.S., University of the State of New York; M.S., California State University, Fresno

SCHLINGER, CHARLES
Mathematics
A.A., Ventura College; B.S., Humboldt State University; M.S., University of Nevada, Reno

SEVERO, SALVADOR
Health, Physical Education
B.S., Humboldt State University; M.A., Adams State College

SLACK, KEVIN
History, Political Science
B.A., Indiana University; M.A., University of California, Davis; M.A., PhD., University of Dallas, Texas

SMITH, DANIEL
Nursing
A.S., Merced College; B.S., California Polytechnic State University, San Luis Obispo; M.S., California State University, Fresno

SMITH, DENNELL
Counseling
B.A., California State University, Stanislaus; M.A., California State University, Sacramento; M.S.W., University of California, Berkeley

SOBALVARRO-BUTLER, NATALIE
Spanish
B.A., California State University, Chico; M.A., University of California, Irvine
SOTO, GREGORY  
Counseling, Transfer Center Counselor  
A.A., Merced College;  
B.A., Sonoma State University;  
M.A., St. Mary's College of California

SPARKS, ROX ANN  
Nursing  
A.A., University of New York, Regents;  
B.S., Excelsior College;  
M.S., Walden University

STANFORD, MICHELLE  
Counseling  
B.A., M.A., San Jose State University

STAPLETON, IAN  
Accounting  
B.S., University of Hull; M.A., University of Sheffield;  
M.B.A., Western Illinois University

STEARNS, JANICE  
Director of Registered Nursing Program  
B.S.N., Loma Linda University;  
M.S.N., California State University, Dominguez Hills

STEELEY, JODIE  
History  
A.A., Modesto Junior College;  
B.A., California State University, Stanislaus;  
M.A., California State University, Sacramento

SWARTS, DEBORAH  
Counseling, Disabled Student Services  
B.A., Chapman University;  
M.S.W., California State University, Fresno

TABER, JORY  
English  
B.A., M.A., Humboldt State University

TAMBERI, JANIS  
Counseling, Disabled Student Services  
B.A., M.A., California State University, Fresno

TANIGUCHI, ROBERT  
Mathematics  
B.S., University of Utah;  
M.Ed., Utah State University

TANIOKA, EILEEN  
Learning Disabilities Specialist  
B.A., San Francisco State University;  
M.A., Fresno Pacific College;  
M.A., Fresno Pacific University

TASSEY, Bryan  
Landscape Horticulture  
A.S., Merced College;  
B.S., California Polytechnic State University, San Luis Obispo

TASSEY, JEFF  
Counseling  
A.A., Merced College;  
B.S., Fresno State;  
M.A., San Jose State University

THORNBURGH, JAMES  
Drafting  
A.S., Sierra College  
B.S., M.S., California State University, Fresno

VANGAY, JONAS  
Counseling, International Students, Hmong  
A.S., University of Lyon;  
B.A., Ecole Speciale des Travaux Publques du Batiment et de l'Industrie, Paris;  
M.S., Academy of Versailles;  
B.S., M.S., California State University, Stanislaus;  
Ed.D., California State University, Fresno/University of California, Davis

VILHAUER, CRAIG  
Accounting  
B.S., California Polytechnic State University, San Luis Obispo;  
M.B.A., California State University, Stanislaus

VIOREL, GEORGE  
English  
A.A., American River College;  
B.A., M.A., California State University, Sacramento;  
B.A., M.A., California State University, Stanislaus

WALLS, WILLIAM  
Drafting, Electronics, Industrial Technology  
A.A., A.S., Merced College;  
B.S., California State University, Fresno

WHITE, ANTHONY  
English  
B.A., M.A., California State University, Sacramento;  
M.A., Portland State University

WILSON, DEE  
Chemistry  
B.S., Eastern Washington University;  
Ph.D., University of Nevada, Reno

WILSON, KRISTA  
Chemistry  
A.S., Merced College;  
B.S., California State University, Stanislaus;  
Ph.D., University of California, Davis

WILSON, LENICE  
Reading  
B.A., University of Wisconsin, Madison;  
M.A., California State University, Stanislaus
WITHERS, MARGARET R.
*English*
A.A., American River College;  
B.A., Notre Dame de Namur University;  
M.A., M.F.A., San Francisco State University

YANAGI, CARY
*Computer Studies*
B.A., Southern Methodist University;  
M.A., Pepperdine University;  
M.S., Golden Gate University

YOUNG, JANEE
*Communication Studies*
B.A., M.A., California State University, Fresno
# INDEX

<table>
<thead>
<tr>
<th>ACADEMIC CALENDAR 2010-2011</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Freedom</td>
<td>13</td>
</tr>
<tr>
<td>Academic Honesty</td>
<td>14</td>
</tr>
<tr>
<td>Academic Probation</td>
<td>27</td>
</tr>
<tr>
<td>Academic Renewal</td>
<td>26</td>
</tr>
<tr>
<td>ACADEMIC SCHEDULE 2010-2011</td>
<td>4</td>
</tr>
<tr>
<td>Accounting</td>
<td>49</td>
</tr>
<tr>
<td>Accounting (ACTG)</td>
<td>50</td>
</tr>
<tr>
<td>Accreditation</td>
<td>9</td>
</tr>
<tr>
<td>ADAPTIVES</td>
<td>218</td>
</tr>
<tr>
<td>Addiction Studies</td>
<td>51</td>
</tr>
<tr>
<td>ADDICTION STUDIES (ADST)</td>
<td>52</td>
</tr>
<tr>
<td>Adding a Fall or Spring Class</td>
<td>23</td>
</tr>
<tr>
<td>Adding and Dropping Summer Classes</td>
<td>23</td>
</tr>
<tr>
<td>Administration</td>
<td>6</td>
</tr>
<tr>
<td>Administrative Office Management</td>
<td>53</td>
</tr>
<tr>
<td>ADMINISTRATIVE OFFICE MANAGEMENT (AOM)</td>
<td>55</td>
</tr>
<tr>
<td>ADMISSION &amp; REGISTRATION</td>
<td>19</td>
</tr>
<tr>
<td>Admission to Merced College</td>
<td>13</td>
</tr>
<tr>
<td>Advanced Placement (AP)</td>
<td>26</td>
</tr>
<tr>
<td>ADVANCED PLACEMENT (AP GRID)</td>
<td>41</td>
</tr>
<tr>
<td>Advantages of Taking Honors Classes</td>
<td>158</td>
</tr>
<tr>
<td>Advisory</td>
<td>21</td>
</tr>
<tr>
<td>Agriculture</td>
<td>56</td>
</tr>
<tr>
<td>AGRICULTURE (AGRI)</td>
<td>58</td>
</tr>
<tr>
<td>Agriculture Business</td>
<td>59</td>
</tr>
<tr>
<td>AGRICULTURE BUSINESS (AGBS)</td>
<td>61</td>
</tr>
<tr>
<td>Air Force Reserve Officer Training (AFROTC)</td>
<td>28</td>
</tr>
<tr>
<td>Allied Health</td>
<td>62</td>
</tr>
<tr>
<td>ALLIED HEALTH (ALLH)</td>
<td>62</td>
</tr>
<tr>
<td>ALLIED HEALTH (ALLH)</td>
<td>126</td>
</tr>
<tr>
<td>ALLIED HEALTH (ALLH)</td>
<td>202</td>
</tr>
<tr>
<td>Allied Health, Business, and Public Safety</td>
<td>49</td>
</tr>
<tr>
<td>Alpha Gamma Sigma</td>
<td>11</td>
</tr>
<tr>
<td>American Sign Language</td>
<td>63</td>
</tr>
<tr>
<td>AMERICAN SIGN LANGUAGE (ASLG)</td>
<td>63</td>
</tr>
<tr>
<td>Animal Science</td>
<td>64</td>
</tr>
<tr>
<td>ANIMAL SCIENCE (ANSC)</td>
<td>66</td>
</tr>
<tr>
<td>ANTHROPOLOGY (ANTH)</td>
<td>69</td>
</tr>
<tr>
<td>Anthropology &amp; Archeology</td>
<td>68</td>
</tr>
<tr>
<td>AP Credit for CSU GE</td>
<td>40</td>
</tr>
<tr>
<td>AP Credit for IGETC (UC Campuses only)</td>
<td>40</td>
</tr>
<tr>
<td>AP Credit for Merced College Associate Degree Breadth</td>
<td>40</td>
</tr>
<tr>
<td>AP EXAMINATIONS</td>
<td>40</td>
</tr>
<tr>
<td>Application</td>
<td>19</td>
</tr>
<tr>
<td>Applying for Graduation</td>
<td>33</td>
</tr>
<tr>
<td>AQUATICS</td>
<td>217</td>
</tr>
<tr>
<td>ARCHAEOLOGY (ARCH)</td>
<td>69</td>
</tr>
<tr>
<td>ART (ART)</td>
<td>244</td>
</tr>
<tr>
<td>Art Gallery</td>
<td>28</td>
</tr>
<tr>
<td>Arts and Humanities</td>
<td>70</td>
</tr>
<tr>
<td>Art (See Visual Arts)</td>
<td>70</td>
</tr>
<tr>
<td>Assigning and Removing a Grade of Incomplete</td>
<td>25</td>
</tr>
<tr>
<td>Associate Degree Breadth Requirements 2010-2011</td>
<td>39</td>
</tr>
<tr>
<td>Associate Degree Majors And Certificate Programs</td>
<td>36</td>
</tr>
<tr>
<td>Associated Student Fees</td>
<td>28</td>
</tr>
<tr>
<td>Associated Students</td>
<td>28</td>
</tr>
<tr>
<td>Astronomy</td>
<td>71</td>
</tr>
<tr>
<td>ASTRONOMY (ASTR)</td>
<td>71</td>
</tr>
<tr>
<td>Attendance &amp; Grading</td>
<td>25</td>
</tr>
<tr>
<td>Attendance Policy</td>
<td>25</td>
</tr>
<tr>
<td>Auditing a Course</td>
<td>22</td>
</tr>
<tr>
<td>Automotive Technology</td>
<td>72</td>
</tr>
<tr>
<td>AUTOMOTIVE TECHNOLOGY (AUTO)</td>
<td>75</td>
</tr>
<tr>
<td>BASIC SKILLS</td>
<td>251</td>
</tr>
<tr>
<td>Basic Training</td>
<td>27</td>
</tr>
<tr>
<td>Biology</td>
<td>77</td>
</tr>
<tr>
<td>BIOLOGY (BIOL)</td>
<td>78</td>
</tr>
<tr>
<td>Biotechnology</td>
<td>80</td>
</tr>
<tr>
<td>Board of Trustees</td>
<td>6</td>
</tr>
<tr>
<td>Bookstore</td>
<td>29</td>
</tr>
<tr>
<td>Business</td>
<td>82</td>
</tr>
<tr>
<td>BUSINESS AND COMMUNITY PROGRAMS</td>
<td>48</td>
</tr>
<tr>
<td>Cafeteria</td>
<td>29</td>
</tr>
<tr>
<td>California State University (CSU)</td>
<td>42</td>
</tr>
<tr>
<td>CalWORKs Program Education that WORKS!</td>
<td>32</td>
</tr>
<tr>
<td>Career/Transfer Center</td>
<td>29</td>
</tr>
<tr>
<td>Catalog Rights</td>
<td>33</td>
</tr>
<tr>
<td>Center for International Trade Development (CITD)</td>
<td>48</td>
</tr>
<tr>
<td>Certificates Not Transcribed</td>
<td>38</td>
</tr>
<tr>
<td>Challenging a Prerequisite</td>
<td>21</td>
</tr>
<tr>
<td>Changing Your Schedule</td>
<td>23</td>
</tr>
<tr>
<td>Chemistry</td>
<td>86</td>
</tr>
<tr>
<td>CHEMISTRY (CHEM)</td>
<td>87</td>
</tr>
<tr>
<td>Child Development</td>
<td>88</td>
</tr>
<tr>
<td>Child Development Center</td>
<td>29</td>
</tr>
<tr>
<td>CHILD DEVELOPMENT (CLDV)</td>
<td>90</td>
</tr>
<tr>
<td>CITIZENSHIP FOR IMMIGRANTS</td>
<td>254</td>
</tr>
<tr>
<td>C.L.E.P.</td>
<td>26</td>
</tr>
<tr>
<td>College Clubs</td>
<td>29</td>
</tr>
<tr>
<td>COLLEGE POLICIES, REGULATIONS AND PROCEDURES</td>
<td>13</td>
</tr>
<tr>
<td>Communication Studies</td>
<td>93</td>
</tr>
<tr>
<td>COMMUNICATION STUDIES (COMM)</td>
<td>93</td>
</tr>
<tr>
<td>Community Services</td>
<td>48</td>
</tr>
<tr>
<td>Competency Requirements</td>
<td>34</td>
</tr>
<tr>
<td>Computer and Information Literacy</td>
<td>34</td>
</tr>
<tr>
<td>COMPUTER AND INFORMATION LITERACY</td>
<td>35</td>
</tr>
<tr>
<td>Computer Studies</td>
<td>95</td>
</tr>
<tr>
<td>COMPUTER STUDIES (CPSC)</td>
<td>96</td>
</tr>
<tr>
<td>Conduct</td>
<td>14</td>
</tr>
<tr>
<td>Continuing Education (Noncredit)</td>
<td>38</td>
</tr>
<tr>
<td>Continuing Education (Noncredit)</td>
<td>250</td>
</tr>
<tr>
<td>Cooperative Education</td>
<td>98</td>
</tr>
<tr>
<td>COOPERATIVE EDUCATION (COOP)</td>
<td>98</td>
</tr>
<tr>
<td>Coprighted Materials, Including Music, Video and Printed Materials</td>
<td>14</td>
</tr>
<tr>
<td>Core Values and Beliefs</td>
<td>8</td>
</tr>
<tr>
<td>Corrections</td>
<td>99</td>
</tr>
<tr>
<td>CORRECTIONS (CORR)</td>
<td>100</td>
</tr>
<tr>
<td>Counseling and Guidance</td>
<td>29</td>
</tr>
<tr>
<td>Counseling &amp; Course Advisement</td>
<td>20</td>
</tr>
<tr>
<td>Course Descriptions</td>
<td>19</td>
</tr>
<tr>
<td>Course Numbering</td>
<td>19</td>
</tr>
<tr>
<td>Credit by Examination</td>
<td>26</td>
</tr>
<tr>
<td>Credit for Military Experience</td>
<td>26</td>
</tr>
<tr>
<td>Crime Awareness and Campus Security</td>
<td>14</td>
</tr>
</tbody>
</table>