

# Programs and Degrees

## Allied Health

### Associate in Arts

#### Nursing, Vocational, A.A. (12550.AA)

##### Minimum requirements for admission to the LVN program:

1. Must be a high school graduate or the equivalent as measured by the General Education Development (GED) test or California State High School Proficiency Examination.
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 50 or BIOL 16; NUTR 10; VOCN 46A; and \*ALLH 67.

\*ALLH 67 has no recency.

##### Program 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. Applications are available from the divisions web site.

##### Requirements for Accepted Applicants ONLY

The following must be completed prior to starting the first course in the LVN program and is addressed at the mandatory orientation meeting:

1. Health clearance (including a physical and necessary immunizations or proof of immunity by titer)
2. Criminal background check (requires proof of valid social security number) and drug screening
3. Current CPR Certification for the Healthcare Provider (American Heart Association ONLY)

Note: All students must provide their own transportation to clinical/hospital facilities assigned.

##### Program Start Dates

January 2019 (Spring), August 2020 (Fall), January 2022 (Spring), August 2023 (Fall)

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 outcomes 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.

##### Program Requirements:

Program Core: (55 Units)

##### Prerequisites:

BIOL - 16	General Human Anatomy .....	4
or		
BIOL - 50	Survey of Anatomy and Physiology .....	3

NUTR - 10	Nutrition .....	3
ALLH - 67	Medical Terminology .....	3
VOCN - 46A	Applied Mathematics for Pharmacology .....	1
First Semester		
VOCN - 40	Foundations of Nursing .....	11
VOCN - 46B	Pharmacology for Nurses .....	2
VOCN - 47A	Nursing Guidance I .....	1
Second Semester		
VOCN - 42	Principles and Practices of Nursing Care I .....	14
VOCN - 47B	Nursing Guidance II .....	1
Third Semester		
VOCN - 44	Principles and Practices of Nursing Care II .....	14
VOCN - 47C	Nursing Guidance III .....	1
Total: (55 Units)		

##### Note:

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.

### Associate of Science

#### Diagnostic Radiologic Technology, A.S. (12700.AS)

##### Requirements for Application (program prerequisites)

ALLH 67, BIOL 16, CHEM 02A, ENGL 01A, MATH C, and RADT 50. In order to progress satisfactorily in the program, students must complete all program courses in the specified sequence with a minimum grade of "C" in each course, and maintain an overall GPA of 2.75 in supportive and program course work. If a student withdraws or is dismissed from the program, they will no longer be eligible for re-admittance into the program.

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 applications forms, refer to the Diagnostic Radiologic Technology Handbook available online at: <http://www.mccd.edu/academics/alliedhealth/diag-rad/index.html>

See an Allied Health Counselor for further clarification.

Upon selection into the program, students will have to provide evidence of criminal background and drug screening clearances two weeks before the first day of class. If a student is unable to provide evidence of these clearances by the time frame listed, the student will be deemed ineligible for selection at this time. The student may request that their application be placed at the bottom of the wait list. Student must also supply evidence of current inoculations, a negative TB screening (annual) or chest x-ray report and a current CPR card (American Heart Association) while in the program.

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 whichever hospital or clinical site the student is assigned within our 75 mile service area. During internship (last year of the program), clinical assignments may include day, evening and weekend hours.

A.S. Degree breadth requirements and the listed required core 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

- Communicate effectively.
- Apply clinical reasoning skills in their daily practice.
- Perform successfully as entry level radiographers.
- Perform as competent radiographers assimilating all professional, ethical, and legal principles.

## Program Requirements:

Program Core: (35.5 Units)

## First Semester (Fall)

RADT - 10	Introduction to Radiologic Sciences & Health Care	.4
RADT - 11	Radiologic Procedures I	4

## Second Semester (Spring)

RADT - 12A	Radiologic Procedures II	4
RADT - 12B	Clinical Education I	5
RADT - 13	Radiologic Sciences I	3

## First Summer Session

RADT - 14A	Radiologic Sciences II	2
RADT - 14B	Clinical Education II	3.5

## Third Semester (Fall)

RADT - 15A	Radiologic Procedures III	1
RADT - 15B	Clinical Education III	5.5
RADT - 15C	Advanced Radiologic Procedures I	2
RADT - 15D	Radiographic Pathology	1.5

Total: (35.5 Units)

## The Internship Portion of the RADT Program Commences with:

## Fourth Semester (Spring)

RADT - 16A	Advanced Radiologic Procedures II	2.5
RADT - 16B	Advanced Clinical Education I	10
RADT - 16C	Fluoroscopy	2.25

## Second Summer Session

RADT - 17A	Radiologic Sciences III	2
RADT - 17B	Advanced Clinical Education II	7

## Fifth Semester (Fall)

RADT - 18A	Integrative Study in Radiography	2
RADT - 18B	Advanced Clinical Education III	9
RADT - 18C	Sectional Anatomy	1

## 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.

**Nursing, Registered, A.S. (12500.AS)****Policy for Denial of Licensure**

The California BRN protects the public by screening applicants for licensure in order to identify potentially unsafe practitioners. Statutory authority for denial of licensure is contained in the Business and Professions Code. Any student considering a career in nursing who has a criminal record is advised to go to the BRN website at [rn.ca.gov](http://rn.ca.gov) and search Enforcement and then License Discipline and Convictions prior to applying to the nursing program.

**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 that will best serve the community to a recognized standard of excellence. The Merced College Registered Nursing program focuses on 1) student

success; 2) cultural diversity; 3) interrelationships of life experiences and knowledge; by providing a continually improving educational program which is accredited by the California Board of Registered Nursing. The Merced College Registered nurse graduate is educated for full participation in the life of the community, both professionally and as a citizen, and is instilled with a commitment to continue 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. It is the applicant's responsibility to submit all required paperwork within the specified dates and times. Applications will be accepted during the spring semester. Specific date/times will be posted on the website.

**Selection Process**

The Merced College RN Program class selection process is determined using the multi-criteria screening process established by the California Community College Chancellor's office in accordance with AB 1559. A multi-criteria score is determined for each candidate based on previous degrees/certificates, work/volunteer experience in a healthcare setting, identified coursework GPA, life experience/special circumstances, foreign language proficiency and TEAS V or ATI TEAS assessment score. These students will be sequentially numbered from one to the maximum allowed for the in-coming class, including a predetermined number of alternate students. Depending on the number of qualified applicants and constraints of the Chancellor's Office multi-criteria screening model, the selection pool will vary in size from semester to semester.

The minimum qualification for application includes a 2.5 GPA in Anatomy, Physiology, Microbiology, English-01A or ENGL-13 (or equivalent) and Math-C (or equivalent or higher). Minimum qualification also includes a composite score of at least 62 on the TEAS V or ATI TEAS test. Students not meeting these minimum qualifications are ineligible to apply.

**Multiple Applications**

There is no waiting list maintained for the R.N. Program. Applicants applying to the program a consecutive time must follow directions located in the RN application handbook located on the website. The Allied Health Office has your file from the previous years' selection. However, the applicant will be responsible for updating any other information that may change their point total and must comply with local and/or statement requirements.

IF YOU DO NOT APPLY CONSECUTIVELY, YOUR APPLICATION WILL BE DESTROYED.

**Requirements for Accepted Applicants Only**

The following must be completed prior to starting the first course in the RN program and is addressed at the mandatory orientation meeting:

- Health clearance (including a physical and necessary immunizations or proof of immunity by titer)
- Criminal background check (requires proof of valid social security number) and drug screening
- Current CPR Certification for the Healthcare Provider (American Heart Association ONLY)

Note: Criminal background check and drug screening is repeated between the third and fourth semesters as a requirement prior to the mental health rotation.

All students must provide their own transportation to clinical/hospital facilities assigned.

**Preassessment Testing Requirement**

Prospective RN program students must pass an assessment test, Test of Essential Academic Skills (TEAS) TEAS V or ATI TEAS. The “first test” result of the TEAS testing by ATI will need a minimum score of 62, otherwise the student will be ineligible to apply to the program. If a student has already taken TEAS V or ATI TEAS from another college, they need to include verification of this score with the application. As part of the application paperwork, we will be asking for students to sign and confirm that their TEAS result is from a “first test”. Any false information provided on the application will be grounds for immediate disqualification. Limited supplies of review books may be checked out from the Learning Resource Center and other practice links may be accessed on the Registering Nursing web page. ATI does provide (for a fee) remediation and study guides on their website. We highly encourage students to prepare for the TEAS test due to the need to achieve a 62 score. Beginning Spring 2021, we will no longer accept TEAS V; we will only accept the first attempt (62% score or higher) of the ATI TEAS test.

**Merced College Registered Nursing Military Policy**

<http://www.mccd.edu/academics/alliedhealth/nurse-registered/apply.html>

<http://www.mccd.edu/academics/alliedhealth/nurse-registered/information.html>

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 in Science Degree upon completion of designated courses and competency requirements.

**Program Student Learning Outcomes**

- A. Administer quality, safe, patient-centered nursing care through evidence-based practice.
- B. Collaborate with members of the interdisciplinary team to provide and improve patient care.
- C. Connect critical thinking skills, strategies, and clinical reasoning necessary to provide quality patient care.
- D. Demonstrate leadership in a variety of healthcare settings for diverse patient populations.
- E. Use information technology to communicate, manage knowledge, mitigate error, and support decision-making.
- F. Practice as a competent nurse, assimilating all professional, ethical, and legal principles.

**Prerequisite Courses: (19-20 Units)**

BIOL - 16	General Human Anatomy .....	4 **
BIOL - 18	Principles of Physiology .....	4 **
BIOL - 20	Microbiology .....	4 **
ENGL - 01A	College Composition and Reading .....	4
or		
ENGL - 13	Critical Reasoning and Writing .....	3
or		
ENGL - 13H	Honors Critical Reasoning and Writing .....	3
or		
PHIL - 13	Critical Reasoning and Writing .....	3
or		
PHIL - 13H	Honors Critical Reasoning and Writing .....	3
MATH - C	Intermediate Algebra .....	4 or higher

Note:  
 \*\*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.

Program Requirements:

Required Courses (non-nursing): (9 Units)  
 Required courses (non-nursing) which also fulfil A.S. Breadth requirements:

COMM - 01	Fundamentals of Speech .....	3
or		
COMM - 01H	Honors Fundamentals of Speech .....	3
or		
COMM - 04	Small Group Discussion and Problem Solving .....	3
or		
COMM - 05	Interpersonal Communication .....	3
SOC - 01	Introduction to Sociology .....	3
or		
SOC - 02	Contemporary Social Problems .....	3
or		
SOC - 03	Marriage and the Family .....	3
or		
ANTH - 02	Sociocultural Anthropology .....	3
PSYC - 01A	Introduction to Psychology .....	3
or		
PSYC - 01AH	Honors Introduction to Psychology .....	3
or		
PSYC - 09	Human Development .....	3
or		
CLDV - 09	Human Development .....	3

Note:  
 Students are encouraged to meet with a counselor to ensure all other graduation breadth requirements have been met to complete an AS Degree in Nursing.

Required Courses (nursing): (41 Units)

First Semester		
REGN - 15	Foundations of Nursing .....	9
REGN - 18	Pharmacology in Nursing Practice .....	3
Second Semester		
REGN - 24	Acute Medical/Surgical and Nursing of the Childbearing Family .....	10
Third Semester		
REGN - 34	Advanced Medical/Surgical Nursing and Pediatric Nursing .....	10
Fourth Semester		
REGN - 44	Acute Medical/Surgical Nursing and Mental Health Nursing .....	9

Prerequisite for Admission: (19-20 Units)  
 Additional BRN Requirement: (3 Units)  
 Completion of MCCD-GE Breadth pattern: (23 Units)  
 CSU-General Education Breadth Certification Requirements  
 Double Counting: (15 Units)  
 Total: (71-72 Units)  
 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.

**Nursing, Registered, LVN to RN Pathway, A.S.**  
**EFFECTIVE April 9, 2019, The Allied Health Office is no longer accepting LVN to RN applications until further notice. Continue to look on the RN website for further updates.**

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 REGN-02 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. 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 62 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 Registered Nursing Curriculum. Students may, however, enroll in other courses designated as non-nursing program requirements while awaiting selection into the program.

Program Requirements:  
Program Core: (22 Units)  
Prior to Third Semester

\*\*\*\*Required for LVN's who have met admission selection criteria and have successfully enrolled in REGN-01.

REGN - 01	Transition LVN to RN .....	2
REGN - 02	Clinical Skills Transition - LVN to RN .....	1 ****
Third Semester		
REGN - 34	Advanced Medical/Surgical Nursing and Pediatric Nursing .....	10
Fourth Semester		
REGN - 44	Acute Medical/Surgical Nursing and Mental Health Nursing .....	9

Total: (22 Units)

**Transfer**

Credits earned in the Merced College Registered Nursing Program may be transferable to California State Universities. Since prerequisite science and social science courses vary at each institution, students are advised to consult the catalog of their intended transfer school and establish a transfer plan with the Allied Health Counselor.

## Certificate

### Diagnostic Medical Sonography Certificate (12800.CT)

Students successfully completing the program are awarded a Certificate of Achievement. The entire program is composed of one summer session 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 cohort is in session at a time.

**Entrance Requirement:**

Associate of Science Professional degree and license in either Radiologic Technology or Registered Nursing or Nuclear Medicine Technology or Respiratory Therapy or Baccalaureate degree with over 500 hospital-based hours of direct patient care experience. See outline in the programmatic application.

**Prerequisites:**

BIOL 16, BIOL 18; COMM 01, COMM 01H, or ENGL 01A; MATH 10, MATH 15, MATH 25, MATH 26, or PSYC 05; ALLH 67; and PHYS 10 or RADT 13. All program prerequisites must be passed with a grade of "C" or higher with a minimum cumulative grade of 2.35 GPA

**Applications are available from the divisions web site.**

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 clinic 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. Sonographic Principles/Instrumentation, and
2. Special Examination Option in Abdomen, and
3. Special Examination Option in OB/GYN.

**Program Student Learning Outcomes**

- A. Develop the writing skills to prepare medical manuscripts and present clinical case studies.
- B. Analyze the theory of physics, anatomy and pathophysiology, and sonographic appearance of normal and disease processes.
- C. Develop an understanding of medical ethical standards and cultural diversity.
- D. Develop both initial and final competencies in the various modalities of sonography.

Program Requirements:  
Program Core: (49 Units)

First Semester (Fall)		
SONO - 40	Basic Ultrasound Physics .....	1.5
SONO - 41	Introduction to Sonography .....	1.5
Second Semester (Spring)		
SONO - 42A	Abdominal Sonography .....	4
SONO - 42B	Clinical Experience I .....	9
Summer Session		
SONO - 44A	Advanced Ultrasound Physics .....	1.5
SONO - 44B	Clinical Experience II .....	4.5
SONO - 44C	Superficial Structures .....	1
Third Semester (Fall)		
SONO - 43A	OB/GYN Sonography .....	4
SONO - 43B	Clinical Experience III .....	9
Fourth Semester (Spring)		
SONO - 45A	Integrative Study in Sonography .....	2
SONO - 45B	Clinical Experience IV .....	9
SONO - 45C	Basics of Vascular Sonography .....	2
Total:	(49 Units)	

### Diagnostic Radiologic Technology Certificate (12700.CF)

**Requirements for Application (program prerequisites)**

ALLH 67, BIOL 16, CHEM 02A, ENGL 01A, MATH C, and RADT 50. In order to progress satisfactorily in the program, students must complete all program courses in the specified sequence with a minimum grade of "C" in each course, and maintain an overall GPA of 2.75 in supportive and

program course work. If a student withdraws or is dismissed from the program, they will no longer be eligible for re-admittance into the program.

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 applications forms, refer to the Diagnostic Radiologic Technology Handbook available online at: <http://www.mccd.edu/academics/alliedhealth/diag-rad/index.html>

See an Allied Health Counselor for further clarification.

Upon selection into the program, students will have to provide evidence of criminal background and drug screening clearances two weeks before the first day of class. If a student is unable to provide evidence of these clearances by the time frame listed, the student will be deemed ineligible for selection at this time. The student may request that their application be placed at the bottom of the wait list. Student must also supply evidence of current inoculations, a negative TB screening (annual) or chest x-ray report and a current CPR card (American Heart Association) while in the program.

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 whichever hospital or clinical site the student is assigned within our 75 mile service area. During internship (last year of the program), clinical assignments may include day, evening and weekend hours.

**Note to Transfer Students**

Schedule an appointment with an Allied Health Counselor to discuss any questions concerning prerequisite or A.S. Degree coursework.

Students sanctioned (dismissed) for any of the following infractions will not be considered for enrollment.

- Under the influence of drugs or alcohol while on duty
- Physical abuse to the patient, visitor or other personnel
- Petty theft
- Sexual misconduct
- Unsafe clinical practice
- Academic dishonesty
- Breach of confidentiality (HIPPA)
- Being dropped or withdrawing from an RT Program due to academic weakness or any of the above infractions

Only academic credit earned in regionally accredited institutions of higher education and JRCERT approved schools of Radiologic Technology for comparable prelicensure courses will be considered for transfer. Transfers are based on space availability and students must meet ALL current requirements for admission.

**Advisement**

The Diagnostic Radiologic Technology Program is a demanding full-time program. Students will find it difficult to work while attending. Students are also expected to complete intense homework assignments.

In order to progress satisfactorily in the program, students must complete all program courses in the specified sequence with a minimum grade of "C" in each course, and maintain an overall GPA of 2.75 in supportive and program course work. If a student withdraws or is dismissed from the program, they will no longer be eligible for re-admittance into the program.

**Disclaimer**

The RADT Program reserves the right to revise degree requirements and selections procedures. It is your responsibility to know these requirements and procedures.

Students successfully completing the courses listed below are awarded a Certificate of Achievement in Diagnostic Radiologic Technology and are

eligible to sit for the ARRT examination.

**Program Student Learning Outcomes**

- A. Communicate effectively.
- B. Apply clinical reasoning skills in their daily practice.
- C. Perform successfully as entry level radiographers.
- D. Perform as competent radiographers assimilating all professional, ethical, and legal principles.

**Program Requirements:**

Program Core: (71.25 Units)

**First Semester (Fall)**

RADT - 10	Introduction to Radiologic Sciences & Health Care	.4
RADT - 11	Radiologic Procedures I	4

**Second Semester (Spring)**

RADT - 13	Radiologic Sciences I	3
RADT - 12A	Radiologic Procedures II	4
RADT - 12B	Clinical Education I	5

**First Summer Session**

RADT - 14A	Radiologic Sciences II	2
RADT - 14B	Clinical Education II	3.5

**Third Semester (Fall)**

RADT - 15A	Radiologic Procedures III	1
RADT - 15B	Clinical Education III	5.5
RADT - 15C	Advanced Radiologic Procedures I	2
RADT - 15D	Radiographic Pathology	1.5

**Fourth Semester (Spring)**

RADT - 16A	Advanced Radiologic Procedures II	2.5
RADT - 16B	Advanced Clinical Education I	10
RADT - 16C	Fluoroscopy	2.25

**Second Summer Session**

RADT - 17A	Radiologic Sciences III	2
RADT - 17B	Advanced Clinical Education II	7

**Fifth Semester (Fall)**

RADT - 18A	Integrative Study in Radiography	2
RADT - 18B	Advanced Clinical Education III	9
RADT - 18C	Sectional Anatomy	1

Total: (71.25 Units)

**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.

**Nursing Assistant Certificate (12150.CO)**

**Mandatory Orientation**

**Accreditation**

The Nurse Assistant Program is approved by the CA Department of Public Health (CDPH).

Students must attend a mandatory Nurse Assistant Orientation.

Go to [www.mccd.edu/alliedhealth](http://www.mccd.edu/alliedhealth); select *Nurse Assistant*; then select *Getting Started* for complete information.

**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 Banos.

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 lab and then be assigned to assist clients in a skills 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 (CDPH)  
Licensing and Certification Program (L&C)  
Aide and Technician Certification Section (ATCS)  
MS3301, P.O. Box 997416  
Sacramento, CA 95899-7416  
PHONE: (916) 327-2445  
FAX: (916) 552-8785  
EMAIL: cna@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 requirement 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 skills exam.

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

**Program Requirements:**

Program Core: (6 Units)  
ALLH - 63 Nurse Assistant ..... 6  
Total: (6 Units)

**Note:**

Successful completion of the above course is required to apply for the CNA certification exam.

**Nursing, Vocational Certificate (12550.CT)**

Minimum requirements for admission to the LVN program:

- 1. Must be a high school graduate or the equivalent as measured by the General Education Development (GED) test or California State High School Proficiency Examination.
- 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 50 or BIOL 16; NUTR 10; VOCN 46A; and \*ALLH 67.

\*ALLH 67 has no recency.

**Program 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. Applications are available from the divisions web site.

**Requirements for Accepted Applicants ONLY**

The following must be completed prior to starting the first course in the LVN program and is addressed at the mandatory orientation meeting:

- 1. Health clearance (including a physical and necessary immunizations or proof of immunity by titer)
- 2. Criminal background check (requires proof of valid social security number) and drug screening

- 3. Current CPR Certification for the Healthcare Provider (American Heart Association ONLY)

Note: All students must provide their own transportation to clinical/hospital facilities assigned.

**Program Start Dates**

Fall 2017, Spring 2019, Fall 2020

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

**Program Requirements:**

Program Core: (55 Units)

**Prerequisites:**

BIOL - 16	General Human Anatomy .....	4
or		
BIOL - 50	Survey of Anatomy and Physiology .....	3
NUTR - 10	Nutrition .....	3
ALLH - 67	Medical Terminology .....	3
VOCN - 46A	Applied Mathematics for Pharmacology .....	1
First Semester		
VOCN - 40	Foundations of Nursing .....	11
VOCN - 46B	Pharmacology for Nurses .....	2
VOCN - 47A	Nursing Guidance I .....	1
Second Semester		
VOCN - 42	Principles and Practices of Nursing Care I .....	14
VOCN - 47B	Nursing Guidance II .....	1
Third Semester		
VOCN - 44	Principles and Practices of Nursing Care II .....	14
VOCN - 47C	Nursing Guidance III .....	1
Total: (55 Units)		

**Note:**

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.

# Agriculture

## Associate of Science for Transfer

### Agriculture Business, A.S.-T. (01000.AST)

The Associate in Science in Agriculture Business for Transfer degree is designed for students looking to obtain a well-rounded education in Agriculture Business. Upon completion, students with an AS-T in Agriculture Business will be eligible to transfer with junior standing into an equivalent major within the CA State University (CSU) system. Students will be given priority consideration when applying to a particular program that is similar to the student's community college area of emphasis.

**Program Student Learning Outcomes:**

- A. Analyze the core concepts of various agriculture business disciplines.
- B. Analyze local, state, and national agricultural issues and trends.
- C. Examine economic principles with respect to the production and distribution of agricultural products and services.
- D. Develop communication and problem solving skills to work effectively, respectfully, ethically, and professionally with people of diverse age, gender, ethnicity and culture in agribusiness.
- E. Combine team building skills and collaborative behaviors in the accomplishment of group goals and objectives.

For an Associate in Science in Agriculture Business for Transfer (AS-T),

students must complete the following:

1. 60 semester CSU-transferable units.
2. the California State University-General Education-Breadth pattern (CSU GE-Breadth); OR the Intersegmental General Education Transfer Curriculum (IGETC) pattern.
3. a minimum of 18 semester in the major or area of emphasis as determined by the community college district.
4. obtainment of a minimum grade point average (GPA) of 2.0.
5. earn a grade of C or better in all courses required for the major or area of emphasis.

Note: Students are not required to complete any additional local graduation requirements for the AS-T (e.g., PE and Computer and Information Literacy courses).

Program Requirements:

Program Core: (24-26 Units)

AGBS - 10	Introduction to Agriculture Business .....	3
AGBS - 11	Agricultural Economics .....	3
AGBS - 12	Agricultural Accounting .....	3
AGBS - 17	Agricultural Sales and Communication .....	3
AGBS - 18	Agricultural Computer Applications .....	3
ECON - 02	Introduction to Macroeconomics .....	3

SOIL - 10	Soil Science .....	3
or		
CHEM - 02A	Introductory Chemistry .....	4
or		
CHEM - 04A	General Chemistry I .....	5

MATH - 10	Elementary Statistics .....	3
or		
PSYC - 05	Introduction to Statistics in Psychology .....	3

Total Units that may be double counted: (-13 Units)

General Education Units: (37-39 Units)

CSU-General Education Breadth Certification Requirements

or  
Intersegmental General Education Transfer Curriculum

Elective (CSU Transferable) Units: (8-12 Units)

Total: (60 Units)

## Associate of Arts

### Crop Science, A.A. (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 , faced with either a hypothetical or actual problems dealing with plantings and soil conditions and the appropriate references, determine a solution to the problem.

Program Requirements:

Program Core: (19 Units)

CROP - 10	Elements of Cereal Grain Production .....	3
CROP - 12	Commercial Vegetable and Garden Production .....	3
PLSC - 12	Weeds .....	3
SOIL - 10	Soil Science .....	3
SOIL - 11	Fertilizers and Soil Amendments .....	3
MECH - 12	Agriculture Equipment - Fall .....	3
MECH - 31	Equipment Safety .....	1

Total: (19 Units)

Suggested Sequence:

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

### General Agriculture, A.A. (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.

Program Requirements:

Program Core: (22 Units)

AGBS - 18	Agricultural Computer Applications .....	3
AGRI - 10	Agriculture, Environment, and Society .....	3
ANSC - 10	Elements of Animal Science .....	3
LAND - 11	Elements of Landscape Horticulture .....	3
MECH - 31	Equipment Safety .....	1

Plus nine units from three of the five following areas:

Agriculture Business

AGBS - 10	Introduction to Agriculture Business .....	3
AGBS - 12	Agricultural Accounting .....	3
AGBS - 13	Agricultural Marketing .....	3
AGBS - 17	Agricultural Sales and Communication .....	3

Animal Science

ANSC - 13	Animal Disease and Parasite Control .....	3
ANSC - 14	Elements of Animal Nutrition .....	3
ANSC - 30	Fitting, Showing, and Merchandising Livestock .....	1.5

Crop Science/Plant Science/Soil Science

CROP - 10	Elements of Cereal Grain Production .....	3
CROP - 12	Commercial Vegetable and Garden Production .....	3
CROP - 13	Forage Crops .....	3
PLSC - 13	Economic Entomology .....	3
SOIL - 11	Fertilizers 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
<b>Mechanized Agriculture</b>		
MECH - 10	Agricultural and Industrial Technical Skills .....	3
MECH - 15	Small Engine Repair/Maintenance .....	3
MECH - 35	Compact Power Equipment .....	3
Total: (22 Units)		

Suggested agriculture courses to meet General Education Breadth Requirements:

AGBS - 11	Agricultural Economics .....	3 (Area D) *
PLSC - 10	Elements of Plant Science .....	3 (Area B) *
SOIL - 10	Soil Science .....	3 (Area B) *

Note:

\* Transfer students should consult with their counselor regarding General Education Breadth Requirements.

## Associate of Science

### Agriculture Business, A.S. (01000.AS)

The Associate in Science degree in Agriculture Business is available for students who meet the graduation requirements and complete the following required courses, with a minimum grade of a "C" in each course in the degree, and maintain a 2.0 GPA.

Program Student Learning Outcomes

- A. Analyze the core concepts of various agriculture business disciplines.
- B. Analyze local, state, and national agricultural issues and trends.
- C. Examine economic principles with respect to the production and distribution of agricultural products and services
- D. Develop communication and problem solving skills to work effectively, respectfully, ethically, and professionally with people of diverse age, gender, ethnicity and culture in agribusiness.
- E. Combine team building skills and collaborative behaviors in the accomplishment of group goals and objectives.

Program Requirements:

Program Core: (25 Units)

AGBS - 10	Introduction to Agriculture Business .....	3
AGBS - 11	Agricultural Economics .....	3
AGBS - 12	Agricultural Accounting .....	3
AGBS - 13	Agricultural Marketing .....	3
AGBS - 17	Agricultural Sales and Communication .....	3
AGBS - 18	Agricultural Computer Applications .....	3
MECH - 31	Equipment Safety .....	1

Six units from these electives: (6 Units)

AGBS - 14	Farm Management .....	3
AGBS - 30A	Elements of Agricultural Leadership .....	2
AGBS - 30B	Agriculture Leadership - Personal Development .....	2
AGBS - 30C	Agriculture Leadership - Team Leadership .....	2
AGBS - 31A	Agricultural Ambassadors - Introduction .....	2
AGBS - 31B	Agricultural Ambassadors - Recruitment .....	2
AGBS - 31C	Agricultural Ambassadors - Public Relations .....	2
AGRI - 10	Agriculture, Environment, and Society .....	3
ANSC - 10	Elements of Animal Science .....	3
ANSC - 13	Animal Disease and Parasite Control .....	3
ANSC - 14	Elements of Animal Nutrition .....	3
CROP - 10	Elements of Cereal Grain Production .....	3
CROP - 12	Commercial Vegetable and Garden Production .....	3
CROP - 13	Forage Crops .....	3
LAND - 11	Elements of Landscape Horticulture .....	3
LAND - 16	Plant Propagation .....	3
PLSC - 10	Elements of Plant Science .....	3
SOIL - 10	Soil Science .....	3

Completion of MCCD-GE Breadth: (23 Units)

Associate Degree Breadth Requirements

Electives (as needed to reach 60 units): (12 Units)

Total: (60 Units)

Suggested agriculture courses to meet General Education Breadth Requirement:

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

AGBS - 11	Agricultural Economics .....	3 and
ANSC - 10	Elements of Animal Science .....	3
or		
PLSC - 10	Elements of Plant Science .....	3 and
SOIL - 10	Soil Science .....	3

Suggested Sequence:

Fall 1

AGBS - 10	Introduction to Agriculture Business .....	3
AGBS - 18	Agricultural Computer Applications .....	3

Spring 1

AGBS - 17	Agricultural Sales and Communication .....	3
MECH - 31	Equipment Safety .....	1

Fall 2

AGBS - 11	Agricultural Economics .....	3
AGBS - 13	Agricultural Marketing .....	3

Spring 2

AGBS - 12	Agricultural Accounting .....	3
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### Animal Science, A.S. (01100.AS)

The Associate in Science degree in Animal Science is available for students who meet the graduation requirements and complete the following required courses, with a minimum grade of a "C" in each course in the degree and maintain a 2.0 GPA.

Program Student Learning Outcomes

- A. Demonstrate necessary skills in genetics, reproduction, nutrition, and housing in order to operate efficient and profitable livestock operations.
- B. Identify proper production practices, good animal health, proper animal nutrition, and good reproduction and management practices.
- C. Demonstrate the ability to perform calculations needed in the field, use good communication skills, and apply good computer skills in the animal industry.
- D. Demonstrate the ability to learn and develop skills to deal with potential changes and diversity in animal science and other related industries.
- E. Appraise diverse ethical practices within the livestock industry.

Program Requirements:

Program Core: (30 Units)

AGBS - 18	Agricultural Computer Applications .....	3
ANSC - 10	Elements of Animal Science .....	3
ANSC - 13	Animal Disease and Parasite Control .....	3
ANSC - 14	Elements of Animal Nutrition .....	3
CROP - 13	Forage Crops .....	3
MECH - 31	Equipment Safety .....	1

Six units animal production courses from the following list: (6 Units)

ANSC - 12	Livestock Breeding and Selection .....	3
ANSC - 16	Horse Husbandry .....	3
ANSC - 17	Beef Production .....	3
ANSC - 18	Sheep and Meat Goat Science .....	3
ANSC - 19	Swine Production .....	3
DAIR - 10	Elements of Dairy .....	3

Plus 8 units from the following electives: (8 Units)

Including any courses above not used (3-8)

AGBS - 12	Agricultural Accounting .....	3
ANSC - 30	Fitting, Showing, and Merchandising Livestock ..1.5 *	
MECH - 12	Agriculture Equipment - Fall .....	3
WELD - 06	Fundamentals of Oxy-Fuel Welding and Shielded Metal Arc Welding .....	3

Total: (30 Units)

Note:

\* Course can be repeated.

Suggested Sequence:

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 and Meat Goat Science .....	3
ANSC - 19	Swine Production .....	3
DAIR - 10	Elements of Dairy .....	3
Spring 1		
ANSC - 14	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 and Meat Goat Science .....	3
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 and Meat Goat Science .....	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
Production Class in Rotation:		
ANSC - 16	Horse Husbandry .....	3
ANSC - 17	Beef Production .....	3
ANSC - 18	Sheep and Meat Goat Science .....	3
ANSC - 19	Swine Production .....	3
DAIR - 10	Elements of Dairy .....	3

**Crop Science, A.S. (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.

**Program Requirements:**

Program Core: (30 Units)

CROP - 10	Elements of Cereal Grain Production .....	3
CROP - 12	Commercial Vegetable and Garden Production .....	3
PLSC - 12	Weeds .....	3
SOIL - 10	Soil Science .....	3
SOIL - 11	Fertilizers and Soil Amendments .....	3
MECH - 12	Agriculture Equipment - Fall .....	3
MECH - 31	Equipment Safety .....	1
Plus 11 additional units from the following electives:		
AGBS - 18	Agricultural Computer Applications .....	3
CROP - 13	Forage Crops .....	3

FPRO - 13	Fruit Tree Maintenance .....	3
MECH - 21	Hydraulics .....	3
MECH - 22A	Diesel Engines .....	4
PLSC - 13	Economic Entomology .....	3
LAND - 16	Plant Propagation .....	3
Total: (30 Units)		

**Suggested Sequence:**

Fall 1		
CROP - 10	Elements of Cereal Grain Production .....	3
PLSC - 13	Economic Entomology .....	3
Spring 1		
CROP - 12	Commercial Vegetable and Garden Production .....	3
SOIL - 10	Soil Science .....	3
Fall 2		
FPRO - 13	Fruit Tree Maintenance .....	3
SOIL - 11	Fertilizers and Soil Amendments .....	3
Spring 2		
CROP - 13	Forage Crops .....	3
PLSC - 12	Weeds .....	3

**Diesel Equipment Technology, A.S. (01200.AS)**

The Associate in Science Degree in Diesel Equipment Technology is available upon satisfactory completion of the graduation requirements and completion of 33-35 units from the following major requirements with a minimum grade of 2.0 in each course required for the degree.

**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. Evaluate the path of repair by testing and/or completing a work order/report.

**Program Requirements:**

Program Core: (32 Units)

MECH - 21	Hydraulics .....	3
MECH - 22A	Diesel Engines .....	4
MECH - 23	Diesel Fuel Systems Diagnostics .....	2
MECH - 24	Power Trains .....	4
MECH - 26	Power Equipment Electrical Systems .....	3
MECH - 27	Applied Diesel Technical Skills .....	2
MECH - 30	Equipment Mechanics Skills .....	2
MECH - 32	Applied Electrical and Hydraulic Service .....	3
MECH - 33	Power Equipment Air Conditioning .....	2
MECH - 51	Truck Brake and Chassis .....	4
MECH - 08	Applied Mechanical Welding .....	3
Plus one of the following courses: (1-3 Units)		
MECH - 12	Agriculture Equipment - Fall .....	3
MECH - 13	Agriculture Equipment - Spring .....	3
MECH - 31	Equipment Safety .....	1
Total: (33-35 Units)		

**Suggested Sequence:**

Fall 1		
MECH - 21	Hydraulics .....	3
MECH - 22A	Diesel Engines .....	4
MECH - 26	Power Equipment Electrical Systems .....	3
MECH - 30	Equipment Mechanics Skills .....	2
MECH - 31	Equipment Safety .....	1
Spring 1		
MECH - 23	Diesel Fuel Systems Diagnostics .....	2
MECH - 24	Power Trains .....	4
MECH - 27	Applied Diesel Technical Skills .....	2
MECH - 32	Applied Electrical and Hydraulic Service .....	3

Fall 2		
MECH - 33	Power Equipment Air Conditioning .....	2
MECH - 51	Truck Brake and Chassis .....	4
MECH - 08	Applied Mechanical Welding .....	3

**Equine Science and Management, A.S. (01225.AS)**

The Associate in Science degree in Equine Science and Management is available for students who meet the graduation requirements and complete the following required courses, with a minimum grade of a "C" in each course in the degree and maintain a 2.0 GPA.

Program Student Learning Outcomes

- A. Evaluate the scientific principles of Horse Management.
- B. Develop skills to deal with potential changes and diversity in Horse Management and related industries.
- C. Appraise diverse ethical practices within the equine industry.

Program Requirements:

Program Core: (29 Units)

AGBS - 12	Agricultural Accounting .....	3
AGBS - 18	Agricultural Computer Applications .....	3
ANSC - 10	Elements of Animal Science .....	3
ANSC - 14	Elements of Animal Nutrition .....	3
ANSC - 16	Horse Husbandry .....	3
CROP - 13	Forage Crops .....	3
MECH - 31	Equipment Safety .....	1
WELD - 06	Fundamentals of Oxy-Fuel Welding and Shielded Metal Arc Welding .....	3

Seven units from the following electives: (7 Units)

AGBS - 13	Agricultural Marketing .....	3
ANSC - 12	Livestock Breeding and Selection .....	3
ANSC - 13	Animal Disease and Parasite Control .....	3
ANSC - 40	Beginning Horsemanship (Western) .....	2
ANSC - 41	Intermediate Horsemanship (Western) .....	2
MECH - 12	Agriculture Equipment - Fall .....	3

Total: (29 Units)

**General Agriculture, Advanced, A.S. (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 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.

Program Requirements:

Program Core: (31 Units)

AGBS - 18	Agricultural Computer Applications .....	3
AGRI - 10	Agriculture, Environment, and Society .....	3
ANSC - 10	Elements of Animal Science .....	3
LAND - 11	Elements of Landscape Horticulture .....	3
MECH - 31	Equipment Safety .....	1

Plus 18 units from three of the five following areas:

Agriculture Business

AGBS - 10	Introduction to Agriculture Business .....	3
AGBS - 12	Agricultural Accounting .....	3
AGBS - 13	Agricultural Marketing .....	3
AGBS - 17	Agricultural Sales and Communication .....	3

Animal Science

ANSC - 13	Animal Disease and Parasite Control .....	3
ANSC - 14	Elements of Animal Nutrition .....	3
ANSC - 30	Fitting, Showing, and Merchandising Livestock .....	1.5

Crop Science/Plant Science/Soil Science

CROP - 10	Elements of Cereal Grain Production .....	3
CROP - 12	Commercial Vegetable and Garden Production .....	3
CROP - 13	Forage Crops .....	3
PLSC - 13	Economic Entomology .....	3
SOIL - 11	Fertilizers 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 - 08	Applied Mechanical Welding .....	3
MECH - 10	Agricultural and Industrial Technical Skills .....	3
MECH - 15	Small Engine Repair/Maintenance .....	3
MECH - 35	Compact Power Equipment .....	3

Total: (31 Units)

Suggested agriculture courses to meet General Education Breadth Requirements:

AGBS - 11	Agricultural Economics .....	3*
PLSC - 10	Elements of Plant Science .....	3*
SOIL - 10	Soil Science .....	3*

Note:

\* Transfer students should consult with their counselor regarding General Education Breadth Requirements.

**Landscape Horticulture, A.S. (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.

Program Requirements:

Program Core: (30 Units)

LAND - 10A	Plant Identification and Usage - Fall .....	3
or		
LAND - 10B	Plant Identification and Usage - Spring .....	3

LAND - 11	Elements of Landscape Horticulture .....	3
LAND - 12	Landscape Design .....	3
LAND - 14	Landscape Construction and Installation .....	3
MECH - 31	Equipment Safety .....	1
PLSC - 10	Elements of Plant Science .....	3
SOIL - 10	Soil Science .....	3

Plus 11 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/Maintenance .....	3
or		
MECH - 35	Compact Power Equipment .....	3
PLSC - 13	Economic Entomology .....	3
LAND - 16	Plant Propagation .....	3
SOIL - 11	Fertilizers and Soil Amendments .....	3
Total: (30 Units)		

**Mechanized Agriculture Technology, A.S. (01450.AS)**

The Associate in Science Degree in Mechanized Agriculture Technology is available upon completion of the graduation requirements, the 21 unit core, and 15 units from the elective list, with a minimum grade of a "C" in each course in the degree, and maintain a 2.0 GPA.

**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 in order to prepare a solution.
- D. Demonstrate the correct tools/supplies required to diagnose/repair a malfunction.
- E. Evaluate the path of repair by testing and/or completing a work order/report.

**Program Requirements:**

Program Core: (21 Units)

MECH - 12	Agriculture Equipment - Fall .....	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 - 33	Power Equipment Air Conditioning .....	2

Plus 15 units from the following electives:

MECH - 13	Agriculture Equipment - Spring .....	3
MECH - 15	Small Engine Repair/Maintenance .....	3
MECH - 23	Diesel Fuel Systems Diagnostics .....	2
MECH - 27	Applied Diesel Technical Skills .....	2
MECH - 32	Applied Electrical and Hydraulic Service .....	3
MECH - 35	Compact Power Equipment .....	3
MECH - 08	Applied Mechanical Welding .....	3

GE Pattern MCCD GE Breadth: (24 Units)

Associate Degree Breadth Requirements 2018-2019

Electives (as needed): (15 Units)

Double-Counted: (0 Units)

Total: 60 Units

**Suggested Sequence:**

<b>Fall 1</b>		
MECH - 15	Small Engine Repair/Maintenance .....	3
MECH - 21	Hydraulics .....	3
MECH - 22A	Diesel Engines .....	4
MECH - 26	Power Equipment Electrical Systems .....	3
MECH - 30	Equipment Mechanics Skills .....	2
<b>Spring 1</b>		
MECH - 15	Small Engine Repair/Maintenance .....	3
MECH - 23	Diesel Fuel Systems Diagnostics .....	2
MECH - 24	Power Trains .....	4
MECH - 27	Applied Diesel Technical Skills .....	2
MECH - 32	Applied Electrical and Hydraulic Service .....	3
<b>Fall 2</b>		
MECH - 12	Agriculture Equipment - Fall .....	3
MECH - 33	Power Equipment Air Conditioning .....	2

<b>Spring 2</b>		
MECH - 08	Applied Mechanical Welding .....	3
MECH - 13	Agriculture Equipment - Spring .....	3
MECH - 35	Compact Power Equipment .....	3

**Certificate**

**Agricultural Chemicals Certificate (01052.CN)**

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.

**Program Requirements:**

Program Core: (18 Units)

AGBS - 18	Agricultural Computer Applications .....	3
PLSC - 10	Elements of Plant Science .....	3
PLSC - 12	Weeds .....	3
PLSC - 13	Economic Entomology .....	3
SOIL - 10	Soil Science .....	3
SOIL - 11	Fertilizers and Soil Amendments .....	3
Total: (18 Units)		

**Agriculture Business Certificate (01000.CT)**

A Certificate of Achievement will be awarded upon satisfactory completion of the 19 unit core, plus 15 units from the electives below with a minimum grade of "C" in each course required for the certificate.

**Program Student Learning Outcomes**

- A. Analyze the core concepts of various agriculture business disciplines.
- B. Analyze local, state, and national agricultural issues and trends.
- C. Examine economic principles with respect to the production and distribution of agricultural products and services
- D. Develop communication and problem solving skills to work effectively, respectfully, ethically, and professionally with people of diverse age, gender, ethnicity and culture in agribusiness.
- E. Combine team building skills and collaborative behaviors in the accomplishment of group goals and objectives.

**Program Requirements:**

Program Core: (34 Units)

AGBS - 10	Introduction to Agriculture Business .....	3
AGBS - 11	Agricultural Economics .....	3
AGBS - 12	Agricultural Accounting .....	3
AGBS - 13	Agricultural Marketing .....	3
AGBS - 17	Agricultural Sales and Communication .....	3
AGBS - 18	Agricultural Computer Applications .....	3
MECH - 31	Equipment Safety .....	1
Plus 15 units from these electives: (15 Units)		
AGBS - 14	Farm Management .....	3
AGBS - 30A	Elements of Agricultural Leadership .....	2
AGBS - 30B	Agriculture Leadership - Personal Development .....	2
AGBS - 30C	Agriculture Leadership - Team Leadership .....	2

AGBS - 31A	Agricultural Ambassadors - Introduction .....	2
AGBS - 31B	Agricultural Ambassadors - Recruitment .....	2
AGBS - 31C	Agricultural Ambassadors - Public Relations .....	2
AGRI - 10	Agriculture, Environment, and Society .....	3
ANSC - 10	Elements of Animal Science .....	3
ANSC - 13	Animal Disease and Parasite Control .....	3
ANSC - 14	Elements of Animal Nutrition .....	3
CROP - 10	Elements of Cereal Grain Production .....	3
CROP - 12	Commercial Vegetable and Garden Production .....	3
CROP - 13	Forage Crops .....	3
LAND - 11	Elements of Landscape Horticulture .....	3
LAND - 16	Plant Propagation .....	3
PLSC - 10	Elements of Plant Science .....	3
SOIL - 10	Soil Science .....	3
Total: (34 Units)		

Suggested Sequence:

Fall 1		
AGBS - 10	Introduction to Agriculture Business .....	3
AGBS - 11	Agricultural Economics .....	3
AGBS - 13	Agricultural Marketing .....	3
AGBS - 18	Agricultural Computer Applications .....	3
Electives	.....	9
Spring 1		
AGBS - 12	Agricultural Accounting .....	3
AGBS - 17	Agricultural Sales and Communication .....	3
MECH - 31	Equipment Safety .....	1
Electives	.....	6

**Animal Science Certificate (01100.CT)**

A Certificate of Achievement in Animal Science will be awarded upon the satisfactory completion of the curriculum listed below, with a minimum grade of a "C" in each course in the certificate and maintain a 2.0 GPA.

Program Student Learning Outcomes

- A. Demonstrate necessary skills in genetics, reproduction, nutrition, and housing in order to operate efficient and profitable livestock operations.
- B. Identify proper production practices, good animal health, proper animal nutrition, and good reproduction and management practices.
- C. Demonstrate the ability to perform calculations needed in the field, use good communication skills, and apply good computer skills in the animal industry.
- D. Demonstrate the ability to learn and develop skills to deal with potential changes and diversity in animal science and other related industries.
- E. Appraise diverse ethical practices within the livestock industry.

Program Requirements:

Program Core: (36 Units)		
AGBS - 18	Agricultural Computer Applications .....	3
ANSC - 10	Elements of Animal Science .....	3
ANSC - 12	Livestock Breeding and Selection .....	3
ANSC - 13	Animal Disease and Parasite Control .....	3
ANSC - 14	Elements of Animal Nutrition .....	3
CROP - 13	Forage Crops .....	3
MECH - 31	Equipment Safety .....	1
Three unit animal production course from the following list: (3 Units)		
ANSC - 16	Horse Husbandry .....	3
ANSC - 17	Beef Production .....	3
ANSC - 18	Sheep and Meat Goat Science .....	3
ANSC - 19	Swine Production .....	3
DAIR - 10	Elements of Dairy .....	3
Plus 14 units from these electives: (14 Units)		
Including any courses above, not already used. (3-12)		
AGBS - 12	Agricultural Accounting .....	3
ANSC - 30	Fitting, Showing, and Merchandising Livestock ....	1.5*
MECH - 12	Agriculture Equipment - Fall .....	3
WELD - 06	Fundamentals of Oxy-Fuel Welding and Shielded Metal Arc Welding .....	3

NOTE: \*Course can be repeated

Total: (36 Units) Suggested Sequence: 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	Agriculture Equipment - Fall .....	3
Production Class in Rotation		
ANSC - 16	Horse Husbandry .....	3
ANSC - 17	Beef Production .....	3
ANSC - 18	Sheep and Meat Goat Science .....	3
ANSC - 19	Swine Production .....	3
DAIR - 10	Elements of Dairy .....	3
Spring 1		
ANSC - 12	Livestock Breeding and Selection .....	3
ANSC - 14	Elements of Animal Nutrition .....	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

**Compact Power Equipment Certificate (01453.CN)**

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. Evaluate if the path of repair was correct by testing and/or completing a work order/report.

Program Requirements:

Program Core: (19-21 Units)		
MECH - 15	Small Engine Repair/Maintenance .....	3
MECH - 21	Hydraulics .....	3
MECH - 22A	Diesel Engines .....	4
MECH - 26	Power Equipment Electrical Systems .....	3
MECH - 30	Equipment Mechanics Skills .....	2
MECH - 35	Compact Power Equipment .....	3
Plus one course from the following:		
MECH - 12	Agriculture Equipment - Fall .....	3
MECH - 13	Agriculture Equipment - Spring .....	3
MECH - 31	Equipment Safety .....	1
Total: (19-21 Units)		

**Crop Science Certificate (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.

Program Requirements:  
Program Core: (37 Units)

CROP - 10	Elements of Cereal Grain Production .....	3
CROP - 12	Commercial Vegetable and Garden Production .....	3
PLSC - 12	Weeds .....	3
SOIL - 10	Soil Science .....	3
SOIL - 11	Fertilizers and Soil Amendments .....	3
MECH - 12	Agriculture Equipment - Fall .....	3
MECH - 31	Equipment Safety .....	1
Plus 18 additional units from the following electives:		
AGBS - 18	Agricultural Computer Applications .....	3
CROP - 13	Forage Crops .....	3
FPRO - 13	Fruit Tree Maintenance .....	3
MECH - 21	Hydraulics .....	3
MECH - 22A	Diesel Engines .....	4
PLSC - 13	Economic Entomology .....	3
LAND - 16	Plant Propagation .....	3
Total: (37 Units)		

**Suggested Sequence:**

Fall 1		
CROP - 10	Elements of Cereal Grain Production .....	3
PLSC - 13	Economic Entomology .....	3
Spring 1		
CROP - 12	Commercial Vegetable and Garden Production .....	3
SOIL - 10	Soil Science .....	3
Fall 2		
FPRO - 13	Fruit Tree Maintenance .....	3
SOIL - 11	Fertilizers and Soil Amendments .....	3
Spring 2		
CROP - 13	Forage Crops .....	3
PLSC - 12	Weeds .....	3

**Diesel Equipment Technology Certificate (01200.CT)**

A Certificate of Achievement in Diesel Equipment Technology will be awarded upon successful completion of 33-35 units from the major requirements listed below with a minimum grade of C in each course required for the certificate.

**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. Evaluate the path of repair by testing and/or completing a work order/report.

**Program Requirements:**

Program Core: (32 Units)		
MECH - 21	Hydraulics .....	3
MECH - 22A	Diesel Engines .....	4
MECH - 23	Diesel Fuel Systems Diagnostics .....	2
MECH - 24	Power Trains .....	4
MECH - 26	Power Equipment Electrical Systems .....	3
MECH - 27	Applied Diesel Technical Skills .....	2
MECH - 30	Equipment Mechanics Skills .....	2
MECH - 32	Applied Electrical and Hydraulic Service .....	3
MECH - 33	Power Equipment Air Conditioning .....	2
MECH - 51	Truck Brake and Chassis .....	4
MECH - 08	Applied Mechanical Welding .....	3
Plus one of the following courses: (1-3 Units)		
MECH - 12	Agriculture Equipment - Fall .....	3
MECH - 13	Agriculture Equipment - Spring .....	3
MECH - 31	Equipment Safety .....	1
Total: (33-35 Units)		

**Suggested Sequence:**

Fall 1

MECH - 21	Hydraulics .....	3
MECH - 22A	Diesel Engines .....	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
Spring 1		
MECH - 23	Diesel Fuel Systems Diagnostics .....	2
MECH - 24	Power Trains .....	4
MECH - 27	Applied Diesel Technical Skills .....	2
MECH - 32	Applied Electrical and Hydraulic Service .....	3
MECH - 51	Truck Brake and Chassis .....	4
MECH - 08	Applied Mechanical Welding .....	3

**Equine Science and Management Certificate (01225.CT)**

A Certificate of Achievement in Equine Science and Management will be awarded upon the satisfactory completion of the curriculum listed below, with a minimum grade of a "C" in each course in the certificate and maintain a 2.0 GPA.

**Program Student Learning Outcomes**

- A. Evaluate the scientific principles of Horse Management.
- B. Develop skills to deal with potential changes and diversity in Horse Management and related industries.
- C. Appraise diverse ethical practices within the equine industry.

**Program Requirements:**

Program Core: (30 Units)		
AGBS - 12	Agricultural Accounting .....	3
AGBS - 18	Agricultural Computer Applications .....	3
ANSC - 10	Elements of Animal Science .....	3
ANSC - 14	Elements of Animal Nutrition .....	3
ANSC - 16	Horse Husbandry .....	3
CROP - 13	Forage Crops .....	3
MECH - 31	Equipment Safety .....	1
WELD - 06	Fundamentals of Oxy-Fuel Welding and Shielded Metal Arc Welding .....	3

**Eight units from the following electives: (8 Units)**

AGBS - 13	Agricultural Marketing .....	3
ANSC - 12	Livestock Breeding and Selection .....	3
ANSC - 13	Animal Disease and Parasite Control .....	3
ANSC - 40	Beginning Horsemanship (Western) .....	2
ANSC - 41	Intermediate Horsemanship (Western) .....	2
MECH - 12	Agriculture Equipment - Fall .....	3
Total: (30 Units)		

**General Agriculture Certificate (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.

Program Requirements:

Program Core: (37 Units)

AGBS - 18	Agricultural Computer Applications	3
AGRI - 10	Agriculture, Environment, and Society	3
ANSC - 10	Elements of Animal Science	3
LAND - 11	Elements of Landscape Horticulture	3
MECH - 31	Equipment Safety	1

Plus 24 units from the following areas:

Agriculture Business

AGBS - 10	Introduction to Agriculture Business	3
AGBS - 12	Agricultural Accounting	3
AGBS - 13	Agricultural Marketing	3
AGBS - 17	Agricultural Sales and Communication	3

Animal Science

ANSC - 13	Animal Disease and Parasite Control	3
ANSC - 14	Elements of Animal Nutrition	3
ANSC - 30	Fitting, Showing, and Merchandising Livestock	1.5

Crop Science/Plant Science/Soil Science

CROP - 10	Elements of Cereal Grain Production	3
CROP - 12	Commercial Vegetable and Garden Production	3
CROP - 13	Forage Crops	3
PLSC - 13	Economic Entomology	3
SOIL - 11	Fertilizers 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 - 10	Agricultural and Industrial Technical Skills	3
MECH - 15	Small Engine Repair/Maintenance	3
MECH - 35	Compact Power Equipment	3

Total: (37 Units)

**Landscape Horticulture Certificate (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

- Given an area to be landscaped and customer parameters, plan a workable landscape design including the bid and customer presentation.
- 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.
- Identify and select the most appropriate plants and trees with the decision based on the environment conditions, plant characteristics and customer preferences.
- 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.

Program Requirements:

Program Core: (37 Units)

LAND - 10A	Plant Identification and Usage -Fall	3
or		
LAND - 10B	Plant Identification and Usage -Spring	3
LAND - 11	Elements of Landscape Horticulture	3
LAND - 12	Landscape Design	3
LAND - 14	Landscape Construction and Installation	3
MECH - 31	Equipment Safety	1
PLSC - 10	Elements of Plant Science	3
SOIL - 10	Soil Science	3

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/Maintenance	3
or		
MECH - 35	Compact Power Equipment	3

PLSC - 13	Economic Entomology	3
LAND - 16	Plant Propagation	3
SOIL - 11	Fertilizers and Soil Amendments	3

Total: (37 Units)

**Mechanized Agriculture Technology Certificate (01450.CT)**

A Certificate of Achievement in Mechanized Agriculture Technology will be awarded upon completion of the 34 units from the major requirements listed below with a minimum grade of C in each course required for the certificate.

Program Student Learning Outcomes

- Explain the basic theory of the subject matter or system for the course of instruction based on industry standards.
- Analyze a scenario based upon an equipment system failure/problem/complaint.
- Employ a systematic approach to troubleshooting a system malfunction and prepare a solution.
- Demonstrate the correct tools/supplies required to diagnose/repair a malfunction
- Evaluate the path of repair by testing and/or completing a work order/report.

Program Requirements:

Program Core: (34 Units)

MECH - 12	Agriculture Equipment - Fall	3
MECH - 21	Hydraulics	3
MECH - 22A	Diesel Engines	4
MECH - 23	Diesel Fuel Systems Diagnostics	2
MECH - 24	Power Trains	2
MECH - 26	Power Equipment Electrical Systems	3
MECH - 27	Applied Diesel Technical Skills	2
MECH - 30	Equipment Mechanics Skills	2
MECH - 32	Applied Electrical and Hydraulic Service	3
MECH - 33	Power Equipment Air Conditioning	2
MECH - 35	Compact Power Equipment	3
MECH - 08	Applied Mechanical Welding	3

Total: (34 Units)

Suggested Sequence:

Fall 1		
MECH - 12	Agriculture Equipment - Fall	3
MECH - 21	Hydraulics	3
MECH - 22A	Diesel Engines	4
MECH - 26	Power Equipment Electrical Systems	3
MECH - 30	Equipment Mechanics Skills	2
MECH - 33	Power Equipment Air Conditioning	2
Spring 1		
MECH - 23	Diesel Fuel Systems Diagnostics	2
MECH - 24	Power Trains	4
MECH - 27	Applied Diesel Technical Skills	2
MECH - 32	Applied Electrical and Hydraulic Service	3
MECH - 35	Compact Power Equipment	3
WELD - 06	Fundamentals of Oxy-Fuel Welding and Shielded Metal Arc Welding	3

# Business

## Associate of Science for Transfer

### Business Administration, A.S.-T. (05100.AST)

The Associate in Science in Business Administration for Transfer degree is designed for students looking to obtain a well-rounded education in Business Administration. Upon completion, students with an AS-T in Business Administration will be eligible to transfer with junior standing into an equivalent major within the California State University (CSU) system. Students will be given priority consideration when applying to a particular program that is similar to the student's community college area of emphasis.

For an Associate in Science in Business Administration for Transfer (AST), students must complete 60 semester units that are eligible for transfer to the California State University with a minimum grade point average of 2.0, including both of the following:

1. Certification of the Inter-segmental General Education Transfer Curriculum (IGETC) or the California State University General Education-Breadth Requirements.
2. A minimum of 27-28 semester units from the lists below (Required Core, List A, & List B), with a minimum grade of a C in each class.
3. Complete a maximum of 60 semester CSU-transferable units, with a minimum grade point average of 2.0.

Note: Students are not required to complete any additional local graduation requirements for the AS-T (e.g., PE and Computer and Information Literacy courses).

#### Program Student Learning Outcomes:

- A. Communicate interpersonally in order to establish positive business relationships using oral, written, and electronic media.
- B. Formulate recommendations for courses of action based on identifying and analyzing a business' strengths, weaknesses, opportunities and threats.
- C. Demonstrate awareness of the economic, environmental, social, political, ethical, legal, regulatory, and technological factors affecting business.
- D. Develop management skills to work effectively, respectfully, ethically, and professionally with people of diverse age, gender, ethnicity, and culture.

#### Program Requirements:

##### Program Core: (27-28 Units)

ACTG - 04A	Financial Accounting .....	4
ACTG - 04B	Managerial Accounting .....	4
BUS - 18A	Business Law .....	4
ECON - 01	Introduction to Microeconomics .....	3
ECON - 02	Introduction to Macroeconomics .....	3

##### List A:

Select 1 of the following:

MATH - 10	Elementary Statistics .....	3
MATH - 15	Finite Mathematics .....	3

##### List B:

Select 2 of the following:

Any course from list A not used above .....	3	
BUS - 10	Introduction to Business .....	3
CPSC - 01	Introduction to Computer Information Systems .....	4

Additional courses toward IGETC or CSU GE certification and transferable electives: (38-40 Units)

Intersegmental General Education Transfer Curriculum

or

CSU-General Education Breadth Certification Requirements

Total: (60 Units)

#### Suggested Sequence:

Fall 1		
ECON - 01	Introduction to Microeconomics .....	3

BUS - 10	Introduction to Business .....	3
or		
CPSC - 01	Introduction to Computer Information Systems .....	4
Spring 1		
ACTG - 04A	Financial Accounting .....	4
ECON - 02	Introduction to Macroeconomics .....	3
Fall 2		
ACTG - 04B	Managerial Accounting .....	4
MATH - 15	Finite Mathematics .....	3
Spring 2		
BUS - 18A	Business Law .....	4
MATH - 10	Elementary Statistics .....	3

### Computer Science, A.S.-T. (07200.AST)

The Associate in Science in Computer Science for transfer is designed for students pursuing degrees in Computer Science or Computer Engineering. Upon completion of the transfer associate degree, the student is eligible for transfer with junior standing into the California State University (CSU) system. Students will be given priority consideration when applying to a particular program that is similar to the student's community college area of emphasis.

For an Associate in Science in Computer Science for Transfer (AS-T), students must complete the following:

1. Certification of the CSU Inter-segmental General Education Transfer Curriculum (IGETC) Requirements, with a minimum grade point average of 2.0.
2. The required core 29 units, with a minimum grade of a C in each class.
3. Complete a maximum of 60 semester CSU-transferable units, with a minimum grade point average of 2.0.

Note: Students are not required to complete any additional local graduation requirements for the AS-T (e.g., PE and Computer and Information Literacy courses).

#### Program Student Learning Outcomes:

- A. Demonstrate the ability to understand the ethical, mathematical, and physical concepts that under lie computer science.
- B. Demonstrate the ability to understand the different levels of abstraction that comprise computer science.
- C. Create efficient, working computer programs that use fundamental programming constructs to solve real-life problems.

#### Program Requirements:

##### Program Core: (29 Units)

CPSC - 06	Programming Concepts and Methodology I .....	3
or		
CPSC - 14	C++ Programming .....	3
or		
ENGR - 14	C++ Programming .....	3

CPSC - 39	Programming Concepts and Methodology II .....	4
CPSC - 42	Computer Architecture and Organization .....	3

CPSC - 07	Discrete Structures .....	3
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or

MATH - 07	Discrete Structures .....	3
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MATH - 04A	Calculus I .....	4
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MATH - 04B	Calculus II .....	4
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PHYS - 04A	Physics I .....	4
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PHYS - 04B	Physics II .....	4
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Additional courses toward IGETC certification and transferable electives: (31 Units)

Intersegmental General Education Transfer Curriculum

Total: (60 Units)

#### Note:

Care should be taken in selecting courses appropriate to meet the student's

professional and intended transfer institution requirements.

Suggested Sequence:

Fall 1	
CPSC - 06	Programming Concepts and Methodology I ..... 3
or	
CPSC - 14	C++ Programming ..... 3
MATH - 04A	Calculus I ..... 4
3 GE classes	9
Spring 1	
CPSC - 39	Programming Concepts and Methodology II ..... 4
MATH - 04B	Calculus II ..... 4
3 GE classes	9
Fall 2	
CPSC - 42	Computer Architecture and Organization ..... 3
PHYS - 04A	Physics I ..... 4
2 GE classes	6
Spring 2	
CPSC - 07	Discrete Structures ..... 3
or	
MATH - 07	Discrete Structures ..... 3
PHYS - 04B	Physics II ..... 4
2 GE classes	6

**Nutrition and Dietetics, A.S.-T. (13160.AST)**

The Foods and Nutrition Department at Merced College offers students a robust and interesting curriculum. It is designed to provide students with understanding in food safety, nutrition and food preparation and be able to utilize those skills in a management setting. The primary goals of the Associate in Science in Nutrition and Dietetic for Transfer are: 1) To enable students to demonstrate an understanding of the fundamental principles of chemistry and 2) To analyze nutrition with a focus on the scientific processes of nutrients 3) To help students compare properties of food composition in preparation and 4) To identify critical components, and prevention procedures for food safety and sanitation. The Associate in Science in Nutrition and Dietetic for Transfer degree is designed to prepare students for a seamless transfer into the CSU system to complete a baccalaureate degree in Nutrition and Dietetic or similar major. Upon completion, students with an Associate in Science in Nutrition and Dietetics for Transfer will be eligible to transfer with junior standing into an equivalent major within the California State University (CSU) system.

Program Student Learning Outcomes

- A. Demonstrate an understanding of the fundamental principles of chemistry by solving problems utilizing concepts and equations.
- B. Analyze Nutrition with a focus on the scientific processes of nutrients including digestion and absorption.
- C. Compare properties of food composition in preparation including phytochemicals.
- D. Evaluate critical components, and prevention of food borne illness for food safety and sanitation.

For an Associate in Science in Nutrition and Dietetics for Transfer (AS-T), students must complete the following:

- 1. 60 semester CSU-transferable units.
- 2. the California State University-General Education-Breadth pattern (CSU GE-Breadth); OR the Intersegmental General Education Transfer Curriculum (IGETC) pattern.
- 3. a minimum of 18 semester in the major or area of emphasis as determined by the community college district.
- 4. Obtainment of a minimum grade point average (GPA) of 2.0.
- 5. earn a grade of C or better in all courses required for the major or area of emphasis.

Note: Students are not required to complete any additional local graduation requirements for the AS-T (e.g., PE and Computer and Information Literacy courses).

Program Requirements:

Program Core: (25-28 Units)	
NUTR - 10	Nutrition ..... 3
BIOL - 20	Microbiology ..... 4
CHEM - 04A	General Chemistry I ..... 5
PSYC - 01A	Introduction to Psychology ..... 3
or	
PSYC - 01AH	Honors Introduction to Psychology ..... 3
List A: (7-10 Units)	
Select 2 courses from the following:	
BIOL - 16	General Human Anatomy ..... 4
or	
BIOL - 18	Principles of Physiology ..... 4
CHEM - 04B	General Chemistry II ..... 5
CHEM - 12A	Organic Chemistry I ..... 5
MATH - 10	Elementary Statistics ..... 3
or	
PSYC - 05	Introduction to Statistics in Psychology ..... 3
List B: (3-4 Units)	
Select 1 course from the following:	
NUTR - 20	Principles of Foods ..... 3
General Education Pattern: (37-39 Units)	
Intersegmental General Education Transfer Curriculum	
or	
CSU-General Education Breadth Certification Requirements	
Electives (as needed) (CSU transferrable): (5-12 Units)	
Double-Counted: (10-16 Units)	
Total: (60 Units)	

**Associate of Arts**

**Accounting, A.A. (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.

Program Requirements:

Program Core: (30 Units)	
ACTG - 04A	Financial Accounting ..... 4
ACTG - 04B	Managerial Accounting ..... 4
ACTG - 31	Computerized Accounting ..... 2
ACTG - 51	Applied Accounting ..... 4
AOM-30	Introduction to Computer Applications ..... 3
BUS - 10	Introduction to Business ..... 3
BUS - 18A	Business Law ..... 4
Plus six units from the following:	
ACTG - 52	Payroll Records and Accounting ..... 3
ACTG - 53	Fundamentals of Income Tax Accounting ..... 3
Total: (30 Units)	

Suggested electives include:

CPSC - 01	Introduction to Computer Information Systems ..... 4
ECON - 01	Introduction to Microeconomics ..... 3
ECON - 02	Introduction to Macroeconomics ..... 3



MATH - 10	Elementary Statistics .....	3
MATH - 15	Finite Mathematics .....	3
Suggested Sequence:		
Fall 1		
ACTG - 51	Applied Accounting .....	4
BUS - 10	Introduction to Business .....	3
Spring 1		
ACTG - 04A	Financial Accounting .....	4
ACTG - 31	Computerized Accounting .....	2
Fall 2		
ACTG - 04B	Managerial Accounting .....	4
Plus three units from the following:		
ACTG - 52	Payroll Records and Accounting .....	3
ACTG - 53	Fundamentals of Income Tax Accounting .....	3
Spring 2		
BUS - 18A	Business Law .....	4
Plus three units from the following:		
ACTG - 52	Payroll Records and Accounting .....	3
ACTG - 53	Fundamentals of Income Tax Accounting .....	3

**Administrative Medical Office Professional, A.A. (05007.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. Produce effective administrative documents by using computer applications.
- B. Apply correct medical billing and coding procedures.
- C. Understand the role of an administrative office professional.

**Program Requirements:**

**Program Core: (23 Units)**

AOM 30	Introduction To Computer Applications .....	3
AOM 43	Essentials of Business Communication .....	3
AOM 50B	Document Formatting .....	3
AOM 50C	Learn To Type .....	1
AOM 52C	Keyboarding Speed and Accuracy .....	1
AOM 56	Office Procedures .....	3
AOM 58A	Web Site Development .....	2
AOM 59A	Medical Coding and Billing .....	4
VIRT 51	Social Media .....	3
Total: (23 Units)		

**Suggested Sequence:**

Fall 1		
AOM - 50C	Learn to Type .....	1
AOM - 52C	Keyboarding Speed and Accuracy .....	1
AOM - 30	Introduction to Computer Applications .....	3
Spring 1		
AOM - 59A	Medical Billing and Coding .....	4
AOM - 50B	Document Formatting .....	3
Fall 2		
AOM - 58A	Website Development .....	2
AOM - 56	Office Procedures .....	3
Spring 2		
AOM - 43	Essentials of Business Communication .....	3
VIRT - 51	Social Media .....	3

Note:  
Classes interchangeable between semesters

**Administrative Office Professional, A.A. (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. Produce effective administrative documents by using computer applications.
- B. Utilize appropriate social media for a business environment ethically and effectively.
- C. Understand the role of the administrative office professional.

**Career Opportunities:**

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

**Program Requirements:**

**Program Core: (19 Units)**

AOM - 30	Introduction To Computer Applications .....	3
AOM - 43	Essentials of Business Communication .....	3
AOM - 50B	Document Formatting .....	3
AOM - 50C	Learn to Type .....	1
AOM - 52C	Keyboarding Speed and Accuracy .....	1
AOM - 56	Office Procedures .....	3
AOM - 58A	Web Site Development .....	2
VIRT - 51	Social Media .....	3
Total: (19 Units)		

**Suggested Sequence:**

Fall 1		
AOM - 50C	Learn to Type .....	1
AOM - 52C	Keyboarding Speed and Accuracy .....	1
AOM - 58A	Website Development .....	2
AOM - 30	Introduction to Computer Applications .....	3
Spring 1		
AOM - 50B	Document Formatting .....	3
AOM - 56	Introduction To Computer Applications .....	3
Fall 2		
AOM - 43	Essentials of Business Communication .....	3
VIRT - 51	Social Media .....	3

**General Business, A.A. (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 lifelong 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.

**Program Requirements:**

Program Core: (23 Units)

ACTG - 51	Applied Accounting .....	4
AOM - 50B	Document Formatting .....	3
BUS - 10	Introduction to Business .....	3
BUS - 18A	Business Law .....	4
BUS - 35	Money Management .....	3
AOM-30	Introduction to Computer Applications .....	3
ECON - 02	Introduction to Macroeconomics .....	3

Total: (23 Units)

Suggested electives include:

MGMT - 31	Principles of Management .....	3
MGMT - 37	Small Business Entrepreneurship .....	3
MKTG - 30	Principles of Marketing .....	3
MKTG - 31	Retailing and E-Commerce .....	3
MKTG - 33	Advertising .....	3

**Note:**

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.

**Suggested Sequence:**

Fall 1

ACTG - 51	Applied Accounting .....	4
AOM - 50B	Document Formatting .....	3
BUS - 10	Introduction to Business .....	3

Spring 1

BUS - 35	Money Management .....	3
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Summer I

BUS - 10	Introduction to Business .....	3
BUS - 35	Money Management .....	3

Fall 2

ECON - 02	Introduction to Macroeconomics .....	3
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Suggested elective:

CPSC - 01	Introduction to Computer Information Systems .....	4
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Spring 2

BUS - 18A	Business Law .....	4
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Suggested electives:

BUS - 49A-ZZ	Special Topics in Business .....	5-3
MGMT - 31	Principles of Management .....	3
MGMT - 33	Elements of Effective Leadership .....	3

**Management, Supervisory Training, A.A. (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.

**Program Requirements:**

Program Core: (26-27 Units)

BUS-18A	Business Law .....	4
and		
ECON-02	Introduction to Macroeconomics .....	3
and		
MGMT-31	Principles of Management .....	3
and		
MGMT-32	Human Resource Management .....	3
and		
MGMT-33	Elements of Effective Leadership.....	3
and		
ACTG-04A	Financial Accounting .....	4
or		
ACTG-51A	Applied Accounting .....	4
and		
CPSC-01	Introduction to Computer Information Systems.....	4
or		
AOM-30	Introduction to Computer Applications .....	3
and		
MGMT-50-52 Series	Management 50 Series .....	3

Total: (26-27 Units)

Suggested electives include:

BUS - 10	Introduction to Business .....	3
BUS - 35	Money Management .....	3
BUS - 49A-ZZ	Special Topics in Business .....	5-3
COMM - 04	Small Group Discussion and Problem Solving .....	3
ECON - 01	Introduction to Microeconomics .....	3
MGMT - 37	Small Business Entrepreneurship .....	3
MGMT-50 Management Series	Units(s): ½ - 3 ½	
MGMT-51 Management Series	Units(s): ½ - 3 ½	
MGMT-52 Management Series	Units(s): ½ - 3 ½	

**Nutrition and Foods, A.A. (13161.AA)**

An Associate in Arts Degree in Nutrition and Foods prepares students for entry-level management/supervisory roles in the food service area. Upon satisfactory completion (a minimum grade of a "C" is required in all courses and maintain a 2.0 GPA) students will receive their Dietetic Service Supervisor Certificate as well as their AA Degree. Students completing this degree have demonstrated the knowledge and hands on experience with specialized coursework in their area of interest to work effectively in the field of Nutrition and Foods. Students must pass the ServSafe Manager or equivalent Food Safety Certification, earn a minimum of a "C" in each major course, maintain a 2.0 GPA, and meet the graduation requirements.

**Program Student Learning Outcomes**

- A. Produce safe, satisfying and nutritionally adequate food for patients/customers with attention to available resources.
- B. Examine supervisory skills in a food service setting including the ability to train in food safety, participate in quantity meal production and create menus for special populations.
- C. Formulate effective communication in a food service setting with diverse cultures.
- D. Utilize materials in the specialization coursework

**Program Requirements:**

Program Core: (28 Units)

NUTR - 10	Nutrition .....	3
NUTR - 20	Principles of Foods .....	3
NUTR - 37	Nutrition and Food Service Supervised Field Experience .....	3
NUTR - 40	Food Service Management .....	3
NUTR - 42	Quantity Food Preparation .....	3
NUTR - 44	Food Safety and Sanitation .....	2
NUTR - 45	Introduction to Therapeutic Diets .....	2

Management Courses: (2 Units)

MGMT - 50A	Challenges of Leadership: Difficult People/Tough	
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	Conversations .....	0.5
MGMT - 50B	Values and Ethics .....	0.5
MGMT - 50C	Time Management .....	0.5
MGMT - 50D	Communication in the Workplace .....	0.5
MGMT - 50F	Team Building .....	0.5
MGMT - 50G	Decision Making and Problem Solving .....	0.5
MGMT - 50H	Customer Service .....	0.5
MGMT - 50I	Attitude in the Workplace .....	0.5
MGMT - 50J	Thrive and Survive in the Workplace .....	0.5
MGMT - 50K	Generational Diversity. Managing Cross Generational Teams .....	0.5
MGMT - 50L	Authentic Leadership: Know Yourself/Lead Your People .....	0.5
MGMT - 50M	Cultural Diversity .....	0.5
MGMT - 50N	Employee Engagement .....	0.5
MGMT - 50P	Emotional Intelligence .....	0.5
MGMT - 50S	Leading With Your Strengths .....	0.5
MGMT - 51C	Leadership Essentials. What Emerging Leaders Need to Know .....	0.5
MGMT - 51F	Conflict Resolution .....	0.5
MGMT - 51G	Stress Management .....	0.5
MGMT - 52C	Successful Business Speaking .....	0.5
MGMT - 52D	Managing Organizational Change .....	0.5
Restricted Electives from the following courses: (7 Units)		
AOM - 30	Introduction To Computer Applications .....	3
NUTR - 24	Work Experience in Nutrition .....	1-8
NUTR - 41	Infant and Toddler Feeding .....	1
NUTR - 43	Children and Weight Concerns .....	1
NUTR - 50	Baking Basics and Business .....	1.5
NUTR - 60	Sports and Exercise Nutrition .....	3
NUTR - 70A-ZZ	Special Topics in Foods and Nutrition .....	1-3
PLSC - 10	Elements of Plant Science .....	3
GE Pattern MCCD GE Breadth: (23 Units)		
Associate Degree Breadth Requirements		
Electives (as needed) (CSU transferrable): (12-15 Units)		
Double-Counted: (3-6 Units)		
Total: (60 Units)		
Suggested Sequence:		
Fall 1		
NUTR - 20	Principles of Foods .....	3
NUTR - 40	Menu Planning for Food Service Operations .....	3
NUTR - 44	Food Safety and Sanitation .....	2
Spring 1		
NUTR - 37	Nutrition and Food Service Supervised Field Experience .....	3
NUTR - 42	Quantity Food Preparation .....	3
NUTR - 45	Introduction to Therapeutic Diets .....	2
Fall 2 and Spring 2		
AOM - 30	Introduction To Computer Applications .....	3
NUTR - 10	Nutrition .....	3
NUTR - 41	Infant and Toddler Feeding .....	1
NUTR - 43	Children and Weight Concerns .....	1
PLSC - 10	Elements of Plant Science .....	3

**Small Business Entrepreneurship, A.A. (05700.AA)**  
 An Associate in Arts Degree in Small Business Entrepreneurship is available upon satisfactory completion of the graduation requirements and completing the 30 units of course work.

- Program Student Learning Outcomes
- Perform an analysis to assess a new business' potential in the external environment in order to distinguish between a business idea and a business opportunity;
  - Prepare and analyze financial information associated with starting up a new business and maintaining an existing business;
  - Write a business plan suitable for presentation to potential investors and/or financial lending institutions and present it to an audience;
  - Learn techniques to manage, promote, and finance a new business venture using pertinent and current methods.

Program Requirements:  
 Program Core: (30 Units)

ACTG - 31	Computerized Accounting .....	2
AOM-30	Introduction to Computer Applications .....	3
BUS - 10	Introduction to Business .....	3
BUS - 35	Money Management .....	3
AOM - 43	Essentials of Business Communication .....	3
MGMT - 31	Principles of Management .....	3
MGMT - 33	Elements of Effective Leadership .....	3
MGMT - 37	Small Business Entrepreneurship .....	3
MGMT - 30	Principles of Marketing .....	3
MKTG - 33	Advertising .....	3

Required:  
 Select two courses from Management Series:

MGMT - 50A	Challenges of Leadership: Difficult People/Tough Conversations .....	0.5
MGMT - 50B	Values and Ethics .....	0.5
MGMT - 50C	Time Management .....	0.5
MGMT - 50D	Communication in the Workplace .....	0.5
MGMT - 50F	Team Building .....	0.5
MGMT - 50G	Decision Making and Problem Solving .....	0.5
MGMT - 50H	Customer Service .....	0.5
MGMT - 50I	Attitude in the Workplace .....	0.5
MGMT - 50J	Thrive and Survive in the Workplace .....	0.5
MGMT - 51C	Leadership Essentials. What Emerging Leaders Need to Know .....	0.5
MGMT - 51F	Conflict Resolution .....	0.5
MGMT - 51G	Stress Management .....	0.5
MGMT - 52C	Successful Business Speaking .....	0.5
MGMT - 52D	Managing Organizational Change .....	0.5
Total: (30 Units)		

Suggested Sequence:

1st Semester: (17 units)

ACTG - 04A	Financial Accounting .....	4 (prerequisite for ACTG 31)
or		
ACTG - 51	Applied Accounting .....	4 (prerequisite for ACTG 31)
BUS - 10	Introduction to Business .....	3
MGMT - 31	Principles of Management .....	3
MGMT-50-53	2 classes .....	1
MKTG - 30	Principles of Marketing .....	3
2nd Semester: (17 units)		
ACTG - 31	Computerized Accounting .....	2
BUS - 35	Money Management .....	3
AOM - 43	Essentials of Business Communication .....	3
MGMT - 33	Elements of Effective Leadership .....	3
MGMT - 37	Small Business Entrepreneurship .....	3
MKTG - 33	Advertising .....	3

**Associate of Science**

**Management Information Systems, A.S. (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
- Students will understand the mathematical and scientific concepts that underlie management information systems.
  - Students will apply the cognitive method to analyze, synthesize and evaluate academic and real life problems relating to business and management.
  - Students will assess requirements of an information system.
  - Students will demonstrate an appreciation for lifelong learning.

Program Requirements:  
 Program Core: (31 Units)

ACTG - 04A	Financial Accounting .....	4
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ACTG - 04B	Managerial Accounting .....	4
BUS - 18A	Business Law .....	4
CPSC - 01	Introduction to Computer Information Systems .....	4
CPSC - 05A	Application Development and Programming .....	3
CPSC - 06	Programming Concepts and Methodology I .....	3
ECON - 02	Introduction to Macroeconomics .....	3
MATH - 10	Elementary Statistics .....	3
Plus at least three units from the following courses:		
MATH - 04A	Calculus I .....	4
MATH - 15	Finite Mathematics .....	3
Total: (31 Units)		

Note:  
Care should be taken in selecting courses appropriate to meet the student's professional and intended transfer institution requirements.

Suggested Sequence:

Fall 1		
CPSC - 01	Introduction to Computer Information Systems .....	4
MATH - 10	Elementary Statistics .....	3
Spring 1		
ACTG - 04A	Financial Accounting .....	4
MATH - 15	Finite Mathematics .....	3
and/or		
MATH - 04A	Calculus I .....	4
Fall 2		
CPSC - 05A	Application Development and Programming .....	3
BUS - 18A	Business Law .....	4
ACTG - 04B	Managerial Accounting .....	4
Spring 2		
ECON - 02	Introduction to Macroeconomics .....	3
CPSC - 06	Programming Concepts and Methodology I .....	3

**Marketing, A.S. (05460.AS)**

The Marketing A.S. degree is intended to prepare students for employment in the broad field of marketing, which includes (but is not limited to) sales, promotion, design, copy writing, distribution, research, and public relations. Additionally, the A.S. degree in Marketing can be used to prepare students for transfer to a four year institution where they can earn their bachelor's degree. Potential four year schools offering programs in Marketing include Fresno State University, CSU Stanislaus, San Jose State University, and many others.

Students must meet the graduation requirements as well as the Marketing core requirements. Students must earn a grade of "C" or higher for courses within the Marketing core.

Program Student Learning Outcomes

- A. Recognize the major components of a marketing plan including market segmentation and targeting.
- B. Demonstrate an understanding of the marketing mix.
- C. Analyze the psychological factors affecting the consumer buying process.

Program Requirements:

Program Core: (30 Units)

AOM-30	Introduction to Computer Applications .....	3
ACTG - 04A	Financial Accounting .....	4
or		
ACTG - 51	Applied Accounting .....	4
AOM - 50B	Document Formatting .....	3
or		
BUS - 43	Business Communication .....	3
BUS - 10	Introduction to Business .....	3
BUS - 18A	Business Law .....	4
MKTG - 30	Principles of Marketing .....	3
MKTG - 31	Retailing and E-Commerce .....	3

MKTG - 33	Advertising .....	3
VIRT - 51	Social Media .....	3
VIRT - 56	Introduction to Search Engine Optimization .....	1
GE Pattern MCCD: (23 Units)		
CSU-General Education Breadth Certification Requirements		
or		
Intersegmental General Education Transfer Curriculum		
Electives (as needed): (13 Units)		
Double Counted: (6 Units)		
Total: (60 Units)		

Suggested electives include:

ARTD - 41A	Introduction to Graphic Design .....	3
ARTD - 41B	Intermediate Graphic Design .....	3
BUS - 35	Money Management .....	3
COMM - 05	Interpersonal Communication .....	3
COMM - 30	Introduction to Intercultural Communication .....	3
MGMT - 37	Small Business Entrepreneurship .....	3
PSYC - 05	Introduction to Statistics in Psychology .....	3
or		
MATH - 10	Elementary Statistics .....	3
Suggested Sequence:		
Fall 1		
ACTG - 04A	Financial Accounting .....	4
or		
ACTG - 51	Applied Accounting .....	4
Fall 2		
MGMT - 31	Principles of Management .....	3
Spring 2		
BUS - 18A	Business Law .....	4
MKTG - 30	Principles of Marketing .....	3

**Certificate**

**Accounting Certificate (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 variety of courses of action.

Program Requirements:

Program Core: (30 Units)

ACTG - 04A	Financial Accounting .....	4
ACTG - 04B	Managerial Accounting .....	4
ACTG - 31	Computerized Accounting .....	2
ACTG - 51	Applied Accounting .....	4
AOM-30	Introduction to Computer Applications .....	3
BUS - 10	Introduction to Business .....	3
BUS - 18A	Business Law .....	4
Plus six units from the following:		
ACTG - 52	Payroll Records and Accounting .....	3
ACTG - 53	Fundamentals of Income Tax Accounting .....	3
Total: (30 Units)		

**Administrative Medical Office Professional Certificate (05007.CN)**

A Certificate of Achievement will be awarded upon the successful completion of the 23-unit core listed below.

Program Student Learning Outcomes

- A. Produce effective administrative documents by using computer applications.
- B. Apply correct medical billing and coding procedures.
- C. Understand the role of an administrative office professional.

Program Requirements:  
Program Core: (23 Units)

AOM - 30	Introduction To Computer Applications .....	3
AOM - 43	Essentials of Business Communication .....	3
AOM - 50B	Document Formatting .....	3
AOM - 50C	Learn to Type .....	1
AOM - 52C	Keyboarding Speed and Accuracy .....	1
AOM - 56	Office Procedures .....	3
AOM - 58A	Web Site Development .....	2
AOM - 59A	Medical Coding and Billing .....	4
VIRT - 51	Social Media .....	3
Total: (23 Units)		

**Administrative Office Professional Certificate (05008.CT)**

Certificate of Achievement will be awarded upon the successful completion of core courses.

Program Student Learning Outcomes

- A. Produce effective administrative documents by using computer applications.
- B. Utilize appropriate social media for a business environment ethically and effectively.
- C. Understand the role of an administrative office professional.

Program Requirements:  
Program Core: (19 Units)

AOM - 30	Introduction To Computer Applications .....	3
AOM - 43	Essentials of Business Communication .....	3
AOM - 50B	Document Formatting .....	3
AOM - 50C	Learn to Type .....	1
AOM - 52C	Keyboarding Speed and Accuracy .....	1
AOM - 56	Office Procedures .....	3
AOM - 58A	Web Site Development .....	2
VIRT - 51	Social Media .....	3
Total: (19 Units)		

**Business Information Worker Certificate (05150.CE)**

The Business Information Worker is a job readiness pathway or certificate for office workers, developed in conjunction with local employers.

Enrolled students are prepared in a broad range of entry-level office skills and applications which promote success in a variety of office environments. With a solid foundation in Microsoft Windows and Office as well as strong digital and Web literacy skills, the Business Information Worker brings efficiency and productivity to the work place.

Completion of the Business Information Worker pathway also brings indispensable critical thinking, problem solving, and interpersonal skills to the workplace, essential components of the curriculum.

Program Student Learning Outcomes

- A. Develop the ability to type at least 30 WPM.
- B. Demonstrate the ability to treat customers appropriately.
- C. Develop the ability to effectively communicate in business.
- D. Develop effective use of the computer with an operating system, word processing, spreadsheets, and e-mail.

Program Requirements:

Program Core: (10 Units)

AOM - 30	Introduction To Computer Applications .....	3
AOM - 43	Essentials of Business Communication .....	3
AOM - 50B	Document Formatting .....	3
Management Courses: (1 Unit, any two .50 unit course)		
MGMT - 50A	Challenges of Leadership: Difficult People/Tough Conversations .....	0.5
MGMT - 50B	Values and Ethics .....	0.5
MGMT - 50C	Time Management .....	0.5
MGMT - 50D	Communication in the Workplace .....	0.5
MGMT - 50F	Team Building .....	0.5
MGMT - 50G	Decision Making and Problem Solving .....	0.5
MGMT - 50H	Customer Service .....	0.5
MGMT - 50I	Attitude in the Workplace .....	0.5
MGMT - 50J	Thrive and Survive in the Workplace .....	0.5
MGMT - 50K	Generational Diversity. Managing Cross Generational Teams .....	0.5
MGMT - 50L	Authentic Leadership: Know Yourself/Lead Your People .....	0.5
MGMT - 50M	Cultural Diversity .....	0.5
MGMT - 50N	Employee Engagement .....	0.5
MGMT - 50P	Emotional Intelligence .....	0.5
MGMT - 50S	Leading With Your Strengths .....	0.5
MGMT - 51C	Leadership Essentials: What Emerging Leaders Need to Know .....	0.5
MGMT - 51F	Conflict Resolution .....	0.5
MGMT - 51G	Stress Management .....	0.5
MGMT - 52C	Successful Business Speaking .....	0.5
MGMT - 52D	Managing Organizational Change .....	0.5
Total: (10 Units)		

**Customer Service Academy Certificate (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.

Program Requirements:  
Program Core: (5 Units)

MGMT - 50B	Values and Ethics .....	0.5
MGMT - 50C	Time Management .....	0.5
MGMT - 50D	Communication in the Workplace .....	0.5
MGMT - 50F	Team Building .....	0.5
MGMT - 50G	Decision Making and Problem Solving .....	0.5
MGMT - 50H	Customer Service .....	0.5
MGMT - 50I	Attitude in the Workplace .....	0.5
MGMT - 51F	Conflict Resolution .....	0.5
MGMT - 51G	Stress Management .....	0.5
MGMT - 52D	Managing Organizational Change .....	0.5
Total: (5 Units)		

**Dietetic Services Supervisor Certificate (13180.CN)**

The Dietetic Services Supervisor Program prepares students for entry level management in a food service department. This program fulfills the required training for supervisory positions in acute care hospitals, skilled nursing facilities, acute psychiatric hospitals, intermediate care facilities and school food service. The Merced College Dietetic Service Supervisor Program is approved by the California Department of Public Health.

Upon satisfactory completion(a minimum grade of a "C" is required in all courses) of the 18-unit core listed below, students meet the California Department of Public Health certification licensing requirements for Dietetic Service Supervisor. Earning the Dietetic Service Supervisor

Certificate with appropriate work experience may allow the student to take the Certified Dietary Manager's Exam.

Program Student Learning Outcomes

- A. Demonstrates ability to provide safe, satisfying, and nutritionally adequate food for patients/customers with attention to available resources.
- B. Apply supervisory skills in a food service setting including the ability to train in food safety, participate in quantity meal production and create menus for special populations.

Program Requirements:

Program Core: (18 Units)

NUTR - 20	Principles of Foods .....	3
NUTR - 37	Nutrition and Food Service Supervised Field Experience .....	3
NUTR - 40	Menu Planning for Food Service Operations .....	3
NUTR - 42	Quantity Food Preparation .....	3
NUTR - 44	Food Safety and Sanitation .....	2
NUTR - 45	Introduction to Therapeutic Diets .....	2
Management Courses (select 4 courses): (2 Units)		
MGMT - 50A	Challenges of Leadership: Difficult People/Tough Conversations .....	0.5
MGMT - 50B	Values and Ethics .....	0.5
MGMT - 50C	Time Management .....	0.5
MGMT - 50D	Communication in the Workplace .....	0.5
MGMT - 50F	Team Building .....	0.5
MGMT - 50G	Decision Making and Problem Solving .....	0.5
MGMT - 50H	Customer Service .....	0.5
MGMT - 50I	Attitude in the Workplace .....	0.5
MGMT - 50J	Thrive and Survive in the Workplace .....	0.5
MGMT - 50K	Generational Diversity. Managing Cross Generational Teams .....	0.5
MGMT - 50L	Authentic Leadership: Know Yourself/Lead Your People .....	0.5
MGMT - 50M	Cultural Diversity .....	0.5
MGMT - 50N	Employee Engagement .....	0.5
MGMT - 50P	Emotional Intelligence .....	0.5
MGMT - 50S	Leading With Your Strengths .....	0.5
MGMT - 51C	Leadership Essentials: What Emerging Leaders Need to Know .....	0.5
MGMT - 51F	Conflict Resolution .....	0.5
MGMT - 51G	Stress Management .....	0.5
MGMT - 52C	Successful Business Speaking .....	0.5
MGMT - 52D	Managing Organizational Change .....	0.5
Total: (18 Units)		

Suggested Sequence:

Fall 1		
NUTR - 20	Principles of Foods .....	3
NUTR - 40	Menu Planning for Food Service Operations .....	3
NUTR - 44	Food Safety and Sanitation .....	2
MGMT-50-52 *Management 50-52 Series (4 courses required) .....		
Spring 1		
NUTR - 42	Quantity Food Preparation .....	3
NUTR - 37	Nutrition and Food Service Supervised Field Experience .....	3
NUTR - 45	Introduction to Therapeutic Diets .....	2

Note:

\*MGMT-50-52 courses may be completed during any semester.

**Emerging Leaders Institute Certificate (05250.CO)**

The Emerging Leaders Institute is for high potential employees and new managers who are ready to focus on core leadership skills and are poised to move up in their organization. Seasoned managers would benefit from this program as well, as they would refresh themselves with current and proven leadership strategies. The theme of the program is Employee Engagement. All courses will help equip leaders with the skills and strategies to engage their team.

Program Student Learning Outcomes

- A. Examine the key strategies that can engage employees in the workplace.
- B. Analyze various elements that contribute to professionalism in the workplace.
- C. Assess the various components that build trust between leaders and their followers.
- D. Identify team member's strengths to leverage the effectiveness of a team.
- E. Examine values and how they influence our actions.

Program Requirements:

Program Core:

MGMT - 50A	Challenges of Leadership: Difficult People/Tough Conversations .....	0.5
MGMT - 50B	Values and Ethics .....	0.5
MGMT - 50K	Generational Diversity: Managing Cross Generational Teams .....	0.5
MGMT - 50L	Authentic Leadership: Know Yourself/Lead Your People .....	0.5
MGMT - 50N	Employee Engagement .....	0.5
MGMT - 50P	Emotional Intelligence .....	0.5
MGMT - 50S	Leading With Your Strengths .....	0.5
MGMT - 51C	Leadership Essentials. What Emerging Leaders Need to Know .....	0.5

**General Business Certificate (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.

Program Requirements:

Program Core: (30 Units)

ACTG - 51	Applied Accounting .....	4
AOM-30	Introduction to Computer Applications .....	3
AOM - 50B	Document Formatting .....	3
BUS - 10	Introduction to Business .....	3
BUS - 18A	Business Law .....	4
BUS - 35	Money Management .....	3
ECON - 02	Introduction to Macroeconomics .....	3
Plus 7 additional units in this area of study: (7 Units)		
Total: (30 Units)		

Suggested electives include:

MGMT - 31	Principles of Management .....	3
MGMT - 37	Small Business Entrepreneurship .....	3
MKTG - 30	Principles of Marketing .....	3
MKTG - 31	Retailing and E-Commerce .....	3
MKTG - 33	Advertising .....	3

Suggested Sequence:

Fall 1

BUS - 10	Introduction to Business .....	3
ACTG - 51	Applied Accounting .....	4
AOM - 50B	Document Formatting .....	3

Spring 1

BUS - 35	Money Management .....	3
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Summer 1

BUS - 10	Introduction to Business .....	3
BUS - 35	Money Management .....	3

Fall 2

ECON - 02	Introduction to Macroeconomics .....	3
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Suggested electives:

CPSC - 01	Introduction to Computer Information Systems .....	4
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Spring 2

BUS - 18A	Business Law .....	4
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Suggested electives:

AOM - 43	Essentials of Business Communication .....	3
MGMT - 31	Principles of Management .....	3
MGMT - 37	Small Business Entrepreneurship .....	3
MKTG - 30	Principles of Marketing .....	3
MKTG - 31	Retailing and E-Commerce .....	3
MKTG - 33	Advertising .....	3

**Management, Supervisory Training Certificate (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**

- 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.

**Program Requirements:**

Program Core: **26-27** Units)

<b>BUS-18A</b>	<b>Business Law .....</b>	<b>4</b>
and		
<b>ECON-02</b>	<b>Introduction to Macroeconomics .....</b>	<b>3</b>
and		
<b>MGMT-31</b>	<b>Principles of Management .....</b>	<b>3</b>
and		
<b>MGMT-32</b>	<b>Human Resource Management .....</b>	<b>3</b>
and		
<b>MGMT-33</b>	<b>Elements of Effective Leadership.....</b>	<b>3</b>
and		
<b>ACTG-04A</b>	<b>Financial Accounting .....</b>	<b>4</b>
or		
<b>ACTG-51A</b>	<b>Applied Accounting .....</b>	<b>4</b>
and		
<b>CPSC-01</b>	<b>Introduction to Computer Information Systems.....</b>	<b>4</b>
or		
<b>AOM-30</b>	<b>Introduction to Computer Applications .....</b>	<b>3</b>

Management Courses: (3 units)

MGMT - 50A	Challenges of Leadership: Difficult People/Tough Conversations .....	0.5
MGMT - 50B	Values and Ethics .....	0.5

MGMT - 50C	Time Management .....	0.5
MGMT - 50D	Communication in the Workplace .....	0.5
MGMT - 50F	Team Building .....	0.5
MGMT - 50G	Decision Making and Problem Solving .....	0.5
MGMT - 50H	Customer Service .....	0.5
MGMT - 50I	Attitude in the Workplace .....	0.5
MGMT - 50J	Thrive and Survive in the Workplace .....	0.5
MGMT - 50K	Generational Diversity: Managing Cross Generational Teams .....	0.5
MGMT - 50L	Authentic Leadership: Know Yourself/Lead Your People .....	0.5
MGMT - 50M	Cultural Diversity .....	0.5
MGMT - 50N	Employee Engagement .....	0.5
MGMT - 50P	Emotional Intelligence .....	0.5
MGMT - 50S	Leading With Your Strengths .....	0.5
MGMT - 51C	Leadership Essentials:What Emerging Leaders Need to Know .....	0.5
MGMT - 51F	Conflict Resolution .....	0.5
MGMT - 51G	Stress Management .....	0.5
MGMT - 52C	Successful Business Speaking .....	0.5
MGMT - 52D	Managing Organizational Change .....	0.5
Total: (29-30 Units)		

**Marketing Certificate (05460.CT)**

The Certificate of Achievement in Marketing is intended to prepare students for employment in the broad field of marketing, which includes (but is not limited to) sales, promotion, design, copy writing, distribution, research, and public relations.

A Certificate of Achievement in Marketing 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 Certificate of Achievement in Marketing. Students must complete the requirements with a minimum grade point of "C" in each course required for the certificate.

**Program Student Learning Outcomes**

- A. Recognize the major components of a marketing plan including market segmentation and targeting.
- B. Demonstrate an understanding of the marketing mix.
- C. Analyze the psychological factors affecting the consumer buying process.
- D. Analyze different distribution systems for different products or services and their respective target markets.

**Program Requirements:**

Program Core: (30 Units)

ACTG - 04A	Financial Accounting .....	4
or		
ACTG - 51	Applied Accounting .....	4
AOM - 50B	Document Formatting .....	3
or		
AOM - 43	Essentials of Business Communication .....	3
AOM - 30	Introduction To Computer Applications .....	3
BUS - 10	Introduction to Business .....	3
BUS - 18A	Business Law .....	4
MKTG - 30	Principles of Marketing .....	3
MKTG - 31	Retailing and E-Commerce .....	3
MKTG - 33	Advertising .....	3
VIRT - 51	Social Media .....	3
VIRT - 56	Introduction to Search Engine Optimization .....	1
Total: (30 Units)		

**Suggested Sequence:**

Fall 1

ACTG - 04A	Financial Accounting .....	4
or		
ACTG - 51	Applied Accounting .....	4

MKTG - 30	Principles of Marketing .....	3
Spring 1		
MKTG - 33	Advertising .....	3
AOM - 43	Essentials of Business Communication .....	3
or		
AOM - 50B	Document Formatting .....	3
Fall 2		
MKTG - 31	Retailing and E-Commerce .....	3
MGMT - 31	Principles of Management .....	3
Spring 2		
BUS - 18A	Business Law .....	4

**Nutrition and Foods Certificate (13161.CN)**

A Certificate of Achievement in Nutrition and Foods provides a foundation and introduction to the core courses in the program as well as a choice of other more specialized courses. A student may select the seven additional units in their area of study. This Certificate will be awarded upon satisfactory completion of the curriculum listed below with a minimum grade of a "C" in each course required for the certificate.

**Program Student Learning Outcomes**

- A. Provide safe, satisfying, and nutritionally adequate food for patients/customers with attention to available resources.
- B. Examine supervisory skills in a food service setting including the ability to train in food safety, participate in quantity meal production and create menus for special populations.
- C. Formulate effective communication in a food service setting with diverse cultures.
- D. Utilize materials in the specialization coursework.

**Program Requirements:**

**Program Core: (28 Units)**

NUTR - 10	Nutrition .....	3
NUTR - 20	Principles of Foods .....	3
NUTR - 37	Nutrition and Food Service Supervised Field Experience .....	3
NUTR - 40	Menu Planning for Food Service Operations .....	3
NUTR - 42	Quantity Food Preparation .....	3
NUTR - 44	Food Safety and Sanitation .....	2
NUTR - 45	Introduction to Therapeutic Diets .....	2
<b>Management Courses: (2 Units)</b>		
MGMT - 50A	Challenges of Leadership: Difficult People/Tough Conversations .....	0.5
MGMT - 50B	Values and Ethics .....	0.5
MGMT - 50C	Time Management .....	0.5
MGMT - 50D	Communication in the Workplace .....	0.5
MGMT - 50F	Team Building .....	0.5
MGMT - 50G	Decision Making and Problem Solving .....	0.5
MGMT - 50H	Customer Service .....	0.5
MGMT - 50I	Attitude in the Workplace .....	0.5
MGMT - 50J	Thrive and Survive in the Workplace .....	0.5
MGMT - 50K	Generational Diversity: Managing Cross Generational Teams .....	0.5
MGMT - 50L	Authentic Leadership: Know Yourself/Lead Your People .....	0.5
MGMT - 50M	Cultural Diversity .....	0.5
MGMT - 50N	Employee Engagement .....	0.5
MGMT - 50P	Emotional Intelligence .....	0.5
MGMT - 50S	Leading With Your Strengths .....	0.5
MGMT - 51C	Leadership Essentials: What Emerging Leaders Need to Know .....	0.5
MGMT - 51F	Conflict Resolution .....	0.5
MGMT - 51G	Stress Management .....	0.5
MGMT - 52C	Successful Business Speaking .....	0.5
MGMT - 52D	Managing Organizational Change .....	0.5
<b>Restricted Electives from the following courses: (7 Units)</b>		
AOM - 30	Introduction To Computer Applications .....	3

NUTR - 24	Work Experience in Nutrition .....	1-8
NUTR - 41	Infant and Toddler Feeding .....	1
NUTR - 43	Children and Weight Concerns .....	1
NUTR - 50	Baking Basics and Business .....	1.5
NUTR - 60	Sports and Exercise Nutrition .....	3
NUTR - 70A-ZZ	Special Topics in Foods and Nutrition .....	1-3
PLSC - 10	Elements of Plant Science .....	3
<b>Total: (28 Units)</b>		

**Suggested Sequence:**

<b>Fall 1</b>		
NUTR - 20	Principles of Foods .....	3
NUTR - 40	Menu Planning for Food Service Operations .....	3
NUTR - 44	Food Safety and Sanitation .....	2
<b>Spring 1</b>		
NUTR - 37	Nutrition and Food Service Supervised Field Experience .....	3
NUTR - 42	Quantity Food Preparation .....	3
NUTR - 45	Introduction to Therapeutic Diets .....	2
<b>Fall 2 and Spring 2</b>		
AOM - 30	Introduction To Computer Applications .....	3
NUTR - 10	Nutrition .....	3
NUTR - 41	Infant and Toddler Feeding .....	1
NUTR - 43	Children and Weight Concerns .....	1
PLSC - 10	Elements of Plant Science .....	3

**Real Estate Salesperson License Certificate (05600.CE)**

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.

A Certificate of Proficiency will be awarded upon successful completion of the required 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. Describe property escrow procedures.
- B. Compose accurate listing and sales contracts.
- C. Produce documents that follow California real estate statutes and regulations.

**Program Requirements:**

**Program Core: (9-10 Units)**

REAL - 42	Real Estate Principles .....	3
REAL - 43	Real Estate Practices .....	3
<b>Plus 3-4 units from the following: (3-4 Units)</b>		
ACTG - 04A	Financial Accounting .....	4
ACTG - 51	Applied Accounting .....	4
AGBS - 11	Agricultural Economics .....	3
BUS - 18A	Business Law .....	4
BUS - 35	Money Management .....	3
ECON - 01	Introduction to Microeconomics .....	3
MATH - 15	Finite Mathematics .....	3
<b>Total: (9-10 Units)</b>		

**Small Business Entrepreneurship Certificate (05700.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 Entrepreneurship.



Program Student Learning Outcomes

- A. Perform an analysis to assess a new business' potential in the external environment in order to distinguish between a business idea and a business opportunity;
- B. Prepare and analyze financial information associated with starting up a new business and maintaining an existing business;
- C. Write a business plan suitable for presentation to potential investors and/or financial lending institutions and present it to an audience;
- D. Learn techniques to manage, promote, and finance a new business venture using pertinent and current methods.

Program Requirements:

Program Core: (30 Units)

ACTG - 31	Computerized Accounting .....	2
BUS - 10	Introduction to Business .....	3
BUS - 35	Money Management .....	3
AOM-30	Introduction to Computer Applications .....	3
AOM - 43	Essentials of Business Communication .....	3
MGMT - 31	Principles of Management .....	3
MGMT - 33	Elements of Effective Leadership .....	3
MGMT - 37	Small Business Entrepreneurship .....	3
MKTG - 30	Principles of Marketing .....	3
MKTG - 33	Advertising .....	3

Required:

Select two courses from Management Series:

MGMT - 50A	Challenges of Leadership: Difficult People/Tough Conversations .....	0.5
MGMT - 50B	Values and Ethics .....	0.5
MGMT - 50C	Time Management .....	0.5
MGMT - 50D	Communication in the Workplace .....	0.5
MGMT - 50F	Team Building .....	0.5
MGMT - 50G	Decision Making and Problem Solving .....	0.5
MGMT - 50H	Customer Service .....	0.5
MGMT - 50I	Attitude in the Workplace .....	0.5
MGMT - 50J	Thrive and Survive in the Workplace .....	0.5
MGMT - 51C	Leadership Essentials: What Emerging Leaders Need to Know .....	0.5
MGMT - 51F	Conflict Resolution .....	0.5
MGMT - 51G	Stress Management .....	0.5
MGMT - 52C	Successful Business Speaking .....	0.5
MGMT - 52D	Managing Organizational Change .....	0.5

Total: (30 Units)

Suggested Sequence:

1st Semester: (17 units)

ACTG - 04A	Financial Accounting .....	4 (prerequisite for ACTG 31)
or		
ACTG - 51	Applied Accounting .....	4 (prerequisite for ACTG 31)

BUS - 10	Introduction to Business .....	3
MGMT - 31	Principles of Management .....	3
MGMT-50-53	2 classes .....	1
MKTG - 30	Principles of Marketing .....	3

2nd Semester: (17 units)

ACTG - 31	Computerized Accounting .....	2
BUS - 35	Money Management .....	3
AOM - 43	Essentials of Business Communication .....	3
MGMT - 33	Elements of Effective Leadership .....	3
MGMT - 37	Small Business Entrepreneurship .....	3
MKTG - 33	Advertising .....	3

**Social Media Certificate (05725.CE)**

This certificate focusses on social networks, social media tools and strategies. Whether for business, for non-profit, or for fun, courses within the certificate introduce how to effectively use social media and how to develop best practices.

A Certificate of Proficiency will be awarded upon successful completion of the required courses below. For successful completion a student must complete the requirements with a minimum grade of a 2.0 in each course required for the certificate.

Program Student Learning Outcomes

- A. Use advanced technological modes of communication and data delivery to assist clients.
- B. Develop a social media strategy plan.

Program Requirements:

Program Core: (6 Units)

VIRT - 51	Social Media .....	3
VIRT - 55	Social Media Marketing and Strategy .....	3
Total: (6 Units)		

**Virtual Office Professional Certificate (05800.CE)**

A Virtual Office Professional is an independent entrepreneur providing administrative, creative and/or technical services. Using advanced technological modes of communication and data delivery, a professional Virtual Office Professional assists clients from their own office on a contractual basis.

Successful completion of the Virtual Office Certificate of Proficiency prepares students for starting/working for a virtual office business. The certificate addresses issues of creating and managing their own virtual offices.

A Virtual Office Professional is an independent entrepreneur providing administrative, creative and/or technical services. Using advanced technological modes of communication and data delivery, a professional Virtual Office Professional assists clients from their own office on a contractual basis.

Successful completion of the Virtual Office Certificate of Proficiency prepares students for starting/working for a virtual office business. The certificate addresses issues of creating and managing their own virtual offices.

Students are prepared to assume positions in business and industries that utilize virtual administrative support, including executive assistants and office support specialists.

A Certificate of Proficiency will be awarded upon successful completion of the required 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. Use advanced technological modes of communication and data delivery to assist clients in their virtual office on a contractual basis.
- B. Construct a virtual office business plan for the creation and management of a virtual office.
- C. Use appropriate social media and web page design knowledge to meet client needs

Career Opportunities

Virtual business owner, virtual assistant, executive assistant, web designer, social media coordinator.

Program Requirements:

Program Core: (14 Units)

AOM - 30	Introduction To Computer Applications .....	3
AOM - 58A	Web Site Development .....	2
VIRT - 50	Virtual Office .....	3
VIRT - 51	Social Media .....	3
VIRT - 55	Social Media Marketing and Strategy .....	3
Total: (14 Units)		

Suggested Sequence:

Fall 1		
VIRT - 51	Social Media .....	3
VIRT - 55	Social Media Marketing and Strategy .....	3
Spring 1		
AOM - 30	Introduction To Computer Applications .....	3
AOM - 58A	Web Site Development .....	2

# English & Humanities

## Associate of Arts for Transfer

### Communication Studies, A.A.-T. (15601.AAT)

The Associate in Arts in Communication Studies for Transfer (AA-T) is designed for students as both a terminal degree as well as for those planning on transferring to a California State University. Upon completion of the associate degree, the student is eligible for transfer with junior standing into the California State University (CSU) system. Students will be given priority consideration when applying to a particular program that is similar to the student's community college area of emphasis.

For an Associate in Arts in Communication Studies for Transfer (AA-T), students must complete the following:

1. 60 semester CSU-transferable units.
2. the California State University-General Education-Breadth pattern (CSU GE-Breadth); OR the Intersegmental General Education Transfer Curriculum (IGETC) pattern.
3. a minimum of 18 semester units in the major or area of emphasis as determined by the community college district.
4. obtainment of a minimum grade point average (GPA) of 2.0.
5. earn a grade of C or better in all courses required for the major or area of emphasis.

Note: Students are not required to complete any additional local graduation requirements for the AA-T (e.g., PE).

Program Student Learning Outcomes:

- A. Appraise core concepts, skills, and/or theories in various communication contexts (public, interpersonal, small group, or intercultural).
- B. Construct written, oral, and visual communication appropriate for the purpose, audience, and context.
- C. Evaluate success of written, oral, and/or visual communication through critical thinking.

Program Requirements:

Program Core: (18 Units)

COMM - 01	Fundamentals of Speech .....	3
or		
COMM - 01H	Honors Fundamentals of Speech .....	3 **
COMM - 02	Oral Interpretation .....	3 *
or		
ENGL - 02	Oral Interpretation .....	3
COMM - 04	Small Group Discussion and Problem Solving .....	3
COMM - 05	Interpersonal Communication .....	3
COMM - 30	Introduction to Intercultural Communication .....	3
Plus three units from the following electives: (3 Units)		
ANTH - 02	Sociocultural Anthropology .....	3
ENGL - 13	Critical Reasoning and Writing .....	3
or		
ENGL - 13H	Honors Critical Reasoning and Writing .....	3
or		
PHIL - 13	Critical Reasoning and Writing .....	3
or		
PHIL - 13H	Honors Critical Reasoning and Writing .....	3
PSYC - 01A	Introduction to Psychology .....	3
or		
PSYC - 01AH	Honors Introduction to Psychology .....	3
SOC - 01	Introduction to Sociology .....	3
Total Units that may be double counted: (9 Units)		
General Education Units: (37-39 Units)		

CSU-General Education Breadth Certification Requirements  
or  
Intersegmental General Education Transfer Curriculum  
Elective (CSU Transferable) Units: (12-14 Units)  
Total: (60 Units)

Note:

\* Offered in the spring semester only.  
Recommended Sequence: (15 Units)

Fall 1		
COMM - 04	Small Group Discussion and Problem Solving .....	3
Spring 1		
COMM - 30	Introduction to Intercultural Communication .....	3
COMM - 05	Interpersonal Communication .....	3
Fall 2		
COMM - 01	Fundamentals of Speech .....	3
or		
COMM - 01H	Honors Fundamentals of Speech .....	3 **
Spring 2		
COMM - 02	Oral Interpretation .....	3
or		
ENGL - 02	Oral Interpretation .....	3 *

Note:

\* Only offered during the spring semester.

\*\* Only offered during the fall semester. Students must be enrolled in the Honors Program prior to registering for the course.

### English, A.A.-T. (15200.AAT)

The Associate of Arts in English for Transfer degree (AA-T) is designed for students planning on transferring to a California State University (CSU). Upon completion of the transfer associate degree, the student is eligible for transfer with junior standing into the CSU system. Students will be given priority consideration when applying to a particular program that is similar to the student's community college area of emphasis.

Program Student Learning Outcomes:

- A. Students will be able to compose a thesis-based essay that clearly communicates a logical, evidence-supported argument with documentation.
- B. Students will demonstrate, in writing, comprehension and critical analysis of college-level texts.

Program Requirements:

Program Core (18-20 Units)

ENGL - 01B	Introduction to Literature .....	3
ENGL - 13	Critical Reasoning and Writing .....	3
or		
ENGL - 13H	Honors Critical Reasoning and Writing .....	3
or		
PHIL - 13	Critical Reasoning and Writing .....	3
or		
PHIL - 13H	Honors Critical Reasoning and Writing .....	3
List A: (6 Units)		
Select a minimum of 6 units from the following:		
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 to the Late 18Th Century .....	3
ENGL - 06B	Major English Writers Since the Late 18Th Century	3
ENGL - 10	American Literature From Beginnings to Civil War ...	3
ENGL - 11	American Literature From Post-Civil War to Present	3
List B: (3 Units)		
Select a minimum of 3 units from the following:		
Any course from List A not used above. ....		
ENGL - 05	Introduction to Fiction .....	3
ENGL - 12	Creative Writing .....	3
List C: (3 Units)		
Select a minimum of 3 units from the following:		
Any course from List A or List B not used above. ....		

DRAM - 01	Introduction to Theater .....	3
ENGL - 02	Oral Interpretation .....	3
or		
COMM - 02	Oral Interpretation .....	3
ENGL - 07	Studies in Literature: Poetry .....	3
ENGL - 08	Introduction to Shakespeare .....	3
ENGL - 14	Introduction to Film .....	3
ENGL - 15	History of Dramatic Literature .....	3
ENGL - 18	African and African American Literature .....	3
FREN - 03	Intermediate French I .....	5
FREN - 04	Intermediate French II .....	5
GERN - 03	Intermediate German I .....	5
GERN - 04	Intermediate German II .....	5
HUM - 01	Studies in Humanities--Ancient Through Renaissance .....	3
SPAN - 03	Intermediate Spanish I .....	5
SPAN - 04	Intermediate Spanish .....	5
Total Units that may be double counted: (19-12 Units)		
General Education Units: (37-39 Units)		
CSU-General Education Breadth Certification Requirements		
or		
Intersegmental General Education Transfer Curriculum		
Elective (CSU Transferable) Units: (11-14 Units)		
Total: (60 Units)		

Suggested Sequence:

ENGL 01A and ENGL 01B will be offered every semester. In addition, the following degree applicable classes will be offered the following terms.

Fall 1	ENGL - 04A	Introduction to World LiteratureAncients to 1650	3
	ENGL - 10	American Literature From Beginnings to Civil War	3
	ENGL - 14	Introduction to Film .....	3
Spring 1	ENGL - 04B	Introduction to World Literature1650 to Present	3
	ENGL - 07	Studies in Literature Poetry .....	3
	ENGL - 11	American Literature From Post-Civil War to Present	3
	ENGL - 12	Creative Writing .....	3
Fall 2	ENGL - 06A	Major English Writers to the Late 18Th Century	3
	ENGL - 15	History of Dramatic Literature .....	3
	ENGL - 18	African and African American Literature .....	3
Spring 2	ENGL - 05	Introduction to Fiction .....	3
	ENGL - 06B	Major English Writers Since the Late 18Th Century	3
	ENGL - 08	Introduction to Shakespeare .....	3
	ENGL - 12	Creative Writing .....	3

**Philosophy, A.A.-T. (15400.AAT)**

The Associate in Arts in Philosophy for Transfer is designed around a core education that includes the history of philosophy, ethics, and logic. Students choose among elective courses in humanities and comparative religions. Upon completion, students with an Associate in Arts in Philosophy for Transfer will be eligible to transfer with junior standing into an equivalent major within the California State University (CSU) system. Students will be given priority consideration when applying to a particular program that is similar to the student's community college area of emphasis. The Associate in Arts in Philosophy for Transfer is to assist students in the seamless transferring to a California State University. Upon completion of the AA-T in Philosophy, students will/ be able to:

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 primary philosophical texts and the philosophical arguments contained in them.
- C. Defend positions on important philosophical issues, questions, and/or problems in written form.

Program Requirements:  
Program Core: (18 Units)

PHIL - 01	Introduction to Philosophy .....	3
or		
PHIL - 01H	Honors Introduction to Philosophy .....	3
PHIL - 03	Ancient Philosophy .....	3 ***
PHIL - 04	Modern Philosophy .....	3 ****
PHIL - 05	Contemporary Ethical Issues .....	3
PHIL - 12	Introduction to Logic .....	3
Elective: Select one of the following: (3 Units)		
PHIL - 15	Comparative Religions .....	3
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	Honors Studies in Humanities--Renaissance to Present .....	3

Important note:

- \*HUM-01 is only offered in the fall semester.
- \*\*HUM-02 is only offered in the spring semester.
- \*\*\*PHIL-03 will be offered Fall 2020.
- \*\*\*\*PHIL-04 will be offered Spring 2020.

Total Units that may be double counted: (6-9 Units)

General Education Units: (37-39 Units)  
CSU-General Education Breadth Certification Requirements  
or  
Intersegmental General Education Transfer Curriculum  
Elective (CSU Transferable) Units: (9-14 Units)  
Total: (60 Units)

Suggested Sequence:

Fall 1	PHIL - 01	Introduction to Philosophy .....	3
or			
	PHIL - 01H	Honors Introduction to Philosophy .....	3
Spring 1	PHIL - 05	Contemporary Ethical Issues .....	3
Fall 2	PHIL - 03	Ancient Philosophy .....	3
Spring 2	PHIL - 04	Modern Philosophy .....	3

Note:

PHIL 12 (Introduction to Logic) and the elective course (PHIL 15 or HUM 01 or HUM 01H or HUM 02 or HUM 02H) may be taken any semester.

**Spanish, A.A.-T. (11600.AAT)**

The Associate in Arts in Spanish for Transfer is designed around a core education. Upon completion, students with an Associate in Arts in Spanish for Transfer will be eligible to transfer with junior standing into an equivalent major within the California State University (CSU) system. Students will be given priority consideration when applying to a particular program that is similar to the student's community college area of emphasis.

Program Student Learning Outcomes

- A. Demonstrate the ability to initiate, sustain and close basic communicative tasks. (Speaking)
- B. Develop an understanding of connected discourse over longer stretches on a number of topics pertaining to different times and places. (Listening Comprehension)
- C. Produce writing focusing on most practical writing needs and limited social demands with an emerging ability to describe and narrate in paragraphs. (Writing)
- D. Distinguish consistently pervasive values of the Spanish-speaking cultures. (Cultural Awareness)
- E. Evaluate consistently and with full understanding simple connected texts with an emerging ability to comprehend advanced reading. (Reading Comprehension)

Program Requirements:

Program Core: (23-25)

20 units from the following:

Note: students who are placed at a higher level than SPAN 01 will need to obtain units from List B.

SPAN - 01	Elementary Spanish I .....	5
SPAN - 02	Elementary Spanish II .....	5
SPAN - 03	Intermediate Spanish I .....	5
or		
SPAN - 10	Spanish for Spanish Speakers I .....	5
SPAN - 04	Intermediate Spanish .....	5
or		
SPAN - 11	Spanish for Spanish Speakers II .....	5

List A: (3-5 Units)

3-5 units from the following:

ENGL - 04A	Introduction to World Literature Ancients to 1650 .....	3
ENGL - 04B	Introduction to World Literature 1650 to Present .....	3
FREN - 01	Elementary French I .....	5
FREN - 02	Elementary French II .....	5
FREN - 03	Intermediate French I .....	5
FREN - 04	Intermediate French II .....	5

List B:

Students who are placed at a higher level than SPAN 01 will have to take courses to substitute for the units they have placed out of. Any course from List A not already used can be taken in List B.

ANTH - 02	Sociocultural Anthropology .....	3
COMM - 30	Introduction to Intercultural Communication .....	3
ENGL - 04A	Introduction to World Literature Ancients to 1650 .....	3
ENGL - 04B	Introduction to World Literature 1650 to Present .....	3
FREN - 01	Elementary French I .....	5
FREN - 02	Elementary French II .....	5
FREN - 03	Intermediate French I .....	5
FREN - 04	Intermediate French II .....	5
HIST - 04A	World History Part 1 .....	3
HIST - 04B	History of Civilization Part II .....	3
HIST - 23	History of Hispanic-Americans in Southwest U.S. ....	3
SOC - 01	Introduction to Sociology .....	3

Total Units that may be double counted: (10 Units)

General Education Units: (37-39 Units)

Intersegmental General Education Transfer Curriculum

or

CSU-General Education Breadth Certification Requirements

Elective (CSU Transferable) Units: (1-5 Units)

Total: (60 Units)

Important Note:

SPAN 03 is only offered in the fall semester.

SPAN 04 is only offered in the spring semester.

Suggested Sequence:

Non-Native Speakers

Fall 1

SPAN - 01	Elementary Spanish I .....	5 and
FREN - 01	Elementary French I .....	5

or

ENGL - 04A	Introduction to World Literature..... Ancients to 1650	3
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Spring 1

SPAN - 02	Elementary Spanish II .....	5 and
ENGL - 04B	Introduction to World Literature..... 1650 to Present	3 (if taken ENGL 04A in Fall 1)

Fall 2

SPAN - 03	Intermediate Spanish I .....	5
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Spring 2

SPAN - 04	Intermediate Spanish .....	5
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Heritage Speakers

The entry level course for heritage speakers of Spanish is SPAN 10.

Fall 1

SPAN - 10	Spanish for Spanish Speakers I .....	5 and
FREN - 01	Elementary French I .....	5

or

ENGL - 04A	Introduction to World Literature..... Ancients to 1650	3
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Spring 1

SPAN - 11	Spanish for Spanish Speakers II .....	5 and
FREN - 02	Elementary French II .....	5 *

or

ENGL - 04B	Introduction to World Literature..... 1650 to Present	3 (if taken ENGL 04A in Fall 1)
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Fall 2

FREN - 03	Intermediate French I .....	5 *
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Spring 2

FREN - 04	Intermediate French II .....	5 *
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Note:

\*Any course(s) from list B can be substituted if necessary.

## Associate of Arts

### French, A.A. (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.

Program Requirements:

Program Core: (26 Units)

FREN - 01	Elementary French I .....	5
FREN - 02	Elementary French II .....	5
FREN - 03	Intermediate French I .....	5
FREN - 04	Intermediate French II .....	5
HIST - 04A	World History Part 1 .....	3
HIST - 04B	History of Civilization Part II .....	3
Total:	(26 Units)	

Suggested Sequence:

Fall 1

FREN - 01	Elementary French I .....	5
HIST - 04A	World History Part 1 .....	3

Spring 1

FREN - 02	Elementary French II .....	5
HIST - 04B	History of Civilization: Part II .....	3

Fall 2

FREN - 03	Intermediate French I .....	5
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Spring 2

FREN - 04	Intermediate French II .....	5
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### German, A.A. (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: Create spoken German at the Intermediate-Mid level as described by the American Council on the Teaching of Foreign Languages (ACTFL).
- B. Listening: Assess spoken German at the Intermediate-Mid level as described by the American Council on the Teaching of Foreign Languages (ACTFL).
- C. Writing: Compose writings at the Intermediate-Mid level as described

- by the American Council on the Teaching of Foreign Languages (ACTFL).
- D. Culture: Recognize a number of pervasive values of the German-speaking cultures.
- E. Reading: Appraise reading materials at the Intermediate-Mid level as described by the American Council on the Teaching of Foreign Languages (ACTFL).

Program Requirements:

Program Core: (26 Units)

GERN - 01	Elementary German I	5
GERN - 02	Elementary German II	5
GERN - 03	Intermediate German I	5
GERN - 04	Intermediate German II	5
HIST - 04A	World History Part 1	3
or		
HUM - 01	Studies in Humanities--Ancient Through Renaissance	3
or		
HUM - 01H	Honors Studies in Humanities--Ancient Through Renaissance	3
HIST - 04B	History of Civilization Part II	3
or		
HUM - 02	Studies in Humanities--Renaissance to Present	3
or		
HUM - 02H	Honors Studies in Humanities--Renaissance to Present	3
GE Pattern MCCD GE Breadth: (23 Units)		
Associate Degree Breadth Requirements		
Electives (as needed) (CSU transferrable): (17 Units)		
Double-Counted: (6 Units)		
Total: (60 Units)		

Suggested Sequence:

Fall 1		
GERN - 01	Elementary German I	5
HIST - 04A	World History Part 1	3
or		
HUM - 01	Studies in Humanities--Ancient Through Renaissance	3
or		
HUM - 01H	Honors Studies in Humanities--Ancient Through Renaissance	3
Spring 1		
GERN - 02	Elementary German II	5
HIST - 04B	History of Civilization Part II	3
or		
HUM - 02	Studies in Humanities--Renaissance to Present	3
or		
HUM - 02H	Honors Studies in Humanities--Renaissance to Present	3
Fall 2		
GERN - 03	Intermediate German I	5
Spring 2		
GERN - 04	Intermediate German II	5

**Humanities, A.A. (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.

Program Requirements:

Program Core: (20 Units)

HUM - 01	Studies in Humanities--Ancient Through Renaissance	3
or		
HUM - 01H	Honors Studies in Humanities--Ancient Through Renaissance	3
-		
HUM - 02	Studies in Humanities--Renaissance to Present	3
or		
HUM - 02H	Honors Studies in Humanities--Renaissance to Present	3
Plus an additional 14 units from the electives below: (Students must take at least three units from each of the four elective areas.)		
Literature (3 Units)		
ENGL - 01B	Introduction to Literature	3
ENGL - 06A	Major English Writers to the Late 18Th Century	3
ENGL - 06B	Major English Writers Since the Late 18Th Century	3
ENGL - 08	Introduction to Shakespeare	3
ENGL - 10	American Literature From Beginnings to Civil War	3
ENGL - 11	American Literature From Post-Civil War to Present	3
ENGL - 18	African and African American Literature	3
Philosophy and Humanities (3 Units)		
PHIL - 03	Ancient Philosophy	3
PHIL - 04	Modern Philosophy	3
PHIL - 05	Contemporary Ethical Issues	3
PHIL - 15	Comparative Religions	3
HUM - 15	Comparative Cultures	3
HUM - 21	Humanities and Film	3
Art and Music (3 Units)		
ART - 01	Art History: Ancient Through Gothic	3
ART - 02	Art History: Renaissance Through 20Th Century	3
ART - 03		
ART - 04		
MUSG - 11	Classical Music History I	3
MUSG - 12	Classical Music History II	3
MUSG - 13	Jazz Music History	3
MUSG - 14	American Popular Music History	3
Foreign Language (5 Units)		
FREN - 02	Elementary French II	5
FREN - 03	Intermediate French I	5
FREN - 04	Intermediate French II	5
GERN - 02	Elementary German II	5
GERN - 03	Intermediate German I	5
GERN - 04	Intermediate German II	5
HMNG - 02	Elementary Hmong II	5
SPAN - 02	Elementary Spanish II	5
SPAN - 03	Intermediate Spanish I	5
SPAN - 04	Intermediate Spanish	5
Total: (20 Units)		

# Fine & Performing Arts

## Associate of Arts for Transfer

### Music, A.A.-T. (10400.AAT)

Students completing this degree are guaranteed admission to the CSU system, but not a particular campus or major. Students should be aware that most CSU campuses require placement exams for music majors, even with a completed AA-T Music degree.

For more information on the AA-T Music degree, contact your counselor or Merced College music faculty.

Program Student Learning Outcomes

- A. Perform selected exercises and compositions that reflect the standard repertoire of lower division instrumental or vocal performance courses at four-year institutions.
- B. Apply standard theoretical concepts in the understanding of existing compositions, the organization of musical sounds, and in the creation of original compositions.
- C. Demonstrate an understanding of performance ensemble skills including blend, balance, intonation and interpretation as a part of either vocal or instrumental performance groups using a variety of musical styles
- D. Demonstrate piano proficiency.

For an Associate in Arts in Music for Transfer (AA-T), students must complete the following:

- 1. 60 semester CSU-transferable units.
- 2. the California State University-General Education-Breadth pattern (CSU GE-Breadth); OR the Intersegmental General Education Transfer Curriculum (IGETC) pattern.
- 3. a minimum of 18 semester in the major or area of emphasis as determined by the community college district.
- 4. obtainment of a minimum grade point average (GPA) of 2.0.
- 5. earn a grade of C or better in all courses required for the major or area of emphasis.

Note: Students are not required to complete any additional local graduation requirements for the AA-T (e.g., PE and Computer and Information Literacy courses).

Program Requirements:

Program Core: (22 Units)

MUST - 01	Music Theory I (Diatonic Harmony) .....	3
MUST - 02	Music Theory II (Diatonic Harmony II) .....	3
MUST - 03	Music Theory III (Chromatic Harmony) .....	3
MUST - 04	Music Theory IV (Music Theory of the 20th & 21st Centuries) .....	3
MUST - 05	Aural Skills I .....	1
MUST - 06	Aural Skills II .....	1
MUST - 07	Aural Skills III .....	1
MUST - 08	Aural Skills IV .....	1

Music Applied: (2 Units)

MUSA - 20	Applied Music .....	0.5
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Music Ensembles: (4 Units)

MUSE - 41	Concert Band .....	1
MUSE - 42	Jazz Ensemble .....	1
MUSE - 43	Guitar Ensemble .....	1
MUSE - 44	Chorale .....	1
MUSE - 45	Chamber Singers .....	1

Total Units that may be double counted: (0 Units)

General Education (IGETC) Units: (37 Units)

Elective Units: (0-1 Units)

Total: (60 Units)

Suggested Sequence:

Fall 1		
MUST - 01	Music Theory I (Diatonic Harmony) .....	3
MUST - 05	Aural Skills I .....	1
MUSA - 20	Applied Music .....	0.5
MUSE Performance Ensemble	.....	1
Spring 1		
MUST - 02	Music Theory II (Diatonic Harmony II) .....	3
MUST - 06	Aural Skills II .....	1
MUSA - 20	Applied Music .....	0.5
MUSE Performance Ensemble	.....	1
Fall 2		
MUST - 03	Music Theory III (Chromatic Harmony) .....	3
MUST - 07	Aural Skills III .....	1

MUSA - 20	Applied Music .....	0.5
MUSE Performance Ensemble	.....	1
Spring 2		
MUST - 04	Music Theory IV (Music Theory of the 20th & 21st Centuries) .....	3
MUST - 08	Aural Skills IV .....	1
MUSA - 20	Applied Music .....	0.5
MUSE Performance Ensemble	.....	1

Studio Arts, A.A.-T. (10550.AAT)

The Associate in Arts in Studio Arts for Transfer degree is designed around a core education that includes the study of various media in the visual arts and art history. Upon completion, students with an AA-T in Studio Art will be eligible to transfer with junior standing into an equivalent major within the California State University (CSU) system. Students will be given priority consideration when applying to a particular program that is similar to the student's community college area of emphasis.

The Associate in Arts in Studio Arts for Transfer degree is designed to prepare students for a seamless transfer into the CSU system to complete a baccalaureate degree in Studio Arts or similar major.

Program Student Learning Outcomes:

- A. Demonstrate knowledge of techniques and processes involved in a variety of two and three dimensional art forms.
- B. Create works of art integrating aesthetics with the elements and principles of design theory as applies to areas of interest in drawing, painting, design, printmaking, digital art, sculpture, ceramics, or mixed media.
- C. Distinguish individual styles as applied to various media, historic art periods and/or cultural diversity.
- D. Develop an appreciation and understanding of a wide range of historical content through the visual arts both traditional and contemporary.

For an Associate in Arts in Studio Arts for Transfer (AA-T), students must complete the following:

- 1. 60 semester CSU-transferable units.
- 2. (the California State University-General Education-Breadth pattern (CSU GE-Breadth); OR the
- 3. Intersegmental General Education Transfer Curriculum (IGETC) pattern.
- 4. a minimum of 18 semester in the major or area of emphasis as determined by the community college district.
- 5. obtainment of a minimum grade point average (GPA) of 2.0.
- 6. earn a grade of C or better in all courses required for the major or area of emphasis.

Note: Students are not required to complete any additional local graduation requirements for the AA-T (e.g., PE and Computer and Information Literacy courses).

Program Requirements:

Program Core: (24 Units)

ART - 02	Art History: Renaissance Through 20Th Century ....	3
ART - 12A	Sculpture: 3-D Foundations .....	3
ART - 15	Design: 2-D Foundations .....	3
ART - 24A	Drawing I .....	3

List A:

Select a minimum of 3 units

ART - 01	Art History: Ancient Through Gothic .....	3
or		
ART - 06	Survey of Modern Art .....	3

List B:

Select a minimum of 9 units

ART - 12B	Intermediate Sculpture .....	3
ART - 17A	Introduction to Ceramics .....	3
ART - 17B	Intermediate Ceramics .....	3
ART - 20A	Introduction to Printmaking .....	3
ART - 20B	Intermediate Printmaking .....	3
ART - 23A	Introduction to Painting .....	3

ART - 24B	Intermediate Drawing .....	3
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or

ART - 26A	Introduction to Figure Drawing .....	3
ART - 29A	Introduction to Watercolor Painting .....	3
ARTD - 40A	Introduction to Digital Art .....	3
ARTD - 41A	Introduction to Graphic Design .....	3
PHOT - 10A	Introduction to Photography .....	3

Total Units that may be double counted: (-3-6 Units)  
 General Education Units: (37-39 Units)  
 CSU-General Education Breadth Certification Requirements  
 or  
 Intersegmental General Education Transfer Curriculum  
 Elective (CSU Transferable) Units: (2-5 Units)  
 Total: (60 Units)

**Theatre Arts, A.A.-T. (10600.AAT)**

The Theatre curriculum is designed to meet the lower division requirements of most California State Universities offering a general major in Theatre or Drama. Students that complete an AA-T in Theatre from Merced College will be prepared for upper division course work in Theatre, Theatre Arts or Drama at a California State University.

The Associate in Arts Degree in Theatre Arts for Transfer will prepare the student for transfer as a junior-level student to selected general Theatre or Drama programs in the California State University system. In addition, it will also prepare the student for pre-professional theatre work, community theatre work, future Theatre conservatory training, and some specialized BFA programs in Performance and Technical Theatre. The student should note that the AA-T in Theatre will not always transfer to specialized BFA programs in Performance or Design in the CSU system.

**Program Student Learning Outcomes**

- A. Demonstrate an understanding of Theatre as a collaborative art form by performing or participating in a variety of theatrical genres from both contemporary and classical theatre at a level equal to junior-level peers within the CSU system.
- B. Demonstrate high artistic standards and professional responsibility with regard to acting or technical proficiency, rehearsal preparation and live performance.
- C. Employ foundational skills in stagecraft - including a basic understanding of technical terminology, tools, properties construction, costume construction and light and sound board operation.
- D. Compare and contrast diverse artistic styles, different genres, varied cultural performance histories and their origins.
- E. Demonstrate 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.

For an Associate in Arts in Theatre for Transfer (AA-T), students must complete the following:

- 1. 60 semester CSU-transferable units.
- 2. the California State University-General Education-Breadth pattern (CSU GE-Breadth); OR the Intersegmental General Education Transfer Curriculum (IGETC) pattern.
- 3. a minimum of 18 semester in the major or area of emphasis as determined by the community college district.
- 4. obtainment of a minimum grade point average (GPA) of 2.0.
- 5. earn a grade of C or better in all courses required for the major or area of emphasis.

Note: Students are not required to complete any additional local graduation requirements for the AA-T (e.g., PE and Computer and Information Literacy courses).

Program Requirements:  
 Program Core: (18 Units)  
 Required Core: (9 Units)

DRAM - 01	Introduction to Theater .....	3
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or

DRAM - 08	Theatre History: Ancient to Romanticism .....	3
DRAM - 02	Rehearsal and Performance .....	2
DRAM - 02L	Rehearsal and Performance Lab .....	1
DRAM - 12	Acting I .....	3
Elective: (9 Units)		
DRAM - 02L	Rehearsal and Performance Lab .....	1
DRAM - 13	Acting II .....	3
DRAM - 15	Stagecraft .....	3
DRAM - 16	Introduction to Costume Design and Construction ...	3
DRAM - 23	Script Analysis: Plays in Performance .....	3

Total Units that may be double counted: (6 Units)  
 General Education Units: (38-40 Units)  
 CSU-General Education Breadth Certification Requirements  
 or  
 Intersegmental General Education Transfer Curriculum  
 Elective (CSU Transferable) Units: (6 Units)  
 Total: (60 Units)

**Associate of Arts**

**Art, A.A. (10110.AA)**

The Associate in Arts Degree in Art is available for students who meet the graduation requirements and complete the following required courses, with a minimum grade of a "C" in each course in the degree and maintain a 2.0 GPA.

**Program Student Learning Outcomes**

- A. Demonstrate a knowledge of the techniques and processes involved in a variety of two and three dimensional art forms.
- B. Create works of art integrating aesthetics with the elements and principles of design theory as applied to areas of interest in drawing, painting, design, printmaking, digital art, sculpture, ceramics or mixed media.
- C. Distinguish individual styles as applied to various media, historic art periods and/or cultural diversity.
- D. Develop an appreciation and understanding of a wide range of historical content through the visual arts both traditional and contemporary.

**Program Requirements:**

Program Core: (18 Units)

ART - 02	Art History: Renaissance Through 20Th Century ....	3
ART - 12A	Sculpture: 3-D Foundations .....	3
ART - 15	Design: 2-D Foundations .....	3
ART - 23A	Introduction to Painting .....	3
ART - 24A	Drawing I .....	3
ART - 26A	Introduction to Figure Drawing .....	3

Plus 3 units from the following Art History courses: (3 Units)

ART - 01	Art History: Ancient Through Gothic .....	3
ART - 06	Survey of Modern Art .....	3
PHOT - 33	The History of Photography .....	3

or

ART - 07	History of Graphic Design .....	3
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Plus 9 units from the following courses: (9 Units)

ART - 12B	Intermediate Sculpture .....	3
ART - 17A	Introduction to Ceramics .....	3
ART - 17B	Intermediate Ceramics .....	3
ART - 20A	Introduction to Printmaking .....	3
ART - 20B	Intermediate Printmaking .....	3
ART - 23B	Intermediate Painting .....	3
ART - 24B	Intermediate Drawing .....	3
ART - 26B	Intermediate Figure Drawing .....	3
ART - 29A	Introduction to Watercolor Painting .....	3
ART - 29B	Intermediate Watercolor Painting .....	3
ARTD - 40A	Introduction to Digital Art .....	3
ARTD - 40B	Intermediate Digital Art .....	3
ARTD - 41A	Introduction to Graphic Design .....	3
ARTD - 41B	Intermediate Graphic Design .....	3
ARTD - 42A	Introduction to Motion Graphics .....	3
ARTD - 42B	Intermediate Motion Graphics .....	3

ARTD - 45A	Animation I: Introduction to Web Design and 2D Animation .....	3
ARTD - 45B	Multimedia II Intermediate Web Design and Animation .....	3
ARTD - 47	Typography I: Introduction to Type Design .....	3
PHOT - 10A	Introduction to Photography .....	3
PHOT - 11A	Introduction to the Digital Camera .....	3
Total: (30 Units)		

Suggested Sequence:

Fall 1		
Art History (Choice of ART 01, ART 02, ART 06) .....		3
ART - 15	Design: 2-D Foundations .....	3
ART - 24A	Drawing I .....	3
Spring 1		
Art History (Choice of ART 01, ART 02, ART 06) .....		3
ART - 26A	Introduction to Figure Drawing .....	3
Fall 2		
ART - 12A	Sculpture: 3-D Foundations .....	3
ART - 23A	Introduction to Painting .....	3
Spring 2		
ART elective .....		3

**Digital Art, A.A. (06100.AA)**

The study of digital art keeps students knowledgeable about cutting-edge artistic developments in our increasingly visual world. An education in digital art prepares students to produce media for print publication and screen-based output. The state-of-the-art classroom and digital art lab provides students with hands-on experience in digital art, graphic design, digital publishing, three-dimensional modeling, motion graphics, interactive media, multimedia, and web software techniques.

The Digital Art Program provides thorough preparation for careers and visual expression in digital art fields. The Associate of Arts degree in Digital Art is available for students who meet the graduation requirements and complete the 30-unit curriculum listed below, with a minimum grade of a "C" in each course in the degree and maintain a 2.0 GPA.

Program Student Learning Outcomes

- A. Analyze historical, technical and current cultural approaches while utilizing computers, peripherals, screen-based media, the Internet and digital media tools to create digital art.
- B. Demonstrate visual thinking ability in still and time-based digital art forms.
- C. Appraise digital art industry trends through various multimedia formats.

Program Requirements:

Program Core: (18 Units)		
ART - 06	Survey of Modern Art .....	3
or		
ART - 07	History of Graphic Design .....	3
ART - 15	Design: 2-D Foundations .....	3
ART - 24A	Fundamentals of Drawing .....	3
or		
ART - 26A	Introduction to Figure Drawing .....	3
ARTD - 40A	Introduction to Digital Art .....	3
ARTD - 41A	Introduction to Visual Communication .....	3
ARTD-45A	Multimedia I: Introduction to Web Design and Animation .....	3
or		
ARTD - 42A	Introduction to Motion Graphics .....	3
Plus 9 units from the following courses:		
ARTD - 40B	Intermediate Digital Art .....	3
ARTD - 41B	Intermediate Graphic Design .....	3
ARTD - 45A	Animation I: Introduction to Web Design and 2D Animation .....	3
ARTD - 45B	Multimedia II Intermediate Web Design and Animation .....	3
or		
ARTD - 42B	Intermediate Motion Graphics .....	3

Plus 3 units from the following courses:		
PHOT - 11A	Introduction to the Digital Camera .....	3
CPSC- 05A	Application Development and Programming .....	3
MKTG - 33	Advertising .....	3
MGMT - 37	Small Business Entrepreneurship .....	3
VIRT - 50	Virtual Office .....	3
VIRT - 51	Social Media .....	3

AOM - 58A	Website Development .....	2
and		
MGMT - 50A	Challenges of Leadership: Difficult People/Tough Conversations .....	0.5
and		
MGMT - 50H	Customer Service .....	0.5
Total: (30 Units)		

**Music, A.A. (10400.AA)**

The Associate in Arts Degree in Music is available for students who meet the graduation requirements and complete the following 31-unit curriculum below, with a minimum grade of a "C" in each course in the degree and maintain a 2.0 GPA.

Program Student Learning Outcomes

- A. Perform selected exercises and compositions that reflect the standard repertoire of lower division instrumental performance courses at four year institutions.
- B. Apply standard theoretical concepts in the understanding of existing compositions, the organization of musical sounds, and in the creation of original compositions.
- C. Demonstrate an understanding of performance ensemble skills including blend, balance, intonation and interpretation as a part of either vocal or instrumental performance groups using a variety of musical styles.
- D. Demonstrate piano proficiency.

Program Requirements:

Program Core: (31 Units)		
MUSG - 10	Music Fundamentals .....	3
MUST - 01	Music Theory I (Diatonic Harmony) .....	3
MUST - 02	Music Theory II (Diatonic Harmony II) .....	3
MUST - 03	Music Theory III (Chromatic Harmony) .....	3
MUST - 04	Music Theory IV (Music Theory of the 20th & 21st Centuries) .....	3
MUST - 05	Aural Skills I .....	1
MUST - 06	Aural Skills II .....	1
Music Applied: (1 Unit)		
MUSA - 20	Applied Music .....	0.5 *
MUSA - 20	Applied Music .....	0.5 *
Music Techniques: (6 Units)		
Select one pair		
MUSA - 21A	Voice I .....	3 and
MUSA - 21B	Voice II .....	3
MUSA - 25A		
MUSA - 25B	Guitar I .....	3 and
MUSA - 25B		
MUSA - 25B	Guitar II .....	3
MUSA - 27A		
MUSA - 27B	Class Piano I .....	3 and
MUSA - 27B		
MUSA - 27B	Class Piano II .....	3
Music Ensembles: (4 Units)		
Select four courses		
MUSE - 41	Concert Band .....	1 *
MUSE - 42	Jazz Ensemble .....	1 *
MUSE - 43	Guitar Ensemble .....	1 *
MUSE - 44	Chorale .....	1 *
MUSE - 45	Chamber Singers .....	1 *
Music Electives: (3 Units)		
Select 3 units from the following:		
MUSG - 11	Classical Music History I .....	3
MUSG - 12	Classical Music History II .....	3
MUSG - 13	Jazz Music History .....	3



MUSG - 14	American Popular Music History .....	3
MUSG - 17	Introduction to Digital Music .....	3
Total: (31 Units)		

Note: \*Repeatable for credit.

Suggested Sequence:

Fall 1		
MUST - 01	Music Theory I (Diatonic Harmony) .....	3
MUST - 05	Aural Skills I .....	1
MUSA Techniques Class (Level A) .....		3
MUSE Performance Ensemble .....		1
Spring 1		
MUST - 02	Music Theory II (Diatonic Harmony II) .....	3
MUST - 06	Aural Skills II .....	1
MUSA Techniques Class (Level B) .....		3
MUSE Performance Ensemble .....		1
Fall 2		
MUST - 03	Music Theory III (Chromatic Harmony) .....	3
MUSG Music Elective .....		3
MUSA - 20	Applied Music .....	0.5
MUSE Performance Ensemble .....		1
Spring 2		
MUST - 04	Music Theory IV (Music Theory of the 20th & 21st Centuries) .....	3
MUSA - 20	Applied Music .....	0.5
MUSE Performance Ensemble .....		1

Suggested Sequence:

Semester 1		
PHOT - 10A	Introduction to Photography .....	3
ART - 15	Design: 2-D Foundations .....	3
Semester 2		
PHOT - 11A	Introduction to the Digital Camera .....	3
PHOT - 10B	Intermediate Photography .....	3
PHOT - 49	Independent Study in Photography .....	1
Semester 3		
PHOT - 33	The History of Photography .....	3
ARTD - 40A	Introduction to Digital Art .....	3
PHOT - 49	Independent Study in Photography .....	1
Semester 4		
PHOT - 35	Studio Careers in Photography .....	3
or		
PHOT - 36	Photo Portfolio Expressions .....	3
ARTD - 40B	Intermediate Digital Art .....	3
AOM - 43	Essentials of Business Communication .....	3
or		
MGMT - 37	Small Business Entrepreneurship .....	3
PHOT - 49	Independent Study in Photography .....	1
Total: (27 Units)		

Note:

students may either enroll in PHOT 49 three times or take AOM 43 or MGMT 37 to fulfill the elective component of the degree.

**Photography, A.A. (10500.AA)**

The Photography program provides thorough preparation for careers and visual expression in photographic fields. The Associate in Arts degree in Photography is available for students who meet the graduation requirements and complete the 27-unit curriculum listed below, with a minimum grade of a "C" in each course in the degree and maintain a 2.0 GPA.

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, digital image captures and emerging photographic mediums.
- B. Create photographic works of art integrating visuals with the elements and principles of design theory and composition.
- C. Compare and contrast individual photographic styles as contextualized through their aesthetic and cultural significance.
- D. Develop personal awareness and understanding of the various multicultural and philosophical patterns of traditional and contemporary photography as the medium relates to the development of art throughout history.

Program Requirements:

Program Core: (27 Units)		
ART - 15	Design: 2-D Foundations .....	3
ARTD - 40A	Introduction to Digital Art .....	3
ARTD - 40B	Intermediate Digital Art .....	3
PHOT - 10A	Introduction to Photography .....	3
PHOT - 10B	Intermediate Photography .....	3
PHOT - 11A	Introduction to the Digital Camera .....	3
PHOT - 35 Studio Careers in Photography .....		
or		
PHOT - 36	Photo Portfolio Expressions .....	3
Three units of Art or Photography History: (3 Units)		
ART - 06	Survey of Modern Art .....	3
PHOT - 33	The History of Photography .....	3
Plus three units from the following electives: (3 Units)		
AOM - 43	Essentials of Business Communication .....	3
MGMT - 37	Small Business Entrepreneurship .....	3
PHOT - 49	Independent Study in Photography .....	1
Total: (27 Units)		

**Theatre Arts, A.A. (10600.AA)**

For an Associate in Arts Degree in Theatre Arts is available for students who meet the graduation requirements and complete the following 30-unit curriculum below, with a minimum grade of a "C" in each course in the degree and maintain a 2.0 GPA.

Program Student Learning Outcomes

- A. Demonstrate an understanding of theatre as a collaborative art form by performing or participating 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 conservatory or certificate programs.
- B. Demonstrate high artistic standards and professional responsibility with regard to acting or technical proficiency, rehearsal preparation and live performance.
- C. Employ necessary skills in stage lighting design and operation, properties construction and design, and costume construction and design.
- D. Differentiate diverse artistic styles, different genres, varied cultural performance histories and their origins.
- E. Develop an understanding and working knowledge of how to produce a play on the stage, including an appreciation of all theatre occupations including playwrighting, directing, acting, design and technical production.

Program Requirements:

Program Core: (30 Units)		
DRAM - 01	Introduction to Theater .....	3
DRAM - 02	Rehearsal and Performance .....	2*
DRAM - 02L	Rehearsal and Performance Lab .....	1*
DRAM - 08	Theatre History: Ancient to Romanticism .....	3
DRAM - 12	Acting I .....	3
DRAM - 15	Stagecraft .....	3
DRAM - 13 Acting II .....		
or		
DRAM - 16	Introduction to Costume Design and Construction ...	3
Plus three units from the following electives: (3 Units)		
DRAM - 14	Acting III: Advanced Scene Study .....	3
DRAM - 23	Script Analysis: Plays in Performance .....	3
Completion of CSU-GE Breadth or IGETC Pattern: (37-39 Units)		

CSU-General Education Breadth Certification Requirements  
 or  
 Intersegmental General Education Transfer Curriculum  
 Possible Double Counting: (6 Units)  
 Transferable Electives as needed to reach 60 units  
 Total: (61-63 Units)

Note:  
 \*Repeatable for credit  
 Suggested Sequence:

Fall 1	
DRAM - 01	Introduction to Theater .....3
DRAM - 02	Rehearsal and Performance .....2
DRAM - 02L	Rehearsal and Performance Lab .....1
DRAM - 12	Acting I .....3
Spring 1	
DRAM - 08	Theatre History: Ancient to Romanticism .....3
Fall 2	
DRAM - 02	Rehearsal and Performance .....2
DRAM - 02L	Rehearsal and Performance Lab .....1
DRAM - 15	Stagecraft .....3
DRAM Elective(s)	
Spring 2	
DRAM Elective(s)	

### Certificate

#### Photography Certificate (10500.CN)

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, digital image captures and emerging photographic mediums.
- B. Create photographic works of art integrating visuals with the elements and principles of design theory and composition.
- C. Compare and contrast individual photographic styles as contextualized through their aesthetic and cultural significance.
- D. Develop personal awareness and understanding of the various multicultural and philosophical patterns of traditional and contemporary photography as the medium relates to the development of art throughout history.

Program Requirements:  
 Program Core: (27 Units)

ART - 15	Design: 2-D Foundations .....3
ARTD - 40A	Introduction to Digital Art .....3
ARTD - 40B	Intermediate Digital Art .....3
PHOT - 10A	Introduction to Photography .....3
PHOT - 10B	Intermediate Photography .....3
PHOT - 11A	Introduction to the Digital Camera .....3
PHOT - 35 Studio Careers in Photography .....3	
or	
PHOT - 36	Photo Portfolio Expressions .....3
Three units of Art or Photography History: (3 Units)	
ART - 06	Survey of Modern Art .....3
PHOT - 33	The History of Photography .....3
Plus three units from the following electives: (3 Units)	
AOM - 43	Essentials of Business Communication .....3
MGMT - 37	Small Business Entrepreneurship .....3
PHOT - 49	Independent Study in Photography .....1
Total: (27 Units)	

# Industrial Technology

## Associate of Arts

### Commercial Refrigeration Technician, A.A. (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

Program Requirements:  
 Program Core: (34 Units)

ELCT - 41	Industrial Motor and Equipment Control (Applications of Electronics) .....3
ELCT - 42A	Principles and Applications of Programmable Logic Controllers .....2
ELCT - 47	Electrical Motors, Generators, Transformers, and AC Distribution .....3
ELCT - 52	Introduction to Electricity and Electronics .....3
INDT - 40	Commercial Refrigeration Systems .....3
INDT - 49	Electrical Codes and Ordinances .....3
INDT - 51	HVAC -- Ventilation and Air Conditioning Systems ..6
MATH - B	Applied Mathematics .....5
WELD - 06	Fundamentals of Oxy-Fuel Welding and Shielded Metal Arc Welding .....3
WELD - 07	Fundamentals of TIG and MIG Welding .....3
Total: (34 Units)	

### Computer & Networking Technology, A.A. (09040.AA)

For an Associate in Arts Degree in Computer and Networking Technology, students must meet the graduation requirements and complete the required program courses with a minimum grade of a C in each course and have a minimum grade point average of 2.0.

Program Student Learning Outcomes

- A. Demonstrate the ability to communicate effectively in accomplishing job related tasks.
- B. Demonstrate field related entry level theoretical and practical skills.
- C. Employ the principles of job related safety requirements.

Program Requirements:  
 Program Core: (33-35 Units)

AOM-30	Introduction to Computer Applications .....3
CPSC - 40A	Networking for Home and Small Businesses .....3
or	
ELCT - 40A	Networking for Home and Small Businesses .....3
CPSC - 40B	Working at a Small-To-Medium Business or ISP .....3
or	
ELCT - 40B	Working At A Small-To-Medium Business or ISP .....3
ELCT - 30	Exploring the World of Electricity and Electronics ....3
or	
ELCT - 31	Foundations of Electronics - DC and AC Circuits .....5
ELCT - 34	Digital Logic, Circuits, and Systems (Foundations of Electronics) .....3

ELCT - 36	Networking Topologies and Cabling .....	3
ELCT - 40C	Routing and Switching in the Enterprise .....	3
ELCT - 40D	Designing and Supporting Computer Networks .....	3
ELCT - 44	Electronics Project Design, Fabrication and Repair .	3
ELCT - 51A	Personal Computer Configuration, Assembly and Repair .....	3
ELCT - 51B	A+ Certification Training .....	3
Total: (33-35 Units)		

**Electronics Technician, A.A. (09250.AA)**

For an Associate in Arts Degree in Electronics Technician, students must meet the general education requirements and complete the required program courses with a minimum grade of a C in each course and have a minimum grade point average of 2.0.

Program Student Learning Outcomes

- A. Develop the lifelong learning skills necessary to think and to act competently in a complex, diverse, and constantly changing technologies.
- B. Differentiate between “Active” and “Passive” electronics components and analyze a basic electronic circuit with DC and/or AC voltage source.
- C. Demonstrate autonomous thinking, problem-solving strategies to facilitate working effectively both, in teams and individually, to accomplish an assigned project.
- D. Develop practical skills in working with electronics test equipment to be able to trouble shoot electronic circuits.

Program Requirements:

Program Core: (30-32 Units)

DRFT - 04A	Fundamentals of Computer-Aided Drafting .....	3
ELCT - 30 or ELCT - 31	Exploring the World of Electricity and Electronics .... Foundations of Electronics - DC and AC Circuits .....	3 5
ELCT - 32	Fundamentals of Analog Electronics .....	5
ELCT - 34	Digital Logic, Circuits, and Systems (Foundations of Electronics) .....	3
ELCT - 35	Microcontrollers and Programming With Robotics Applications .....	4
ELCT - 36	Networking Topologies and Cabling .....	3
ELCT - 43A	Industrial Instrumentation and Process Control .....	3
ELCT - 44	Electronics Project Design, Fabrication and Repair .	3
ELCT - 51A	Personal Computer Configuration, Assembly and Repair .....	3
Total: (30-32 Units)		

**HVAC Technician, A.A. (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.

Program Requirements:

Program Core: (37 Units)

DRFT - 44	Print Reading and Sketching .....	3
ELCT - 47	Electrical Motors, Generators, Transformers, and AC Distribution .....	3
ELCT - 52	Introduction to Electricity and Electronics .....	3
INDT - 49	Electrical Codes and Ordinances .....	3
INDT - 50	HVAC -- Heating and Control Systems .....	6
INDT - 51	HVAC -- Ventilation and Air Conditioning Systems ..	6
INDT - 52	Refrigerant Usage Certification and R-410A Safety .	1
INDT - 71JJ	HVAC Sheet Metal I .....	1
MATH - B	Applied Mathematics .....	5
WELD - 06	Fundamentals of Oxy-Fuel Welding and Shielded Metal Arc Welding .....	3
WELD - 07	Fundamentals of TIG and MIG Welding .....	3
Total: (37 Units)		

**Industrial Electrical Technician, A.A. (09510.AA)**

The Associate in Arts degree in Industrial Electrical Technician will be awarded upon the satisfactory completion of the required 31 units of course work listed below and students must meet the basic graduation requirements. For successful completion, a student must complete the requirements with a minimum grade of a C in each course with a grade point average of 2.0 or higher.

Program Student Learning Outcomes

- A. Communicate effectively in accomplishing job-related tasks.
- B. Demonstrate field related entry level theoretical and practical skills.
- C. Employ the principles of job related safety requirements.

Program Requirements:

Program Core: (31 Units)

ELCT - 41	Industrial Motor and Equipment Control (Applications of Electronics) .....	3
ELCT - 42A	Principles and Applications of Programmable Logic Controllers .....	2
ELCT - 47	Electrical Motors, Generators, Transformers, and AC Distribution .....	3
ELCT - 52	Introduction to Electricity and Electronics .....	3
ELCT - 53A	Solar Installer Course 1 .....	3
ELCT - 55	Electrical Conduit Bending Theory and Techniques .	1
ELCT - 56	Introduction to Mechatronics .....	4
INDT - 25	Fluid Power .....	3
INDT - 35	Electrical Wiring: Residential and Industrial .....	3
INDT - 41	Industrial Power Transmission .....	3
INDT - 49	Electrical Codes and Ordinances .....	3
Completion of MCCD-GE Breadth pattern: (23 Units)		
Associate Degree Breadth Requirements		
Electives (as needed to reach 60 units): (6 Units)		
Total: (60 Units)		

**Industrial Maintenance Technology, A.A. (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

Program Requirements:

Program Core: (44 Units)

DRFT - 44	Print Reading and Sketching .....	3
ELCT - 41	Industrial Motor and Equipment Control (Applications of Electronics) .....	3
ELCT - 47	Electrical Motors, Generators, Transformers, and AC Distribution .....	3
ELCT - 52	Introduction to Electricity and Electronics .....	3
INDT - 10	Agricultural and Industrial Technical Skills .....	3
INDT - 25	Fluid Power .....	3
INDT - 32	Building Construction Concepts .....	3
INDT - 35	Electrical Wiring: Residential and Industrial .....	3
INDT - 41	Industrial Power Transmission .....	3
INDT - 49	Electrical Codes and Ordinances .....	3
MATH - B	Applied Mathematics .....	5
WELD - 06	Fundamentals of Oxy-Fuel Welding and Shielded Metal Arc Welding .....	3
WELD - 07	Fundamentals of TIG and MIG Welding .....	3
WELD - 40A	Introduction Welding Design and Construction .....	3
Total: (44 Units)		

Suggested Sequence:

Fall 1

DRFT - 44	Print Reading and Sketching .....	3
ELCT - 52	Introduction to Electricity and Electronics .....	3
INDT - 10	Agricultural and Industrial Technical Skills .....	3
INDT - 49	Electrical Codes and Ordinances .....	3
MATH - B	Applied Mathematics .....	5

Spring 1

ELCT - 41	Industrial Motor and Equipment Control (Applications of Electronics) .....	3
INDT - 25	Fluid Power .....	3
INDT - 35	Electrical Wiring: Residential and Industrial .....	3
INDT - 41	Industrial Power Transmission .....	3
WELD - 06	Fundamentals of Oxy-Fuel Welding and Shielded Metal Arc Welding .....	3

Fall 2

ELCT - 41	Industrial Motor and Equipment Control (Applications of Electronics) .....	3
INDT - 32	Building Construction Concepts .....	3
WELD - 07	Fundamentals of TIG and MIG Welding .....	3
WELD - 40A	Introduction Welding Design and Construction .....	3
Spring 2		
DRFT - 44	Print Reading and Sketching .....	3
INDT - 10	Agricultural and Industrial Technical Skills .....	3
INDT - 35	Electrical Wiring: Residential and Industrial .....	3
MATH - B	Applied Mathematics .....	5
WELD - 06	Fundamentals of Oxy-Fuel Welding and Shielded Metal Arc Welding .....	3

**Instrumentation and Process Control Technology, A.A. (09650.AA)**

An Associate in Arts Degree in Instrumentation and Process Control Technology will be awarded upon the completion of the required program courses with a minimum grade of C and the requirements for the general education.

Program Student Learning Outcomes

- A. Demonstrate the ability to communicate effectively in accomplishing job related tasks.
- B. Analyze electrical circuits for required electrical operation and required electrical codes.
- C. Develop safe electrical working practices in accordance with electrical codes and OSHA requirements.

Program Requirements:

Program Core: (29-31 Units)

ELCT - 31	Foundations of Electronics - DC and AC Circuits .....	5
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or

ELCT - 52	Introduction to Electricity and Electronics .....	3
ELCT - 34	Digital Logic, Circuits, and Systems (Foundations of Electronics) .....	3
ELCT - 41	Industrial Motor and Equipment Control (Applications of Electronics) .....	3
ELCT - 42A	Principles and Applications of Programmable Logic Controllers .....	2
ELCT - 42B	Advanced Topics in PLC Configuration and Programming .....	2
ELCT - 43A	Industrial Instrumentation and Process Control .....	3
ELCT - 47	Electrical Motors, Generators, Transformers, and AC Distribution .....	3
ELCT - 55	Electrical Conduit Bending Theory and Techniques .....	1
ELCT - 58	Electrical Printreading for Installation and Troubleshooting .....	3
INDT - 25	Fluid Power .....	3
INDT - 49	Electrical Codes and Ordinances .....	3
Total: (29-31 Units)		

**Welding Technology, A.A. (09800.AA)**

An Associate in Arts Degree in Welding Technology is available for students who complete the graduation requirements and successfully complete the courses required with a minimum grade point of 2.0 in each course.

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 welding related equipment in order to maintain and adjust the equipment as necessary.
- D. Acquire skills and knowledge to make a successful transition to an entry-level position in the work force.
- E. Demonstrate the ability to pass the workmanship tests using common welding processes.

Program Requirements:

Program Core: (19 units)

DRFT - 44	Print Reading and Sketching .....	3
DRFT - 59	Basic Drafting .....	3
WELD - 06	Fundamentals of Oxy-Fuel Welding and Shielded Metal Arc Welding .....	3
WELD - 07	Fundamentals of TIG and MIG Welding .....	3
WELD - 40A	Introduction Welding Design and Construction .....	3 *
WELD - 40B	Advanced Welding Design and Construction .....	3 *
WELD - 46	Advanced Arc Welding Procedures .....	1 **
Total: (19 Units)		

Suggested Sequence:

Fall 1

DRFT - 59	Basic Drafting .....	3
WELD - 06	Fundamentals of Oxy-Fuel Welding and Shielded Metal Arc Welding .....	3
WELD - 07	Fundamentals of TIG and MIG Welding .....	3

Spring 1

WELD - 40A	Introduction Welding Design and Construction .....	3 *
WELD - 46	Advanced Arc Welding Procedures .....	1 **

Fall 2

WELD - 40B	Advanced Welding Design and Construction .....	3 *
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Note:

\*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.

Associate of Science

## Associate in Science

### ~~Automotive Collision Repair, A.S. (09000.AS)~~

~~The Automotive Collision Repair Associate in Science degree will be awarded upon satisfactory completion of the full program option and graduation requirements.~~

~~The student must complete the requirements with a minimum grade point of 2.0 in each course required for the degree.~~

#### ~~Program Student Learning Outcomes~~

- ~~A. Develop knowledge of collision repair safety.~~
- ~~B. Analyze vehicle damage in order to implement appropriate repair techniques.~~
- ~~C. Develop collision repair skills in accordance with industry standards.~~
- ~~D. Demonstrate knowledge of environmental standards related to collision repair.~~

#### ~~Program Requirements:~~

~~Program Core: (26.5-27 Units)~~

<del>AUTO - 04</del>	<del>Automotive Mechanics</del>	<del>3</del>
<del>AUTO - 32</del>	<del>Wheel Alignment and Suspension</del>	<del>4</del>
<del>AUTO - 48F</del>	<del>Special Problems in Auto Body Repair and Painting</del>	<del>1.5-2.0</del>
<del>AUTO - 50</del>	<del>Auto Body Repair and Painting</del>	<del>4</del>
<del>AUTO - 51</del>	<del>Advanced Auto Body Repair and Refinishing</del>	<del>4</del>
<del>AUTO - 63</del>	<del>Basic Automotive Electronics for Technicians</del>	<del>4</del>
<del>AUTO - 66</del>	<del>Automotive Parts and Service Advising</del>	<del>3</del>
<del>WELD - 07</del>	<del>Fundamentals of TIG and MIG Welding</del>	<del>3</del>
<del>Total: (26.5-27 Units)</del>		

#### ~~Suggested Sequence:~~

##### ~~Semester 1~~

<del>AUTO - 04</del>	<del>Automotive Mechanics</del>	<del>3</del>
<del>AUTO - 32</del>	<del>Wheel Alignment and Suspension</del>	<del>4</del>
<del>AUTO - 50</del>	<del>Auto Body Repair and Painting</del>	<del>4</del>
<del>AUTO - 63</del>	<del>Basic Automotive Electronics for Technicians</del>	<del>4</del>

##### ~~Semester 2~~

<del>AUTO - 51</del>	<del>Advanced Auto Body Repair and Refinishing</del>	<del>4</del>
<del>WELD - 07</del>	<del>Fundamentals of TIG and MIG Welding</del>	<del>3</del>

##### ~~Semester 3~~

<del>AUTO - 48F</del>	<del>Special Problems in Auto Body Repair and Painting</del>	<del>1.5-2.0</del>
<del>AUTO - 66</del>	<del>Automotive Parts and Service Advising</del>	<del>3</del>

### CAD Drafting, Architectural Design, A.S. (09104.AS)

The Associate in Science in CAD Drafting - Architectural Design shows that a student is familiar with advanced 3D Architectural tools, CalGreen, and building techniques. An Associate in Science in CAD Drafting -Architectural Design is available for students who meet the graduation requirements and complete the 27-unit core and 6-7 units from the electives list, with a minimum grade of "C" in each course in the degree and maintain a 2.0 GPA.

#### Program Student Learning Outcomes

- A. Create all drawings and documentation needed to explain the design of a building.
- B. Apply new building techniques as well as CalGreen codes to building design.
- C. Choose the best software package to accomplish stated goals.

#### Program Requirements:

Program Core: (33-34 Units)

DRFT - 04A	Fundamentals of Computer-Aided Drafting	3
DRFT - 04B	Introduction to 3D	3
DRFT - 10	Rendering and Animation	3
DRFT - 35	Capstone Design Project	3
DRFT - 41	Civil Drafting	3
DRFT - 42A	Architectural Drafting - Auto Cad	3

DRFT - 42B	Architectural Drafting -- 3D	3
DRFT - 43	Sustainable Architecture	3
DRFT - 44	Print Reading and Sketching	3
plus 6 units from the following courses: (6 Units)		
AOM-30	Introduction to Computer Applications	3
or		
CPSC - 01	Introduction to Computer Information Systems	4
or		
INDT - 38I	Industrial Technology Computer Applications and Literacy	3
INDT - 32	Building Construction Concepts	3
INDT - 49	Electrical Codes and Ordinances	3
GE Pattern MCCC GE Breadth (23 Units)		
Associate Degree Breadth Requirements		
Electives (as needed): (3-4 Units)		
Double-Counted: (0 Units)		
Total: (60 Units)		

### CAD Drafting, Mechanical Design, A.S. (09105.AS)

The Associate in Science degree in CAD Drafting - Mechanical Design shows that a student is familiar with advanced 3D modeling tools, production methods, and product design concepts. An Associates in Science Degree in CAD Drafting - Mechanical Design is available for students who meet the graduation requirements and complete the 30-unit core and 3-4 units from the electives list, with a minimum grade of a "C" in each course in the degree, and maintain a 2.0 GPA

#### Program Student Learning Outcomes

- A. Design Mechanical Assemblies.
- B. Choose the best software package to accomplish stated goals.
- C. Create all the associated drawings, and documentation needed to manufacture the product.

#### Program Requirements:

Program Core: (33-34 Units)

DRFT - 04A	Fundamentals of Computer-Aided Drafting	3
DRFT - 04B	Introduction to 3D	3
DRFT - 04C	Introduction to Parametric Modeling	3
DRFT - 04D	Advanced Parametric Modeling	3
DRFT - 05	Technical Graphics	3
DRFT - 06	Production Methods	3
DRFT - 10	Rendering and Animation	3
DRFT - 25	Descriptive Geometry	3
DRFT - 35	Capstone Design Project	3
DRFT - 44	Print Reading and Sketching	3
plus 3-4 units from the following courses: (3-4 Units)		
AOM-30	Introduction to Computer Applications	3
or		
CPSC - 01	Introduction to Computer Information Systems	4
or		
INDT - 38I	Industrial Technology Computer Applications and Literacy	3
GE Pattern MCCC GE Breadth: (23 Units)		
Associate Degree Breadth Requirements		
Electives (as needed): (3-4 Units)		
Double-Counted: (0 Units)		
Total: (60 Units)		

#### Suggested Sequence:

Fall 1		
DRFT - 04C	Introduction to Parametric Modeling	3
DRFT - 44	Print Reading and Sketching	3
Computers (CPSC 01 or AOM 30)		3 or 4
Spring 1		
DRFT - 04A	Fundamentals of Computer-Aided Drafting	3
DRFT - 04B	Introduction to 3D	3
DRFT - 05	Technical Graphics	3
Fall 2		
DRFT - 06	Production Methods	3

DRFT - 25	Descriptive Geometry .....	3
Spring 2		
DRFT - 04D	Advanced Parametric Modeling .....	3
DRFT - 10	Rendering and Animation .....	3
DRFT - 35	Capstone Design Project .....	3

**CAD Draftsman, Architectural, A.S. (09101.AS)**

The CAD Draftsman - Architectural A.S. shows that a student knows how to effectively use 2D and 3D drafting programs. Students also are familiar with Architectural standards, and know what is required to produce a complete set of plans. An Associate in Science Degree in CAD Draftsman - Architectural is available for students who meet the graduation requirements and completing the 18-unit core and 3-4 units from the electives list, with a minimum grade of a "C" in each course in the degree, and maintain a 2.0 GPA.

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.

Program Requirements:

Program Core: (21 Units)

DRFT - 04A	Fundamentals of Computer-Aided Drafting .....	3
DRFT - 04B	Introduction to 3D .....	3
DRFT - 41	Civil Drafting .....	3
DRFT - 42A	Architectural Drafting - Auto Cad .....	3
DRFT - 42B	Architectural Drafting -- 3D .....	3
DRFT - 44	Print Reading and Sketching .....	3
plus 3 units from the following courses:		
AOM-30	Introduction to Computer Applications .....	3
CPSC - 01	Introduction to Computer Information Systems .....	4
Total: (21 Units)		

Suggested Sequence:

Fall 1		
DRFT - 04A	Fundamentals of Computer-Aided Drafting .....	3
DRFT - 44	Print Reading and Sketching .....	3
Computers (CPSC 01 or AOM 30) .....3 or 4		
Spring 1		
DRFT - 04B	Introduction to 3D .....	3
DRFT - 42A	Architectural Drafting - Auto Cad .....	3
Fall 2		
DRFT - 41	Civil Drafting .....	3
DRFT - 42B	Architectural Drafting -- 3D .....	3
DRFT - 43	Sustainable Architecture .....	3
Spring 2		
DRFT - 10	Rendering and Animation .....	3
DRFT - 35	Capstone Design Project .....	3

**CAD Draftsman, Mechanical, A.S. (09102.AS)**

The CAD Draftsman - Mechanical A.S. shows that a student knows how to effectively use 2D and 3D drafting programs. Students also are familiar with ANSI standards, and know what is required to produce complete drawings. An Associates in Science Degree in CAD Draftsman - Mechanical is available for students who meet the graduation requirements and completing the 18-unit core and 3-4 units from the electives list, with a minimum grade of a "C" in each course in the degree, and maintain a 2.0 GPA.

Program Student Learning Outcomes

- A. Create a set of drawings using CAD programs.
- B. Organize dimensions in a meaningful manor as required by standards
- C. Employ the newest technology related to Mechanical drafting/design

Program Requirements:

Program Core: (21-22 Units)

DRFT - 04A	Fundamentals of Computer-Aided Drafting .....	3
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DRFT - 04B	Introduction to 3D .....	3
DRFT - 04C	Introduction to Parametric Modeling .....	3
DRFT - 05	Technical Graphics .....	3
DRFT - 25	Descriptive Geometry .....	3
DRFT - 44	Print Reading and Sketching .....	3
plus 3 units from the following courses:		
AOM-30	Introduction to Computer Applications .....	3
CPSC - 01	Introduction to Computer Information Systems .....	4
Total: (21-22 Units)		

**Master Auto Technician, A.S. (09003.AS)**

The Master in Automotive Technician Associate in Science Degree will be awarded upon satisfactory completion of the full program option and graduation requirements. The student must complete the requirements with a minimum grade point of 2.0 in each course required for the degree.

Program Student Learning Outcomes:

- A. Develop safe work habits with the use of automotive service tools and equipment extending to the advanced level.
- B. Inspect automotive components and systems for proper operation extending to the advanced level.
- C. Collect automotive service and diagnostic information with the use of computerized tools and resources extending to advanced level systems.

Program Requirements:

Program Core: (51 Units)

AUTO - 04	Automotive Mechanics .....	3
AUTO - 32	Wheel Alignment and Suspension .....	4
AUTO - 33	Automotive Brake Systems .....	4
AUTO - 36	Automotive Manual Transmissions and Drive Trains .....	4
AUTO - 41	Automotive Engines .....	4
AUTO - 42	Automotive Electrical Systems .....	4
AUTO - 43	Automotive Fuel Systems .....	4
AUTO - 44	Automotive Air Conditioning, Heating System, Cooling System .....	4
AUTO - 46	Automatic Transmissions .....	4
AUTO - 47	Engine Performance .....	2
AUTO - 55	Automotive Emissions Level 1 and 2 Training .....	5
AUTO - 56	Advanced Diagnosis and Repair in Automotive Technology .....	2
AUTO - 63	Basic Automotive Electronics for Technicians .....	4
AUTO - 66	Automotive Parts and Service Advising .....	3
Total: (51 Units)		

Suggested Sequence:

Semester 1		
AUTO - 04	Automotive Mechanics .....	3
AUTO - 32	Wheel Alignment and Suspension .....	4
AUTO - 33	Automotive Brake Systems .....	4
AUTO - 42	Automotive Electrical Systems .....	4
AUTO - 63	Basic Automotive Electronics for Technicians .....	4
Semester 2		
AUTO - 36	Automotive Manual Transmissions and Drive Trains .....	4
AUTO - 41	Automotive Engines .....	4
AUTO - 43	Automotive Fuel Systems .....	4
AUTO - 46	Automatic Transmissions .....	4
Semester 3		
AUTO - 44	Automotive Air Conditioning, Heating System, Cooling System .....	4
AUTO - 47	Engine Performance .....	2
AUTO - 55	Automotive Emissions Level 1 and 2 Training .....	5
AUTO - 56	Advanced Diagnosis and Repair in Automotive Technology .....	2
AUTO - 66	Automotive Parts and Service Advising .....	3

**Certificate**

~~Advanced Welding and Metal Fabrication Certificate~~

**Welding Technology Certificate(09810.CN)**

A Certificate of Achievement will be awarded upon successful completion of the required 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. 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 welding related equipment in order to maintain and adjust the equipment as necessary.
- D. Acquire skills and knowledge to make a successful transition to an entry-level position in the work force.
- E. Demonstrate the ability to pass the workmanship tests using common welding processes.

Program Requirements:

Program Core: (18 Units)

DRFT - 44	Print Reading and Sketching .....	3
<del>DRFT-39</del>	<del>Basic Drafting .....</del>	<del>3</del>
WELD - 06	Fundamentals of Oxy-Fuel Welding and Shielded Metal Arc Welding .....	3
WELD - 07	Fundamentals of TIG and MIG Welding .....	3
WELD - 40A	Introduction Welding Design and Construction .....	3 *
WELD - 40B	Advanced Welding Design and Construction .....	3 *
WELD - 46	Advanced Arc Welding Procedures .....	1 **
WELD-53	Fabrication Equipment Operation and Safety .....	2
Total: (18 Units)		

Suggested Sequence:

Fall 1		
DRFT - 44	Print Reading and Sketching .....	3
WELD - 06	Fundamentals of Oxy-Fuel Welding and Shielded Metal Arc Welding .....	3
WELD - 07	Fundamentals of TIG and MIG Welding .....	3
Spring 1		
WELD - 40A	Introduction Welding Design and Construction .....	3 *
WELD - 46	Advanced Arc Welding Procedures .....	1 **
Fall 2		
WELD - 40B	Advanced Welding Design and Construction .....	3 *

Note:

\*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.

**Automotive Collision Repair Certificate (09009.GL)**

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 knowledge of collision repair safety.~~
- ~~B. Analyze vehicle damage in order to implement appropriate repair techniques.~~
- ~~C. Develop collision repair skills in accordance with industry standards.~~
- ~~D. Demonstrate knowledge of environmental standards related to collision repair.~~

Program Requirements:

Program Core: (26.5-27 Units)

AUTO - 04	Automotive Mechanics .....	3
AUTO - 32	Wheel Alignment and Suspension .....	4
AUTO - 48F	Special Problems in Auto Body Repair and Painting .....	3

1.5-2.0

AUTO - 50	Auto Body Repair and Painting .....	4
AUTO - 51	Advanced Auto Body Repair and Refinishing .....	4
AUTO - 63	Basic Automotive Electronics for Technicians .....	4
AUTO - 66	Automotive Parts and Service Advising .....	3
WELD - 07	Fundamentals of TIG and MIG Welding .....	3
Total: (26.5-27 Units)		

Program Requirements:

Semester 1

AUTO - 04	Automotive Mechanics .....	3
AUTO - 32	Wheel Alignment and Suspension .....	4
AUTO - 50	Auto Body Repair and Painting .....	4
AUTO - 63	Basic Automotive Electronics for Technicians .....	4

Semester 2

AUTO - 51	Advanced Auto Body Repair and Refinishing .....	4
WELD - 07	Fundamentals of TIG and MIG Welding .....	3

Semester 3

AUTO - 48F	Special Problems in Auto Body Repair and Painting .....	3
AUTO - 66	Automotive Parts and Service Advising .....	3

**Automotive Technology Level 1 Certificate (09010.CN)**

The Automotive Technology Level 1 certificate will be awarded upon satisfactory completion of the option. The 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 safe work habits with the use of automotive service tools and equipment related to entry level systems.
- B. Inspect automotive components and systems for proper operation at the entry level.
- C. Collect automotive service and diagnostic information with the use of computerized tools and resources related to entry level automotive systems.

Program Requirements:

Program Core: (19 Units)

AUTO - 04	Automotive Mechanics .....	3
AUTO - 32	Wheel Alignment and Suspension .....	4
AUTO - 33	Automotive Brake Systems .....	4
AUTO - 42	Automotive Electrical Systems .....	4
AUTO - 63	Basic Automotive Electronics for Technicians .....	4
Total: (19 Units)		

Suggested Sequence:

Semester 1

AUTO - 04	Automotive Mechanics .....	3
AUTO - 32	Wheel Alignment and Suspension .....	4
AUTO - 33	Automotive Brake Systems .....	4
AUTO - 42	Automotive Electrical Systems .....	4
AUTO - 63	Basic Automotive Electronics for Technicians .....	4

**Automotive Technology Level 2 Certificate (09002.CT)**

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 safe work habits with the use of automotive service tools and equipment extending to the intermediate level systems.
- B. Inspect automotive components and systems for proper operation extending to the intermediate level.
- C. Collect automotive service and diagnostic information with the use of computerized tools and resources extending to intermediate level systems.

Program Requirements:

Program Core: (35 Units)

AUTO - 04	Automotive Mechanics .....	3
AUTO - 32	Wheel Alignment and Suspension .....	4
AUTO - 33	Automotive Brake Systems .....	4
AUTO - 36	Automotive Manual Transmissions and Drive Trains	4
AUTO - 41	Automotive Engines .....	4
AUTO - 42	Automotive Electrical Systems .....	4
AUTO - 43	Automotive Fuel Systems .....	4
AUTO - 46	Automatic Transmissions .....	4
AUTO - 63	Basic Automotive Electronics for Technicians .....	4
Total: (35 Units)		

Suggested Sequence:

Semester 1

AUTO - 04	Automotive Mechanics .....	3
AUTO - 32	Wheel Alignment and Suspension .....	4
AUTO - 33	Automotive Brake Systems .....	4
AUTO - 42	Automotive Electrical Systems .....	4
AUTO - 63	Basic Automotive Electronics for Technicians .....	4

Semester 2

AUTO - 36	Automotive Manual Transmissions and Drive Trains	4
AUTO - 41	Automotive Engines .....	4
AUTO - 43	Automotive Fuel Systems .....	4
AUTO - 46	Automatic Transmissions .....	4

**CAD Drafting, Architectural Design Certificate**

**(09104.CT)**

The CAD Drafting - Architectural Design Certificate shows that a student is familiar with advanced 3D Architectural tools, CalGreen, and building techniques. A Certificate of Achievement in CAD Drafting - Architectural Design is available upon successful completion of the 27-unit core and 6-7 units from the electives list.

Program Student Learning Outcomes

- A. Create all drawings and documentation needed to explain the design of a building.
- B. Apply new building techniques as well as CalGreen codes to building design.
- C. Choose the best software package to accomplish stated goals.

Program Requirements:

Program Core: (33-34 Units)

DRFT - 04A	Fundamentals of Computer-Aided Drafting .....	3
DRFT - 04B	Introduction to 3D .....	3
DRFT - 10	Rendering and Animation .....	3
DRFT - 35	Capstone Design Project .....	3
DRFT - 41	Civil Drafting .....	3
DRFT - 42A	Architectural Drafting - Auto Cad .....	3
DRFT - 42B	Architectural Drafting -- 3D .....	3
DRFT - 43	Sustainable Architecture .....	3
DRFT - 44	Print Reading and Sketching .....	3

plus 3 units from the following courses:

AOM-30	Introduction to Computer Applications .....	3
CPSC - 01	Introduction to Computer Information Systems .....	4

plus 3 units from the following courses:

INDT - 32	Building Construction Concepts .....	3
INDT - 49	Electrical Codes and Ordinances .....	3

Total: (33-34 Units)

**CAD Drafting, Mechanical Design Certificate**

**(09105.CT)**

The CAD Drafting - Mechanical Design Certificate shows that a student is familiar with advanced 3D modeling tools, production methods, and product design concepts. A Certificate of Achievement in CAD Drafting - Mechanical Design is available upon successful completion of the 30-unit core and 3-4 units from the electives list.

Program Student Learning Outcomes

- A. Design Mechanical Assemblies.
- B. Choose the best software package to accomplish stated goals.
- C. Create all the associated drawings, and documentation needed to manufacture the product.

Program Requirements:

Program Core: (33-34 Units)

DRFT - 04A	Fundamentals of Computer-Aided Drafting .....	3
DRFT - 04B	Introduction to 3D .....	3
DRFT - 04C	Introduction to Parametric Modeling .....	3
DRFT - 04D	Advanced Parametric Modeling .....	3
DRFT - 05	Technical Graphics .....	3
DRFT - 06	Production Methods .....	3
DRFT - 10	Rendering and Animation .....	3
DRFT - 25	Descriptive Geometry .....	3
DRFT - 35	Capstone Design Project .....	3
DRFT - 44	Print Reading and Sketching .....	3

plus 3 units from the following courses:

AOM-30	Introduction to Computer Applications .....	3
CPSC - 01	Introduction to Computer Information Systems .....	4

Total: (33-34 Units)

Suggested Sequence:

Fall 1

DRFT - 04C	Introduction to Parametric Modeling .....	3
DRFT - 44	Print Reading and Sketching .....	3
Computers (CPSC 01 or AOM 30)	.....	3 or 4

Spring 1

DRFT - 04A	Fundamentals of Computer-Aided Drafting .....	3
DRFT - 04B	Introduction to 3D .....	3
DRFT - 05	Technical Graphics .....	3

Fall 2

DRFT - 06	Production Methods .....	3
DRFT - 25	Descriptive Geometry .....	3

Spring 2

DRFT - 04D	Advanced Parametric Modeling .....	3
DRFT - 10	Rendering and Animation .....	3
DRFT - 35	Capstone Design Project .....	3

**CAD Draftsman, Architectural Certificate (09101.CN)**

The CAD Draftsman - Architectural Certificate shows that a student knows how to effectively use 2D and 3D drafting programs. Students also are familiar with Architectural standards, and know what is required to produce a complete set of plans. A Certificate of Achievement in CAD Draftsman - Architectural is available upon successful completion of the 18-unit core and 3-4 units from the electives list.

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.

Program Requirements:

Program Core: (21-22 Units)

DRFT - 04A	Fundamentals of Computer-Aided Drafting .....	3
DRFT - 04B	Introduction to 3D .....	3
DRFT - 41	Civil Drafting .....	3
DRFT - 42A	Architectural Drafting - Auto Cad .....	3
DRFT - 42B	Architectural Drafting -- 3D .....	3
DRFT - 44	Print Reading and Sketching .....	3

plus 3 units from the following courses:

AOM-30	Introduction to Computer Applications .....	3
CPSC - 01	Introduction to Computer Information Systems .....	4

Total: (21-22 Units)

Suggested Sequence:

Fall 1

DRFT - 04A	Fundamentals of Computer-Aided Drafting .....	3
DRFT - 44	Print Reading and Sketching .....	3
Computers (CPSC 01 or AOM 30)	.....	3 or 4



Spring 1	
DRFT - 04B	Introduction to 3D .....3
DRFT - 42A	Architectural Drafting - Auto Cad .....3
Fall 2	
DRFT - 41	Civil Drafting .....3
DRFT - 42B	Architectural Drafting -- 3D .....3
DRFT - 43	Sustainable Architecture .....3
Spring 2	
DRFT - 10	Rendering and Animation .....3
DRFT - 35	Capstone Design Project .....3

**CAD Draftsman, Mechanical Certificate (09102.CN)**

The CAD Draftsman - Mechanical Certificate shows that a student knows how to effectively use 2D and 3D drafting programs. Students also are familiar with ANSI standards, and know what is required to produce complete drawings. A Certificate of Achievement in CAD Draftsman - Mechanical is available upon successful completion of the 18-unit core and 3-4 units from the electives list.

Program Student Learning Outcomes

- A. Create a set of drawings using CAD programs.
- B. Organize dimensions in a meaningful manner as required by standards.
- C. Employ the newest technology related to Mechanical drafting/design

Program Requirements:

Program Core: (21-22 Units)

DRFT - 04A	Fundamentals of Computer-Aided Drafting .....3
DRFT - 04B	Introduction to 3D .....3
DRFT - 04C	Introduction to Parametric Modeling .....3
DRFT - 05	Technical Graphics .....3
DRFT - 25	Descriptive Geometry .....3
DRFT - 44	Print Reading and Sketching .....3

plus 3 units from the following courses:

AOM-30	Introduction to Computer Applications .....3
CPSC - 01	Introduction to Computer Information Systems .....4

Total: (21-22 Units)

Suggested Sequence: (33 Units)

Fall Semester

DRFT - 04B	Introduction to 3D .....3
DRFT - 04C	Introduction to Parametric Modeling .....3
DRFT - 06	Production Methods .....3
DRFT - 44	Print Reading and Sketching .....3

INDT - 38I	Industrial Technology Computer Applications and Literacy .....3
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or

Spring Semester

DRFT - 04A	Fundamentals of Computer-Aided Drafting .....3
DRFT - 04D	Advanced Parametric Modeling .....3
DRFT - 05	Technical Graphics .....3
DRFT - 10	Rendering and Animation .....3
DRFT - 25	Descriptive Geometry .....3
DRFT - 35	Capstone Design Project .....3

**CAD Operator Certificate (09103.CM)**

The CAD Operator Certificate shows that a student is familiar with 2D, and basic 3D CAD programs. Students who complete this certificate are able to use AutoCAD and SketchUp to create 2D drawings and 3D models, they are also familiar with ways to modify AutoCAD to suit their drawing style, and increase productivity. A Certificate of Achievement in CAD Operator is available upon successful completion of the 9-unit core and 3-4 units from the electives list.

Program Student Learning Outcomes

- A. Plan and Implement changes to the AutoCAD Interface.
- B. Create 3D models effectively using AutoCAD, and SketchUp.
- C. Use of Computers effectively for industrial applications.

Program Requirements:

Program Core: (12-13 Units)

DRFT - 04A	Fundamentals of Computer-Aided Drafting .....3
DRFT - 04B	Introduction to 3D .....3
DRFT-48B	course inactivated effective Summer 2016 .....3
plus 3 units from the following courses:	
AOM-30	Introduction to Computer Applications .....3
CPSC - 01	Introduction to Computer Information Systems .....4
Total: (12-13 Units)	

**Commercial Refrigeration Technician Certificate (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

Program Requirements:

Program Core: (34 Units)

ELCT - 41	Industrial Motor and Equipment Control (Applications of Electronics) .....3
ELCT - 42A	Principles and Applications of Programmable Logic Controllers .....2
ELCT - 47	Electrical Motors, Generators, Transformers, and AC Distribution .....3
ELCT - 52	Introduction to Electricity and Electronics .....3
INDT - 40	Commercial Refrigeration Systems .....3
INDT - 49	Electrical Codes and Ordinances .....3
INDT - 51	HVAC -- Ventilation and Air Conditioning Systems ..6
MATH - B	Applied Mathematics .....5
WELD - 06	Fundamentals of Oxy-Fuel Welding and Shielded Metal Arc Welding .....3
WELD - 07	Fundamentals of TIG and MIG Welding .....3
Total: (34 Units)	

**Computer and Networking Technology Certificate (09040.CT)**

A Certificate of Achievement in Computer and Networking Technology, may be earned by the successful completion of the options listed below. A student must complete the required program courses with a minimum grade of a C in each course and have a minimum grade point average of 2.0.

Program Student Learning Outcomes

- A. Demonstrate the ability to communicate effectively in accomplishing job related tasks.
- B. Demonstrate field related entry level theoretical and practical skills.
- C. Employ the principles of job related safety requirements.

Program Requirements:

Program Core: (33-35 Units)

AOM-30	Introduction to Computer Applications .....3
CPSC - 40A	Networking for Home and Small Businesses .....3
or	
ELCT - 40A	Networking for Home and Small Businesses .....3
CPSC - 40B	Working at a Small-To-Medium Business or ISP .....3
or	

ELCT - 40B	Working At A Small-To-Medium Business or ISP .....3
ELCT - 30 or ELCT - 31	Exploring the World of Electricity and Electronics ....3 Foundations of Electronics - DC and AC Circuits .....5
ELCT - 34	Digital Logic, Circuits, and Systems (Foundations of Electronics) .....3
ELCT - 36	Networking Topologies and Cabling .....3
ELCT - 40C	Routing and Switching in the Enterprise .....3
ELCT - 40D	Designing and Supporting Computer Networks .....3
ELCT - 44	Electronics Project Design, Fabrication and Repair .3
ELCT - 51A	Personal Computer Config. Assembly & Repair .....3
ELCT - 51B	A+ Certification Training .....3
Total: (33-35 Units)	

Suggested Sequence: (33-35 Units)

Fall Semester

ELCT - 30 or ELCT - 31	Exploring the World of Electricity and Electronics ....3 Foundations of Electronics - DC and AC Circuits .....5
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ELCT - 40A	Networking for Home and Small Businesses .....3
ELCT - 40B	Working At A Small-To-Medium Business or ISP .....3
ELCT - 44	Electronics Project Design, Fabrication and Repair .3
ELCT - 51A	Personal Computer Configuration, Assembly and Repair .....3

Spring Semester

ELCT - 34	Digital Logic, Circuits, and Systems (Foundations of Electronics) .....3
ELCT - 36	Networking Topologies and Cabling .....3
ELCT - 40C	Routing and Switching in the Enterprise .....3
ELCT - 40D	Designing and Supporting Computer Networks .....3
ELCT - 51B	A+ Certification Training .....3
Total: (33-35)	

**Electronics Technician Certificate (09250.CT)**

A Certificate of Achievement in Electronics Technician will be awarded upon the satisfactory completion of the required program courses. Student must complete the required program courses with a minimum grade of a C in each course and have a minimum grade point average of 2.0.

Program Student Learning Outcomes

- A. Develop the lifelong learning skills necessary to think and to act competently in a complex, diverse, and constantly changing technologies.
- B. Differentiate between “Active” and “Passive” electronics components and analyze a basic electronic circuit with DC and/or AC voltage source.
- C. Demonstrate autonomous thinking, problem-solving strategies to facilitate working effectively both, in teams and individually, to accomplish an assigned project.
- D. Develop practical skills in working with electronics test equipment to be able to trouble shoot electronic circuits.

Program Requirements:

Program Core: (30-32 Units)

DRFT - 04A	Fundamentals of Computer-Aided Drafting .....3
ELCT - 30 or ELCT - 31	Exploring the World of Electricity and Electronics ....3 Foundations of Electronics - DC and AC Circuits .....5
ELCT - 32	Fundamentals of Analog Electronics .....5
ELCT - 34	Digital Logic, Circuits, and Systems (Foundations of Electronics) .....3
ELCT - 35	Microcontrollers and Programming With Robotics Applications .....4
ELCT - 36	Networking Topologies and Cabling .....3
ELCT - 43A	Industrial Instrumentation and Process Control .....3

ELCT - 44	Electronics Project Design, Fabrication and Repair .3
ELCT - 51A	Personal Computer Configuration, Assembly and Repair .....3
Total: (30-32 Units)	

**HVAC Technician Certificate (09400.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.

Program Requirements:

Program Core: (37 Units)

DRFT - 44	Print Reading and Sketching .....3
ELCT - 47	Electrical Motors, Generators, Transformers, and AC Distribution .....3
ELCT - 52	Introduction to Electricity and Electronics .....3
INDT - 49	Electrical Codes and Ordinances .....3
INDT - 50	HVAC -- Heating and Control Systems .....6
INDT - 51	HVAC -- Ventilation and Air Conditioning Systems ..6
INDT - 52	Refrigerant Usage Certification and R-410A Safety .1
INDT - 71JJ	HVAC Sheet Metal I .....1
MATH - B	Applied Mathematics .....5
WELD - 06	Fundamentals of Oxy-Fuel Welding and Shielded Metal Arc Welding .....3
WELD - 07	Fundamentals of TIG and MIG Welding .....3
Total: (37 Units)	

**Industrial Electrical Technician Certificate (09510.CT)**

A Certificate of Achievement in Industrial Electrical Technician will be awarded upon the satisfactory completion of the required 31 units of course work listed below. For successful completion, a student must complete the requirements with a minimum grade of a C in each course with a grade point average of 2.0 or higher.

Program Student Learning Outcomes

- A. Communicate effectively in accomplishing job-related tasks.
- B. Demonstrate field related entry level theoretical and practical skills.
- C. Employ the principles of job-related safety requirements.

Program Requirements:

Program Core: (31 Units)

ELCT - 41	Industrial Motor and Equipment Control (Applications of Electronics) .....3
ELCT - 42A	Principles and Applications of Programmable Logic Controllers .....2
ELCT - 47	Electrical Motors, Generators, Transformers, and AC Distribution .....3
ELCT - 52	Introduction to Electricity and Electronics .....3
ELCT - 53A	Solar Installer Course 1 .....3
ELCT - 55	Electrical Conduit Bending Theory and Techniques .1
ELCT - 56	Introduction to Mechatronics .....4
INDT - 25	Fluid Power .....3
INDT - 35	Electrical Wiring: Residential and Industrial .....3
INDT - 41	Industrial Power Transmission .....3
INDT - 49	Electrical Codes and Ordinances .....3
Total: (31 Units)	

**Suggested Sequence: (31 Units)**

**Fall Semester classes**

INDT - 25	Fluid Power .....	3
ELCT - 41	Industrial Motor and Equipment Control (Applications of Electronics) .....	3
ELCT - 42A	Principles and Applications of Programmable Logic Controllers .....	2
ELCT - 47	Electrical Motors, Generators, Transformers, and AC Distribution .....	3
INDT - 49	Electrical Codes and Ordinances .....	3
ELCT - 52	Introduction to Electricity and Electronics .....	3
ELCT - 55	Electrical Conduit Bending Theory and Techniques .	1

**Spring Semester classes**

ELCT - 53A	Solar Installer Course 1 .....	3
ELCT - 56	Introduction to Mechatronics .....	4
INDT - 35	Electrical Wiring: Residential and Industrial .....	3
INDT - 41	Industrial Power Transmission .....	3

Total: (31 Units)

**Industrial Maintenance Technology Certificate**

**(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

**Program Requirements:**

**Program Core: (44 Units)**

DRFT - 44	Print Reading and Sketching .....	3
ELCT - 41	Industrial Motor and Equipment Control (Applications of Electronics) .....	3
ELCT - 47	Electrical Motors, Generators, Transformers, and AC Distribution .....	3
ELCT - 52	Introduction to Electricity and Electronics .....	3
INDT - 10	Agricultural and Industrial Technical Skills .....	3
INDT - 25	Fluid Power .....	3
INDT - 32	Building Construction Concepts .....	3
INDT - 35	Electrical Wiring .....Residential and Industrial	3
INDT - 41	Industrial Power Transmission .....	3
INDT - 49	Electrical Codes and Ordinances .....	3
MATH - B	Applied Mathematics .....	5
WELD - 06	Fundamentals of Oxy-Fuel Welding and Shielded Metal Arc Welding .....	3
WELD - 07	Fundamentals of TIG and MIG Welding .....	3
WELD - 40A	Introduction Welding Design and Construction .....	3

Total: (44 Units)

**Suggested Sequence:**

**Fall 1**

DRFT - 44	Print Reading and Sketching .....	3
ELCT - 52	Introduction to Electricity and Electronics .....	3
INDT - 10	Agricultural and Industrial Technical Skills .....	3
INDT - 49	Electrical Codes and Ordinances .....	3
MATH - B	Applied Mathematics .....	5

**Spring 1**

ELCT - 41	Industrial Motor and Equipment Control (Applications of Electronics) .....	3
INDT - 25	Fluid Power .....	3
INDT - 35	Electrical Wiring: Residential and Industrial .....	3
INDT - 41	Industrial Power Transmission .....	3
WELD - 06	Fundamentals of Oxy-Fuel Welding and Shielded Metal Arc Welding .....	3

**Fall 2**

ELCT - 41	Industrial Motor and Equipment Control (Applications of Electronics) .....	3
INDT - 32	Building Construction Concepts .....	3
WELD - 07	Fundamentals of TIG and MIG Welding .....	3
WELD - 40A	Introduction Welding Design and Construction .....	3

**Spring 2**

DRFT - 44	Print Reading and Sketching .....	3
INDT - 10	Agricultural and Industrial Technical Skills .....	3
INDT - 35	Electrical Wiring: Residential and Industrial .....	3
MATH - B	Applied Mathematics .....	5
WELD - 06	Fundamentals of Oxy-Fuel Welding and Shielded Metal Arc Welding .....	3

**Instrumentation and Process Control Technology**

**Certificate (09650.CT)**

A Certificate of Achievement in Instrumentation Process Control Technology will be awarded upon the satisfactory completion of the course work listed below. For successful completion, a student must complete the requirements with a minimum grade of C in each course required for the certificate.

**Program Student Learning Outcomes**

- A. Demonstrate the ability to communicate effectively in accomplishing job related tasks.
- B. Analyze electrical circuits for required electrical operation and required electrical codes.
- C. Develop safe electrical working practices in accordance with electrical codes and OSHA requirements.

**Program Requirements:**

**Program Core: (29-31 Units)**

ELCT - 31	Foundations of Electronics - DC and AC Circuits .....	5
or		
ELCT - 52	Introduction to Electricity and Electronics .....	3
ELCT - 34	Digital Logic, Circuits, and Systems (Foundations of Electronics) .....	3
ELCT - 41	Industrial Motor and Equipment Control (Applications of Electronics) .....	3
ELCT - 42A	Principles and Applications of Programmable Logic Controllers .....	2
ELCT - 42B	Advanced Topics in PLC Configuration and Programming .....	2
ELCT - 43A	Industrial Instrumentation and Process Control .....	3
ELCT - 47	Electrical Motors, Generators, Transformers, and AC Distribution .....	3
ELCT - 55	Electrical Conduit Bending Theory and Techniques .	1
ELCT - 58	Electrical Printreading for Installation and Troubleshooting .....	3
INDT - 25	Fluid Power .....	3
INDT - 49	Electrical Codes and Ordinances .....	3

Total: (29-31 Units)

**Master Auto Technician Certificate (09008.CT)**

The Master in Automotive Technician Certificate of Achievement will be awarded upon satisfactory completion of the full program option.

The 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 safe work habits with the use of automotive service tools and equipment extending to the advanced level.
- B. Inspect automotive components and systems for proper operation extending to the advanced level.
- C. Collect automotive service and diagnostic information with the use of computerized tools and resources extending to advanced level systems.

Program Requirements:

Program Core: (51 Units)

AUTO - 04	Automotive Mechanics .....	3
AUTO - 32	Wheel Alignment and Suspension .....	4
AUTO - 33	Automotive Brake Systems .....	4
AUTO - 36	Automotive Manual Transmissions and Drive Trains	4
AUTO - 41	Automotive Engines .....	4
AUTO - 42	Automotive Electrical Systems .....	4
AUTO - 43	Automotive Fuel Systems .....	4
AUTO - 44	Automotive Air Conditioning, Heating System, Cooling System .....	4
AUTO - 46	Automatic Transmissions .....	4
AUTO - 47	Engine Performance .....	2
AUTO - 55	Automotive Emissions Level 1 and 2 Training .....	5
AUTO - 56	Advanced Diagnosis and Repair in Automotive Technology .....	2
AUTO - 63	Basic Automotive Electronics for Technicians .....	4
AUTO - 66	Automotive Parts and Service Advising .....	3
Total: (51 Units)		

Suggested Sequence:

Semester 1

AUTO - 04	Automotive Mechanics .....	3
AUTO - 32	Wheel Alignment and Suspension .....	4
AUTO - 33	Automotive Brake Systems .....	4
AUTO - 42	Automotive Electrical Systems .....	4
AUTO - 63	Basic Automotive Electronics for Technicians .....	4

Semester 2

AUTO - 36	Automotive Manual Transmissions and Drive Trains	4
AUTO - 41	Automotive Engines .....	4
AUTO - 43	Automotive Fuel Systems .....	4
AUTO - 46	Automatic Transmissions .....	4

Semester 3

AUTO - 44	Automotive Air Conditioning, Heating System, Cooling System .....	4
AUTO - 47	Engine Performance .....	2
AUTO - 55	Automotive Emissions Level 1 and 2 Training .....	5
AUTO - 56	Advanced Diagnosis and Repair in Automotive Technology .....	2
AUTO - 66	Automotive Parts and Service Advising .....	3

**Entry Level Welding Certificate (09780.ce) (09785.GE)**

A Certificate of Achievement will be awarded upon successful completion of the required courses listed below. For successful completion a student must complete the requirements with a minimum grade of 2.0 in each course required 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 in order to maintain and adjust welding related equipment.
- D. Acquire skills and knowledge to make a successful transition to an entry-level position in the workforce.
- E. Demonstrate the ability to pass workmanship tests using common welding processes.

Required courses:

Program Core: (10 Units)

DRFT-44	Print Reading and Sketching .....	3
WELD-06	Fundamentals of Oxy-Fuel Welding and Shielded Metal Arc Welding .....	3
WELD-07	Fundamentals of TIG and MIG Welding .....	3
WELD-40A	Introduction Welding Design and Construction .....	3
WELD-40B	Advanced Welding Design and Construction .....	3
WELD-46	Advanced Arc Welding Procedures .....	1
Total: (16 Units)		

**Pipe Welding Technology Certificate (09785.CE)**

The Merced College Pipe Welding Technology program prepares participants for employment in the tubing and pipe welding industry. The program includes welding on tube and pipe in the 2G, 5G, and 6G positions using Shielded Metal Arc, Gas Metal Arc, Flux Cored Arc, Gas Tungsten Arc, and oxy-fuel welding. In addition students will learn the different procedures for cutting and preparing tube and pipe for welding. Complex pipe fitting will also be covered in detail.

Program Student Learning Outcomes

- A. Demonstrate the advanced skills needed to fabricate various pipe and tubing joints using AWS and API standards
- B. Select the equipment necessary to assemble and complete an advanced 6G pipe/tube weldment.
- C. Setup an out of position joint on carbon pipe/tubing that will pass AWS and API standards of quality.
- D. Setup an out of position weld joint on sanitary pipe/ tubing that will pass AWS and API standards of quality.
- E. Employ appropriate formulas for advanced level 3 pipe/ tubing proper fitment.

Program Requirements:

Program Core: (10 Units)

WELD - 06	Fundamentals of Oxy-Fuel Welding and Shielded Metal Arc Welding .....	3
WELD - 07	Fundamentals of TIG and MIG Welding .....	3
WELD - 51	Introductory Pipe Welding .....	2
WELD - 52	Advanced Pipe Welding and Fitting .....	2
Total: (10 Units)		

# Kinesiology, Health & Physical Fitness

## Athletics

### Associate of Arts for Transfer

**Kinesiology, A.A.-T. (12400.AAT)**

The Associate in Arts in Kinesiology for Transfer degree (AA-T) is designed for students who are planning on transferring to a California State University (CSU). Upon completion of the transfer associate degree, the student is eligible for transfer with junior standing into the CSU system. Students will be given priority consideration when applying to a particular program that is similar to the student's community college area of emphasis.

Program Student Learning Outcomes:

- A. Develop an integrated kinesiological approach to encourage the adoption of healthy and physically active lifestyles, across diverse populations.
- B. Relate personal development, such as positive self-esteem, selfresponsibility, leadership, decision-making, cooperation, selfreflection and empowerment during physical activity.
- C. Identify and analyze the fundamental concepts and scientific

foundations of kinesiology.

Program Requirements:

Program Core: (20-23 Units)

BIOL - 16	General Human Anatomy .....	4
BIOL - 18	Principles of Physiology .....	4
KINE - 01	Introduction to Kinesiology .....	3

Movement Based Courses: (minimum 3)

Select courses from any three (3) of the following areas for a minimum of three (3) units.

Area 1: Aquatics:

KINE - 20	Aqua Aerobics .....	1
KINE - 24A	Beginning Swimming .....	1
KINE - 24B	Techniques and Stroke Development for Swimming .....	1
KINE - 24C	Swimming for Fitness .....	1

Area 4: Fitness:

KINE - 31	Aerobic Training .....	1
KINE - 32	Circuit Weight Training .....	1
KINE - 33	Weight Training .....	1
KINE - 35	Flexibility and Cardiovascular Fitness .....	2

Area 5: Individual Sports

KINE - 41	Tennis .....	1
KINE - 42	Golf .....	1

Area 6: Team Sports

KINE - 13	Beginning Basketball .....	1
KINE - 14	Beginning Volleyball .....	1
KINE - 16	Football-Offensive Development .....	1
KINE - 15	Softball .....	1

List A: (minimum 6)

Select two courses (minimum 6 units) from the following courses

MATH - 10	Elementary Statistics .....	3
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or

PSYC - 05	Introduction to Statistics in Psychology .....	3
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BIOL - 02	Human Biology .....	4
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CHEM - 02A	Introductory Chemistry .....	4
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or

CHEM - 02B	Introductory Chemistry .....Introduction to Organic and Biochemistry .....	4
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or

CHEM - 04A	General Chemistry I .....	5
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PHYS - 02A	General Physics I .....	4
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KINE - 02	First Aid and CPR for the Professional Rescuer .....	3
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Total Units that may be double counted: (6-12 Units)

General Education Units: (37-39 Units)

CSU-General Education Breadth Certification Requirements

or

Intersegmental General Education Transfer Curriculum

Elective (CSU Transferable) Units: (4-13 Units)

Total: (60 Units)

## Associate of Arts

### Physical Education, A.A. (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.

Program Requirements:

Program Core: (20 Units)

KINE - 02	First Aid and CPR for the Professional Rescuer .....	3
KINE - 03	Introduction to Athletic Training .....	3
KINE - 20	Aqua Aerobics .....	1
KINE - 36	Walking for Fitness .....	1
KINE - 41	Tennis .....	1
KINE - 15	Softball .....	1
PHED - 20	Introduction to Physical Education and Exercise Science .....	3

RECR - 30	Introduction to Community Recreation .....	3
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Plus at least three units from the following:

ATHL - 03	Athletic Conditioning .....	5-2
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HLTH - 15	Drugs, Alcohol, and Tobacco .....	3
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Total: (20 Units)

## Associate of Science for Transfer

### Administration of Justice, A.S.-T. (21075.AST)

The Associate in Science in Administration of Justice for Transfer degree is designed for students planning on transferring to a California State University. Upon completion of the transfer associate degree, the student is eligible for transfer with junior standing into the California State University (CSU) system. Students will be given priority consideration when applying to a particular program that is similar to the student's community college area of emphasis.

For an Associate in Science in Administration of Justice for Transfer (AST), students must complete 60 semester units that are eligible for transfer to the California State University with a minimum grade point average of 2.0, including both of the following:

1. Certification of the Intersegmental General Education Transfer Curriculum (IGETC) or the California State University General Education-Breadth Requirements.
2. A minimum of 18 semester units from the list below with a 2.0 grade point in each class.

Important note: Students are not required to complete any additional local graduation requirements for the AS-T (e.g., PE and Computer and Information Literacy courses).

#### Career Opportunities in CRIMINOLOGY

This degree is designed for students who plan to transfer to a four year college or university, but also prepares students for careers in a variety of fields that require an understanding of criminal justice.

Advanced degree or professional certificate such as a baccalaureate degree will prepare students for careers in administration of justice such as police officers, sheriff's deputies, communications specialists, crime scene specialists, private security, criminologist, and researcher.

#### Program Student Learning Outcomes

- A. Demonstrate an understanding of the fundamental principles, laws, processes, and individual constitutional rights related to the judicial system in the United States and potential conflict between diverse communities that are created.
- B. Identify and communicate criminal justice concepts and principals effectively verbally and in writing.
- C. Compare and evaluate diverse and competing arguments currently and historically in the justice system and interfacing components.
- D. Analyze critically the social, political, economic, and cultural context within the criminal justice system functions and the responsibilities of the agencies and individual practitioners with multicultural communities.

Program Requirements:

Program Core: (18 Units)

CRIM - 02	Introduction to Criminal Justice .....	3
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CRIM - 04	Criminal Law .....	3
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LIST A (6 Units)

Select two courses from List A

CRIM - 03	Criminal Procedures .....	3
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CRIM - 05	Community and Human Relations .....	3
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CRIM - 06	Introduction to Evidence .....	3
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CRIM - 08	Introduction to Investigation .....	3
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CRIM - 11	Introduction to Corrections .....	3
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CRIM - 30	Juvenile Procedures .....	3
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LIST B (6 Units)

Select two courses from List B

MATH - 10	Elementary Statistics .....	3
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PSYC - 01A	Introduction to Psychology .....	3
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SOC - 01 Introduction to Sociology ..... 3  
 Additional courses toward CSU Breadth or IGETC certification and transferable electives (42 Units)  
 CSU-General Education Breadth Certification Requirements or Intersegmental General Education Transfer Curriculum  
 Total: (60 Units)  
 Suggested Sequence:  
 Fall 1 and Fall 2  
 Core:  
 CRIM - 02 Introduction to Criminal Justice ..... 3  
 or  
 CRIM - 02 Introduction to Criminal Justice ..... 3 (Short term)  
 CRIM - 04 Criminal Law ..... 3 (Short term)  
 LIST A (6 Units)  
 Select two courses from List A  
 CRIM - 03 Criminal Procedures ..... 3  
 CRIM - 05 Community and Human Relations ..... 3  
 CRIM - 06 Introduction to Evidence ..... 3  
 CRIM - 08 Introduction to Investigation ..... 3  
 CRIM - 11 Introduction to Corrections ..... 3  
 CRIM - 30 Juvenile Procedures ..... 3  
 LIST B (6 Units)  
 Select two courses from List B  
 MATH - 10 Elementary Statistics ..... 3  
 PSYC - 01A Introduction to Psychology ..... 3  
 SOC - 01 Introduction to Sociology ..... 3  
 Spring 1 and Spring 2  
 CRIM - 02 Introduction to Criminal Justice ..... 3  
 CRIM - 04 Criminal Law ..... 3  
 LIST A (6 Units)  
 Select two courses from List A  
 CRIM - 03 Criminal Procedures ..... 3  
 CRIM - 05 Community and Human Relations ..... 3  
 CRIM - 06 Introduction to Evidence ..... 3  
 CRIM - 08 Introduction to Investigation ..... 3  
 CRIM - 11 Introduction to Corrections ..... 3  
 CRIM - 30 Juvenile Procedures ..... 3  
 LIST B (6 Units)  
 Select two courses from List B  
 MATH - 10 Elementary Statistics ..... 3  
 PSYC - 01A Introduction to Psychology ..... 3  
 SOC - 01 Introduction to Sociology ..... 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  
 Plus three units from the following electives: (3 Units)  
 CRIM - 01 Criminology ..... 3  
 CRIM - 08 Introduction to Investigation ..... 3  
 CRIM - 30 Juvenile Procedures ..... 3  
 CRIM - 33 Violence in the Family ..... 3  
 CRIM - 35 Narcotics ..... 3  
 CRIM - 39 Police Tactics ..... 1  
 CRIM - 42C Reserve Officer Module Level 3 ..... 7  
 CRIM - 42D Reserve Officer Module Level 2 ..... 10  
 CRIM - 51 Probation and Parole ..... 3  
 Total: (24 Units)

Suggested Sequence:  
 Fall 1 and Fall 2  
 Core:  
 CRIM - 02 Introduction to Criminal Justice ..... 3  
 or  
 CRIM - 02 Introduction to Criminal Justice ..... 3 (Short term)  
 CRIM - 04 Criminal Law ..... 3 (Short term)  
 CRIM - 03 Criminal Procedures ..... 3  
 CRIM - 04 Criminal Law ..... 3  
 CRIM - 05 Community and Human Relations ..... 3  
 CRIM - 06 Introduction to Evidence ..... 3  
 CRIM - 37 Communication and Ethics in Law Enforcement ..... 3  
 Plus three units from the following electives: (3 Units)  
 CRIM - 01 Criminology ..... 3  
 CRIM - 08 Introduction to Investigation ..... 3  
 CRIM - 30 Juvenile Procedures ..... 3  
 CRIM - 42C Reserve Officer Module Level 3 ..... 7  
 CRIM - 51 Probation and Parole ..... 3  
 Spring 1 and Spring 2  
 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  
 Plus three units from the following electives: (3 Units)  
 CRIM - 01 Criminology ..... 3  
 CRIM - 08 Introduction to Investigation ..... 3  
 CRIM - 33 Violence in the Family ..... 3  
 CRIM - 35 Narcotics ..... 3  
 CRIM - 42D Reserve Officer Module Level 2 ..... 10  
 CRIM - 51 Probation and Parole ..... 3

## Associate of Arts

### Criminal Justice, A.A. (21150.AA)

For an Associate in Arts Degree in Criminal Justice, students must complete the graduation requirements and the 24-unit curriculum listed below. These courses must be in addition to the basic graduation requirements, and a 2.0 GPA or higher must be earned in each class.

#### Program Student Learning Outcomes

- Demonstrate at the entry level an understanding of the fundamental principles, laws, and processes related to the American judicial system and individual constitutional rights.
- Demonstrate at the entry level effective written, verbal, and nonverbal communication skills.
- Demonstrate at the entry level critical thinking skills, the ability methods using critical thinking skills, the ability to analyze and solve problems using logical and creative methods.
- Recognize at the entry level the social, political, economic, and cultural context within the criminal justice system and responsibilities to the community.

#### Program Requirements:

Program Core: (24 Units)  
 CRIM - 02 Introduction to Criminal Justice ..... 3  
 CRIM - 03 Criminal Procedures ..... 3

## Associate of Science

### Fire Technology, A.S. (21400.AS)

For an Associate in Science 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. The core must be completed for this degree.

#### Program Student Learning Outcomes

- Describe the principles of fire behavior, prevention, and emergency response.
- Evaluate emergency response information in order to relate it to appropriate tasks.
- Describe the proper medical, legal, and ethical treatment of patients and victims.

#### Program Requirements:

Program Core: (25 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
FIRE - 40	Principles of Fire and Emergency Services Safety and Survival .....	3
EMER - 50A	Emergency Medical Technician 1, Module A .....	2.5
EMER - 50B	Emergency Medical Technician 1, Module B .....	4.5
GE Pattern MCCD GE Breadth: (23 Units)		
Associate Degree Breadth Requirements		
Electives (as needed) (CSU transferrable): (12 Units)		
Double-Counted: (0 Units)		
Total: (60 Units)		

Suggested Sequence:

Fall 1		
FIRE - 30	Fire Protection Organization .....	3
EMER - 50A	Emergency Medical Technician 1, Module A .....	2.5
EMER - 50B	Emergency Medical Technician 1, Module B .....	4.5
Spring 1		
FIRE - 34	Building Construction for Fire Protection .....	3
FIRE - 40	Principles of Fire and Emergency Services Safety and Survival .....	3
Plus:		
Option 1 Spring		
FIRE - 63A	Basic Firefighter I, Academy A .....	8
FIRE - 63B	Basic Firefighter I, Academy B .....	8
Option 2 Spring		
EMER - 50A	Emergency Medical Technician 1, Module A .....	2.5
EMER - 50B	Emergency Medical Technician 1, Module B .....	4.5
Fall 2		
FIRE - 31	Fire Behavior and Combustion .....	3
FIRE - 32	Fire Prevention Technology .....	3
FIRE - 33	Fire Protection Equipment and Systems .....	3
Spring		
Option 1 Spring		
FIRE - 63A	Basic Firefighter I, Academy A .....	8
FIRE - 63B	Basic Firefighter I, Academy B .....	8
Option 2 Spring		
EMER - 50A	Emergency Medical Technician 1, Module A .....	2.5
EMER - 50B	Emergency Medical Technician 1, Module B .....	4.5

**Certificate**

**California Fire Service Certificate**

Students must complete the courses listed in the following categories in order to meet NFPA Professional Standards for California Fire Service Certification. Additionally, students must fulfill state-mandated employment time requirements for each classification.

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.

Program Requirements:

Program Core:		
FIRE - 63A	Basic Firefighter I, Academy A .....	8
FIRE - 63B	Basic Firefighter I, Academy B .....	8

**Criminal Justice Certificate (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. Demonstrate at the entry level effective written, verbal, and nonverbal communication skills.
- C. Demonstrate at the entry level critical thinking skills, the ability methods using critical thinking skills, the ability to analyze and solve problems using logical and creative methods.
- D. Recognize at the entry level the social, political, economic, and cultural context within the criminal justice system and responsibilities to the community.

Program Requirements:

Program Core: (30 Units)

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
Plus three units from the following classes:		
CRIM - 30	Juvenile Procedures .....	3
CRIM - 33	Violence in the Family .....	3
CRIM - 49A-ZZ	Special Topics in Criminal Justice .....	0.5 - 5
Total: (31 Units)		

Suggested Sequence:

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 - 08	Introduction to Investigation .....	3
CRIM - 10	Writing for Criminal Justice .....	3
CRIM - 37	Communication and Ethics in Law Enforcement .....	3
Suggested Electives:		
CRIM - 33	Violence in the Family .....	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
Suggested Electives:		
CRIM - 30	Juvenile Procedures .....	3
CRIM - 33	Violence in the Family .....	3
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 Officer Module Level 3 .....	7

CRIM - 42D Reserve Officer Module Level 2 ..... 10

Suggested electives:  
 FIRE - 40 Principles of Fire and Emergency Services Safety and Survival ..... 3  
 FIRE - 63A Basic Firefighter I, Academy A ..... 8  
 FIRE - 63B Basic Firefighter I, Academy B ..... 8

**Emergency Medical Technician Certificate (12100.CE)**  
 Emergency Medical Technology is designed to provide students with the skills and knowledge necessary for them to excel as they enter the emergency medical services workforce.

- Program Student Learning Outcomes
- A. Describe all facets of basic life support according to state and national standards, to include assessment, emergency treatment, and equipment operation.
  - B. Effectively relate patient details to base hospital emergency department personnel.
  - C. Successfully solve questions on the National Registry of Emergency Medical Technicians (NREMT) exam.

Program Requirements:  
 Program Core:  
 EMER - 50A Emergency Medical Technician 1, Module A ..... 2.5  
 EMER - 50B Emergency Medical Technician 1, Module B ..... 4.5

Note:  
 These courses meet the requirements of Title 22, Division 9, Chapter 2 of California Administrative Code.  
 Students successfully completing the courses are eligible to take the EMT-1 certifying exam from the National Registry of Emergency Medical Technicians.

**Fire Technology Certificate (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.S. 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.

Program Requirements:  
 Program Core: (30 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 Units)  
 Total: (30 Units)

Suggested Sequence:  
 Fall 1  
 FIRE - 30 Fire Protection Organization ..... 3  
 Spring 1  
 FIRE - 34 Building Construction for Fire Protection ..... 3  
 Fall 2  
 FIRE - 31 Fire Behavior and Combustion ..... 3  
 FIRE - 32 Fire Prevention Technology ..... 3  
 FIRE - 33 Fire Protection Equipment and Systems ..... 3

# Science, Math and Engineering

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**Associate of Science for Transfer Biology, A.S.-T. (04100.AST)**

The Associate in Science in Biology for Transfer degree is designed to prepare students for seamless transfer to a university that offers a baccalaureate degree with a major in biological science or related discipline. The Associate in Science in Biology for Transfer degree provides the student with laboratory experience and introductory knowledge of fundamental principles in biology that include cell theory, genomics, taxonomy, comparative anatomy and physiology, ecology and evolution. This major provides a strong foundation in biology enabling them to succeed in upper division coursework in a baccalaureate degree program in biology.

- Program Student Learning Outcomes
- A. Analyze the natural world using the scientific method.
  - B. Describe biological structures and their functions.
  - C. Describe mechanisms of evolution.
  - D. Develop an awareness of the careers in the biological sciences.

- To complete the degree, students must fulfill the following requirements:
1. 60 semester CSU-transferable units or 90 quarter units that are eligible for transfer to the California State University
  2. the California State University-General Education-Breadth (CSU GE-Breadth) for STEM pattern; Intersegmental General Education Transfer Curriculum (IGETC) for STEM pattern.
  3. a minimum of 18 semester units or 27 quarter units in the major or area of emphasis as determined by the community college district.
  4. obtainment of a minimum grade point average (GPA) of 2.0.
  5. earn a grade of C or better in all courses required for the major or area of emphasis.

Note: Students are not required to complete any additional local graduation requirements for the AS-T (e.g., PE and Computer and Information Literacy courses).

Program Requirements:  
 Program Core: (34-36 Units)  
 BIOL - 04A Fundamentals of Biology: The Cell and Evolution ... 4  
 BIOL - 04B Diversity of Life: Morphology and Physiology ..... 5  
 List A: Restricted Electives: (22 Units)  
 CHEM - 04A General Chemistry I ..... 5  
 CHEM - 04B General Chemistry II ..... 5  
 MATH - 04A Calculus I ..... 4  
 PHYS - 02A General Physics I ..... 4 and  
 PHYS - 02B General Physics II ..... 4  
 or  
 PHYS - 04A Physics I ..... 4 and



PHYS - 04B	Physics II .....	4
List B: Electives: (3-5 Units)		
BIOL - 16	General Human Anatomy .....	4
BIOL - 18	Principles of Physiology .....	4
CHEM - 12A	Organic Chemistry I .....	5
CHEM - 12B	Organic Chemistry II .....	5
MATH - 04B	Calculus II .....	4
MATH - 10	Elementary Statistics .....	3
Total Units that may be double counted: (10-10 Units)		
General Education Units: (33-31 Units)		
CSU-General Education Breadth Certification Requirements		
or		
Intersegmental General Education Transfer Curriculum for STEM*		
Elective (CSU Transferable) Units: (1-3 Units)		
Total: (60 Units)		

Note:  
 \* IGETC or CSU-GE Breadth for STEM, allows for completion of 6 units on non-STEM GE work after transfer.

Suggested Sequence:  
 Calculus-based Option 1: 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. Additional units can be taken as breadth or elective courses.

Calculus-based Option

Fall 1		
CHEM - 04A	General Chemistry I .....	5
MATH - 04A	Calculus I .....	4
Spring 1		
BIOL - 04A	Fundamentals of Biology: The Cell and Evolution ...	4
CHEM - 04B	General Chemistry II .....	5
MATH - 04B	Calculus II .....	4
Fall 2		
BIOL - 04B	Diversity of Life: Morphology and Physiology .....	5
CHEM - 12A	Organic Chemistry I .....	5
PHYS - 04A	Physics I .....	4
Spring 2		
CHEM - 12B	Organic Chemistry II .....	5
PHYS - 04B	Physics II .....	4
Non-Calculus-based Option:		
Fall 1		
MATH - 10	Elementary Statistics .....	3
CHEM - 04A	General Chemistry I .....	5
Spring 1		
BIOL - 04A	Fundamentals of Biology: The Cell and Evolution ...	4
CHEM - 04B	General Chemistry II .....	5
Fall 2		
BIOL - 04B	Diversity of Life: Morphology and Physiology .....	5
CHEM - 12A	Organic Chemistry I .....	5
PHYS - 02A	General Physics I .....	4
Spring 2		
CHEM - 12B	Organic Chemistry II .....	5
PHYS - 02B	General Physics II .....	4

**Chemistry, A.S.-T. (19100.AST)**

The Associate in Science in Chemistry for Transfer degree is designed for students looking to obtain a well-rounded education in Chemistry Upon completion, students with an AS-T in Chemistry will be eligible to transfer with junior standing into an equivalent major within the CA State University (CSU) system. Students will be given priority consideration when applying to a particular program that is similar to the student's community college area of emphasis.

Program Student Learning Outcomes:

- A. Demonstrate an understanding of various chemical representations of elements, compounds, and chemical reactions.
- B. Solve problems utilizing chemical concepts and equations.

- C. Collect and analyze laboratory data.
- D. Demonstrate scientific literacy.

For an Associate in Science in Chemistry for Transfer (AS-T), students must complete the following:

1. 60 semester CSU-transferable units.
2. the Intersegmental General Education Transfer Curriculum (IGETC) for STEM pattern.
3. a minimum of 18 semester in the major or area of emphasis as determined by the community college district.
4. obtainment of a minimum grade point average (GPA) of 2.0.
5. earn a grade of C or better in all courses required for the major or area of emphasis.

Note: Students are not required to complete any additional local graduation requirements for the AS-T (e.g., PE and Computer and Information Literacy courses).

Program Requirements:

Program Core: (36 Units)

CHEM - 04A	General Chemistry I .....	5
CHEM - 04B	General Chemistry II .....	5
CHEM - 12A	Organic Chemistry I .....	5
CHEM - 12B	Organic Chemistry II .....	5
PHYS - 04A	Physics I .....	4
PHYS - 04B	Physics II .....	4
MATH - 04A	Calculus I .....	4
MATH - 04B	Calculus II .....	4
Total Units that may be double counted: (-7 Units)		
General Education Units: (31 Units)		
This TMC presumes completion of IGETC or CSU-GE Breadth for STEM, allowing for completion of 6 units of non-STEM GE work after transfer.		
Intersegmental General Education Transfer Curriculum		
or		
CSU-General Education Breadth Certification Requirements		
Elective (CSU Transferable) Units: (0 Units)		
Total: (60 Units)		

Suggested Sequence:

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.

Fall 1		
CHEM - 04A	General Chemistry I .....	5
MATH - 04A	Calculus I .....	4
Spring 1		
CHEM - 04B	General Chemistry II .....	5
MATH - 04B	Calculus II .....	4
PHYS - 04A	Physics I .....	4
Fall 2		
CHEM - 12A	Organic Chemistry I .....	5
MATH - 04C	MultiVariable Calculus .....	4
PHYS - 04B	Physics II .....	4
Spring 2		
CHEM - 12B	Organic Chemistry II .....	5

**Geology, A.S.-T. (19400.AST)**

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, combined with the upper division curriculum required at a university, 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.

Program Student Learning Outcomes:

- A. Construct a geologic cross section of Merced and Mariposa counties in a report format that conforms to Geological Society of America conventions and standards.
- B. Relate common rocks and minerals to their origin and physical properties.
- C. Recognize geological structures and landforms within the context of plate tectonic theory.
- D. List the events of earth's history within the geologic timescale.

Program Requirements

For an Associate in Science in Geology for Transfer (AS-T), students must complete the following:

- 1. Certification of the Inter-segmental General Education Transfer Curriculum (IGETC) or the California State University General Education-Breadth Requirements, with a minimum grade point average of 2.0.
- 2. The required core 26 semester units, with a minimum grade point average of 2.0.
- 3. Complete a maximum of 60 semester CSU-transferable units, with a minimum grade point average of 2.0.

Note: Students are not required to complete any additional local graduation requirements for the AS-T (e.g., PE and Computer and Information Literacy courses).

Program Core: (26 Units)

GEOL - 01	Physical Geology	4
GEOL - 02	Historical Geology	4
CHEM - 04A	General Chemistry I	5
CHEM - 04B	General Chemistry II	5
MATH - 04A	Calculus I	4
MATH - 04B	Calculus II	4
Total: (26 Units)		

Suggested Sequence:

Fall 1		
CHEM - 04A	General Chemistry I	5
Spring 1		
CHEM - 04B	General Chemistry II	5
Fall 2		
GEOL - 01	Physical Geology	4
MATH - 04A	Calculus I	4
Spring 2		
MATH - 04B	Calculus II	4
GEOL - 02	Historical Geology	4

**Mathematics, A.S.-T. (17400.AST)**

The Associate in Science in Mathematics for Transfer is designed around a core education. Upon completion, students with an Associate in Science in Mathematics for Transfer will be eligible to transfer with junior standing into an equivalent major within the California State University (CSU) system. Students will be given priority consideration when applying to a particular program that is similar to the student's community college area of emphasis. The Associate in Science in Mathematics for Transfer is to assist students in the seamless transferring to a California State University. Upon completion of the AS-T in Mathematics, students will be able to:

Program Learning Outcomes

- A. Use Calculus techniques to solve mathematical problems involving functions of one or more variables.
- B. Demonstrate appropriate techniques to solve mathematical problems.
- C. Apply mathematical models to real-world problems.
- D. Use technology to support mathematical problem solving.

Program Requirements:

Program Core: (21-22 Units)

MATH - 04A	Calculus I	4
MATH - 04B	Calculus II	4

MATH - 04C	MultiVariable Calculus	4
List A: (3 Units)		
Select 3 units from the following		
MATH - 06	Elementary Differential Equations	3
MATH - 08	Linear Algebra	3
List B: (6 Units)		
Select 6 units from the following		
Any course from List A not used (3)		
CPSC - 06	Programming Concepts and Methodology I	3
or		
ENGR - 14	C++ Programming	3
or		
MATH - 14	C++ Programming	3
MATH - 07	Discrete Structures	3
MATH - 10	Elementary Statistics	3
PHYS - 04A	Physics I	4
Total units that may be double counted: (3-7 Units)		
General Education Units: (37-39 Units)		
CSU-General Education Breadth Certification Requirements		
or		
Intersegmental General Education Transfer Curriculum		
Elective (CSU Transferable): (2-9 Units)		
Total: (60 Units)		

Suggested Sequence:

Additional units can be taken as breadth and/or elective courses.		
Fall 1		
MATH - 04A	Calculus I	4
Recommended AS-T Degree Electives		
CPSC - 14	C++ Programming	3
or		
ENGR - 14	C++ Programming	3
MATH - 10	Elementary Statistics	3
Spring 1		
MATH - 04B	Calculus II	4
Recommended AS-T Degree Electives		
PHYS - 04A	Physics I	4
MATH - 10	Elementary Statistics	3
Fall 2		
MATH - 04C	MultiVariable Calculus	4
Recommended AS-T Degree Electives		
MATH - 08	Linear Algebra	3
MATH - 10	Elementary Statistics	3
Spring 2		
MATH - 06	Elementary Differential Equations	3
Additional units can be taken as breadth and/or elective courses.		
Physics, A.S.-T. (19700.AST)		

The Associate in Science in Physics for Transfer degree is designed for students planning on transferring to a California State University (CSU). Upon completion of the transfer associate degree, the student is eligible for transfer with junior standing into the California State University system. Students will be given priority consideration when applying to a particular program that is similar to the student's community college area of emphasis. The Physics curriculum is designed to meet the lower division requirements of most universities offering a major in physics. This curriculum, combined with the upper division curriculum required at a university, could lead to careers in fields such as astronomer, engineer, geophysicist, mathematician, research scientist, as well as a physicist. People trained in these disciplines are employed in research companies as well as with different governmental agencies.

Program Student Learning Outcomes

- A. Solve using appropriate physics/physical/mathematical principles and express their answers in appropriate form.
- B. Determine the nature of and the causal relationships to the situation and use appropriate tools and technology to analyze and measure the behavior.

- C. Demonstrate the ability to communicate their knowledge of physics principles in oral and written form using the language of physics.
- D. Deduce the properties, outcome, mathematical or physical result of a physical situation.
- E. Identify applications to other scientific, technological, or society areas.

Program Requirements:

Program Core: (24 Units)

PHYS - 04A	Physics I .....	4
PHYS - 04B	Physics II .....	4
PHYS - 04C	Physics III .....	4
MATH - 04A	Calculus I .....	4
MATH - 04B	Calculus II .....	4
MATH - 04C	MultiVariable Calculus .....	4

Total Units that may be double counted: (-8 Units)

General Education Units: (39-42 Units)

CSU-General Education Breadth Certification Requirements

or

Intersegmental General Education Transfer Curriculum

Elective (CSU Transferable) Units: (2-5 Units)

Total: (60 Units)

Suggested Sequence:

Fall 1

Additional units can be taken as breadth and/or elective courses.

MATH - 04A	Calculus I .....	4
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Spring 1

Additional units can be taken as breadth and/or elective courses.

MATH - 04B	Calculus II .....	4
PHYS - 04A	Physics I .....	4

Fall 2

Additional units can be taken as breadth and/or elective courses.

MATH - 04C	MultiVariable Calculus .....	4
PHYS - 04B	Physics II .....	4

Spring 2

PHYS - 04C	Physics III .....	4
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**Physics, A.S.-T. (19700.AST)**

The Associate in Science in Physics for Transfer degree is designed for students planning on transferring to a California State University (CSU). Upon completion of the transfer associate degree, the student is eligible for transfer with junior standing into the California State University system. Students will be given priority consideration when applying to a particular program that is similar to the student's community college area of emphasis.

The Physics curriculum is designed to meet the lower division requirements of most universities offering a major in physics. This curriculum combined with the upper division curriculum required at a university, could lead to careers in fields such as astronomer, engineer, geophysicist, mathematician, research scientist, as well as a physicist. People trained in these disciplines are employed in research companies as well as with different government agencies.

Program Student Learning Outcomes:

- A. Solve using appropriate physics/physical/mathematical principles and express their answers in appropriate form.
- B. Determine the nature of and the casual relationships to the situation and use appropriate tools and technology to analyze and measure the behavior.
- C. Demonstrate the ability to communicate their knowledge of physics principles in oral and written form using the language of physics.
- D. Deduce the properties, outcome, mathematical or physical result of a physical situation.
- E. Identify applications to other scientific, technological, or society areas.

Program Requirements

For an Associate in Science in Physics for Transfer (AS-T), students must complete the following:

- 1. 60 semester CSU-transferable units.
- 2. The California State University-General Education-Breadth pattern

(CSU GE-Breadth); OR the Intersegmental General Education Transfer Curriculum (IGETC) pattern.

- 3. A minimum of 18 semester units in the major or area of emphasis as determined by the community college district.
- 4. Obtainment of a minimum grade point average (GPA) of 2.0.
- 5. Earn a grade of C or better in all courses required for the major or area of emphasis.

Note: Students are not required to complete any additional local graduation requirements for the AS-T (e.g., PE and Computer and Information Literacy courses).

Program Core: (24 Units)

PHYS - 04A	Physics I .....	4
PHYS - 04B	Physics II .....	4
PHYS - 04C	Physics III .....	4
MATH - 04A	Calculus I .....	4
MATH - 04B	Calculus II .....	4
MATH - 04C	Multivariable Calculus .....	4

Total: (26 Units)

**Associate of Arts**

**Health Sciences, A.A. (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.

Program Requirements:

Program Core: (19 Units)

BIOL - 01	General Biology for Non-Majors .....	4
or		
BIOL - 02	Human Biology .....	4

CHEM - 02B	Introductory Chemistry: Introduction to Organic and Biochemistry .....	4
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NUTR - 10	Nutrition .....	3
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And select eight units from the following:

BIOL - 16	General Human Anatomy .....	4
BIOL - 18	Principles of Physiology .....	4
BIOL - 20	Microbiology .....	4

Total: (19 Units)

Suggested Sequence:

Additional units can be taken as breadth and/or elective courses.

Fall 1

BIOL - 02	Human Biology .....	4
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CHEM - 02A	Introductory Chemistry .....	4
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NUTR - 10	Nutrition .....	3
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Spring 1

Additional units can be taken as breadth and/or elective courses.

CHEM - 02B	Introductory Chemistry: Introduction to Organic and Biochemistry .....	4
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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.

## Associate of Science

### Biotechnology, Industry, A.S. (04135.AS)

The student majoring in Biotechnology is generally preparing for employment in the biotechnology industry.

The Associate in Science degree in Biotechnology-Industry is available for students who meet the graduation requirements and complete the following required courses, with a minimum grade of a "C" in each course in the degree and maintain a 2.0 GPA. Students must complete both courses in the CHEM-02 sequence, with the first course in the sequence satisfying the physical science breadth requirements. BIOL 04A, BIOL 01, or BIOL 02 should be taken to satisfy the life science breadth requirement.

#### Program Student Learning Outcomes

- Students will demonstrate the use and maintenance of equipment found in a standard biotechnology lab.
- Students will demonstrate the application and comprehension of laboratory math skills where appropriate.
- Students will demonstrate an understanding of the underlying theory of laboratory skills and work ethic through application, problemsolving skills and teamwork.
- Students will demonstrate the preparation, comprehension, evaluation, and maintenance of standard documents associated with the biotechnology workplace.
- Students will demonstrate the comprehension and interpretation and application of federal, state, and local safety regulations within the biotechnology workplace with regards to the quality control of products generated in the laboratory.

#### Program Requirements:

##### Program Core: (27 Units)

BIOL - 09	Introduction to Genetics	3
BIOL - 32	Introduction to Biotechnology	4
BIOL - 32L	Introduction to Biotechnology Lab	2
BIOL - 33	Biotechnology II: Advanced Laboratory Techniques and Theory	4
CHEM - 02B	Introductory Chemistry: Introduction to Organic and Biochemistry	4

##### 10 units from the following courses: (10 Units)

BIOL - 04B	Diversity of Life: Morphology and Physiology	5
BIOL - 06	Environmental Science	3
BIOL - 16	General Human Anatomy	4
BIOL - 18	Principles of Physiology	4

CPSC - 01	Introduction to Computer Information Systems	4
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or		
AOM - 30	Introduction To Computer Applications	3

PLSC - 10	Elements of Plant Science	3
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##### Completion of MCCD-GE Breadth pattern: (23 Units)

Double Counting: (-3 Units); Electives: (13 Units)

Total: (60 Units)

#### Suggested Sequence:

Fall 1		
BIOL - 01	General Biology for Non-Majors	4
or		
BIOL - 04A	Fundamentals of Biology: The Cell and Evolution	4

CHEM - 02A	Introductory Chemistry	4
or		
CHEM - 04A	General Chemistry I	5

BIOL - 09	Introduction to Genetics	3
Spring 2		
BIOL - 04B	Diversity of Life: Morphology and Physiology	5

CHEM - 02B	Introductory Chemistry: Introduction to Organic and Biochemistry	4
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or

CHEM - 04B	General Chemistry II	5
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Fall 2

BIOL - 20	Microbiology	4
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BIOL - 32	Introduction to Biotechnology	4
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Spring 2

BIOL - 33	Biotechnology II: Advanced Laboratory Techniques and Theory	4
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### Biotechnology, Pre-Professional, A.S. (04137.AS)

The Associate in Science degree in Biotechnology Pre-Professional is available for students who meet the graduation requirements and complete the following required courses, with a minimum grade of a "C" in each course in the degree and maintain a 2.0 GPA.

#### Program Student Learning Outcomes:

- Demonstrate the comprehension and application of laboratory math skills where appropriate.
- Demonstrate a comprehension of biotechnology theory through the application of basic biotechnology laboratory skills, problem solving skills, work ethic and teamwork.
- Demonstrate the ability to prepare, comprehend, evaluate, and maintain standard documents associated with the biotechnology workplace.
- Demonstrate an understanding of federal, state, and local safety regulations and through their application in the biotechnology workplace.
- Demonstrate an understanding of federal, state and local regulations as they relate to quality control of products produced in the laboratory.

#### Program Requirements:

##### Program Core: (30 Units)

BIOL - 09	Introduction to Genetics	3
BIOL - 20	Microbiology	4
BIOL - 32	Introduction to Biotechnology	4
BIOL - 32L	Introduction to Biotechnology Lab	2
BIOL - 33	Biotechnology II: Advanced Laboratory Techniques and Theory	4

CHEM - 04A	General Chemistry I	5
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CHEM - 04B	General Chemistry II	5
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##### Select from the following courses: (3 Units)

BIOL - 04B	Diversity of Life: Morphology and Physiology	5
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BIOL - 06	Environmental Science	3
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BIOL - 16	General Human Anatomy	4
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BIOL - 18	Principles of Physiology	4
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CPSC - 01	Introduction to Computer Information Systems	4
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or

AOM-30	Introduction to Computer Applications	3
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PLSC - 10	Elements of Plant Science	3
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##### General Education Pattern: (37-39 Units)

Intersegmental General Education Transfer Curriculum

or

CSU-General Education Breadth Certification Requirements

Electives (as needed) (CSU transferrable): (0 Units)

Double-Counted: (7 Units)

Total: (60-62 Units)

#### Suggested Sequence:

##### Fall 1/2 and Spring 1/2

BIOL - 06	Environmental Science	3
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BIOL - 16	General Human Anatomy	4
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BIOL - 18	Principles of Physiology	4
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CPSC - 01	Introduction to Computer Information Systems	4
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PLSC - 10	Elements of Plant Science	3
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Fall 1		
CHEM - 04A	General Chemistry I .....	5
Spring 1		
BIOL - 09	Introduction to Genetics .....	3
CHEM - 04B	General Chemistry II .....	5
BIOL - 04B	Diversity of Life.....Morphology and Physiology 5	
Fall 2		
BIOL - 20	Microbiology .....	4
BIOL - 32	Introduction to Biotechnology .....	4
BIOL - 32L	Introduction to Biotechnology Lab .....	2
Spring 2		
BIOL - 33	Biotechnology II.....Advanced Laboratory Techniques and Theory .....	4

ENGR - 14	C++ Programming .....	3
MATH - 04C	MultiVariable Calculus .....	4
PHYS - 04B	Physics II .....	4
Spring 2		
ENGR - 18	Electrical Circuits Analysis .....	4
ENGR - 45	Engineering Materials .....	4
MATH - 06	Elementary Differential Equations .....	3

**Engineering Technology, A.S. (09350.AS)**

The Associate in Science degree in Engineering Technology is available for students who meet the graduation requirements and complete the following required courses, with a minimum grade of a "C" in each course in the degree and maintain a 2.0 GPA.

Program Student Learning Outcomes

- A. Demonstrate an understanding of the physical, mechanical, and electrical principles required in engineering analyses.
- B. Analyze data to make engineering problem decisions.
- C. Identify candidate materials based on composition and structure.
- D. Demonstrate proficiency in analytical problem solving skills.
- E. Use appropriate technology in a variety of engineering problems.

Program Requirements:

Program Core: (36 Units)

CHEM - 04A	General Chemistry I .....	5
CPSC - 06	Programming Concepts and Methodology I .....	3
or		
CPSC - 14	C++ Programming .....	3
or		
ENGR - 14	C++ Programming .....	3
ENGR - 18	Electrical Circuits Analysis .....	4
ENGR - 45	Engineering Materials .....	4
MATH - 04A	Calculus I .....	4
MATH - 04B	Calculus II .....	4
MATH - 04C	MultiVariable Calculus .....	4
PHYS - 04A	Physics I .....	4
PHYS - 04B	Physics II .....	4
Total: (36 Units)		

Suggested Electives:

(Please talk to a counselor and Engineering Professional for guidance on which courses to take.)

DRFT - 25	Descriptive Geometry .....	3
ENGR - 15	Elementary Mechanics (Statics) .....	3
ENGR - 30	Introduction to Engineering .....	2
MATH - 08	Linear Algebra .....	3

Suggested Sequence:

Additional units can be taken as breadth and/or elective courses.

Fall 1		
CHEM - 02A	Introductory Chemistry .....	4
MATH - 04A	Calculus I .....	4
Spring 1		
CHEM - 04A	General Chemistry I .....	5
MATH - 04B	Calculus II .....	4
PHYS - 04A	Physics I .....	4
Fall 2		
CPSC - 06	Programming Concepts and Methodology I .....	3
or		
CPSC - 14	C++ Programming .....	3
or		

**Engineering, A.S. (09300.AS)**

The Associate in Science degree in Engineering is available for students who meet the graduation requirements and complete the following required courses, with a minimum grade of a "C" in each course in the degree and maintain a 2.0 GPA.

Program Student Learning Outcomes

- A. Demonstrate an understanding of the physical, mechanical, and electrical principles required in engineering analyses.
- B. Analyze data to make engineering problem decisions.
- C. Identify candidate materials based on composition and structure.
- D. Demonstrate proficiency in analytical problem solving skills.

Program Requirements:

Program Core: (39 Units)

CHEM - 04A	General Chemistry I .....	5
ENGR - 15	Elementary Mechanics (Statics) .....	3
ENGR - 18	Electrical Circuits Analysis .....	4
ENGR - 45	Engineering Materials .....	4
MATH - 04A	Calculus I .....	4
MATH - 04B	Calculus II .....	4
MATH - 04C	MultiVariable Calculus .....	4
MATH - 06	Elementary Differential Equations .....	3
PHYS - 04A	Physics I .....	4
PHYS - 04B	Physics II .....	4
Total: (39 Units)		

Suggested Electives:

(Please talk to a counselor and Engineering Professional for guidance on which courses to take.)

CPSC - 06	Programming Concepts and Methodology I .....	3
or		
CPSC - 14	C++ Programming .....	3
or		
ENGR - 14	C++ Programming .....	3
ENGR - 30	Introduction to Engineering .....	2
MATH - 08	Linear Algebra .....	3
PHYS - 04C	Physics III .....	4

Suggested Sequence:

Additional units can be taken as breadth and/or elective courses.

Fall 1		
MATH - 04A	Calculus I .....	4
CHEM - 02A	Introductory Chemistry .....	4
Spring 1		
CHEM - 04A	General Chemistry I .....	5
MATH - 04B	Calculus II .....	4
PHYS - 04A	Physics I .....	4
Fall 2		
ENGR - 15	Elementary Mechanics (Statics) .....	3
MATH - 04C	MultiVariable Calculus .....	4
PHYS - 04B	Physics II .....	4
Spring 2		
ENGR - 18	Electrical Circuits Analysis .....	4
ENGR - 45	Engineering Materials .....	4
MATH - 06	Elementary Differential Equations .....	3

**Certificate**

**Biotechnology Certificate (04130.CN)**

The Certificate of Achievement in Biotechnology will be awarded upon the

satisfactory completion of the 17 units from the courses listed below, with a minimum grade of a "C" in each course in the certificate and maintain a 2.0 GPA. It is intended that the student complete both courses in the CHEM-02 sequence. BIOL 04A, BIOL 01, or BIOL 02 should be taken to satisfy the prerequisite requirement for BIOL 09.

Program Student Learning Outcomes

- A. Students will be able to use equipment found in a standard biotechnology lab.
- B. Demonstrate the application and comprehension of laboratory math skills where appropriate.
- C. Demonstrate the preparation, comprehension, evaluation, and maintenance of standard documents associated with the biotechnology workplace.
- D. Students will demonstrate problem-solving skills in the biotechnology laboratory.
- E. Students will demonstrate an appropriate work ethic and demonstrate teamwork skills.

Program Requirements:

Program Core: (17 Units)

BIOL - 09	Introduction to Genetics .....	3
BIOL - 32	Introduction to Biotechnology .....	4
BIOL - 32L	Introduction to Biotechnology Lab .....	2
BIOL - 33	Biotechnology II.....Advanced Laboratory Techniques and Theory .....	4
CHEM - 02B	Introductory Chemistry .....Introduction to Organic and Biochemistry .....	4

Total: (17 Units)

Suggested Sequence:

Fall 1		
BIOL - 01	General Biology for Non-Majors .....	4
or		
BIOL - 04A	Fundamentals of Biology: The Cell and Evolution ...	4
CHEM - 02A	Introductory Chemistry .....	4
or		
CHEM - 04A	General Chemistry I .....	5
BIOL - 09	Introduction to Genetics .....	3
Spring 2		
BIOL - 04B	Diversity of Life: Morphology and Physiology .....	5
CHEM - 02B	Introductory Chemistry: Introduction to Organic and Biochemistry .....	4
or		
CHEM - 04B	General Chemistry II .....	5
Fall 2		
BIOL - 20	Microbiology .....	4
BIOL - 32	Introduction to Biotechnology .....	4
Spring 2		
BIOL - 33	Biotechnology II: Advanced Laboratory Techniques and Theory .....	4

# Social Sciences

## Associate of Arts for Transfer

### Anthropology, A.A.-T. (22000.AAT)

The Anthropology program integrates concepts and information from various disciplines to provide a holistic understanding of mankind through the fields of Biological Anthropology, Socio-cultural Anthropology and Archaeology. Upon completion, students with an AA-T in Anthropology will be eligible to transfer with junior standing into an equivalent major within the California State University (CSU) system.

Program Student Learning Outcomes:

- A. Examine the goals of the discipline of anthropology.
- B. Evaluate the methods used in the discipline of anthropology.
- C. Demonstrate an understanding of cultural diversity.

For an Associate in Arts in Anthropology for Transfer (AA-T), students must complete the following:

1. 60 semester CSU-transferable units.
2. the California State University-General Education-Breadth pattern (CSU GE-Breadth); OR the Intersegmental General Education Transfer Curriculum (IGETC) pattern.
3. a minimum of 18 semester in the major or area of emphasis as determined by the community college district.
4. obtainment of a minimum grade point average (GPA) of 2.0.
5. earn a grade of C or better in all courses required for the major or area of emphasis.

Note: Students are not required to complete any additional local graduation requirements for the AA-T (e.g., PE and Computer and Information Literacy courses).

Program Requirements:

Program Core: (20-22 Units)

ANTH - 01	Introduction to Biological Anthropology .....	4
ANTH - 02	Sociocultural Anthropology .....	3
ARCH - 01	Introduction to Archaeology .....	3
ARCH - 01L	Field Archaeology .....	1
List A: (3 Units)		
Select 3 units		
GEOG - 01	Physical Geography .....	3
GEOG - 02	World Geography .....	3

MATH - 10	Elementary Statistics .....	3
or		
PSYC - 05	Introduction to Statistics in Psychology .....	3

SOIL - 10	Soil Science .....	3
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List B: (3 Units)

Select 3-4 units

Any course from List A not used above .....		
BIOL - 16	General Human Anatomy .....	4
GEOG - 01	Physical Geology .....	4
GEOG - 03	Earth Science .....	4
PSYC - 01B	Introduction to Psychological Research Methods ....	3

List C: (3 Units)

Select 3-4 units

Any course from List A or List B not used above .....		
ANTH - 10	Southeast Asian Culture: Hmong .....	3
COMM - 30	Introduction to Intercultural Communication .....	3
HIST - 09A	China: Introduction to East Asian Civilization .....	3
HIST - 09B	Japan: Introduction to East Asian Civilization .....	3
HIST - 22	History of Minorities -- Black Emphasis .....	3
HIST - 23	The History of Hispanic-Americans in the Southwest U.S. ....	3
HUM - 15	Comparative Cultures .....	3
PHIL - 15	Comparative Religions .....	3
SOC - 01	Introduction to Sociology .....	3

Total Units that may be double counted: (12-15 Units)

General Education Units: (37-39 Units)

CSU-General Education Breadth Certification Requirements

or

Intersegmental General Education Transfer Curriculum

Elective (CSU Transferable) Units: (12-18 Units)

Total: (60 Units)

Suggested Sequence:

Fall 1		
ANTH - 02	Sociocultural Anthropology .....	3
List A Elective		
choose one from:		
GEOG - 01	Physical Geography .....	3
GEOG - 02	World Geography .....	3

MATH - 10	Elementary Statistics .....	3 ^
or		
PSYC - 05	Introduction to Statistics in Psychology .....	3 ^
SOIL - 10	Soil Science .....	3 **
Spring 1		
List B Elective		
choose one from:		
BIOL - 16	General Human Anatomy .....	4 ***
GEOL - 01	Physical Geology .....	4 **
GEOL - 03	Earth Science .....	4
PSYC - 01B	Introduction to Psychological Research Methods ..	3 *
Fall 2		
ARCH - 01	Introduction to Archaeology .....	3
ARCH - 01L	Field Archaeology .....	1
List C Elective		
choose one from:		
ANTH - 10	Southeast Asian Culture..... Hmong	3 *
COMM - 30	Introduction to Intercultural Communication .....	3 *
HIST - 09A	China..... Introduction to East Asian Civilization	3 *
HIST - 09B	Japan: Introduction to East Asian Civilization .....	3 *
HIST - 22	History of Minorities -- Black Emphasis .....	3 *
HIST - 23	The History of Hispanic-Americans in the Southwest	3 *
	U.S. ....	3 *
HUM - 15	Comparative Cultures .....	3 *
PHIL - 15	Comparative Religions .....	3 *
SOC - 01	Introduction to Sociology .....	3 *
Spring 2		
ANTH - 01	Introduction to Biological Anthropology .....	4

Note:  
 ^ Recommended elective for all  
 \* Recommended elective for those with interest in Cultural Anthropology  
 \*\* Recommended elective for those with interest in Archaeology  
 \*\*\* Recommended elective for those with interest in Biological Anthropology

**Economics, A.A.-T. (22200.AAT)**

The Associate in Arts in Economics for Transfer degree (AA-T) is designed to give students a foundation in both introductory Microeconomics and Macroeconomics, as well as develop the mathematical skills necessary to begin upper division study in Economics. Upon completion, students with an AA-T in Economics will be eligible to transfer with Junior standing into an equivalent major within the California State University (CSU) system. Students will be given priority consideration when applying to a particular program that is similar to the student's community college area of emphasis. The Associate in Arts in Economics for Transfer degree is designed to prepare students for a seamless transfer into the CSU system to complete a baccalaureate degree in Economics or similar major.

Program Student Learning Outcomes:

- A. Correlate the relationship of microeconomic models to macroeconomic models.
- B. Analyze how monetary and fiscal policy impact various aspects of the economy including output and inflation.
- C. Analyze decision making of firms in the four market structures and the impact of government policies on firms output based on cost curves.
- D. Describe the four market structures and their relationship to allocative efficiency in the economy.

For an Associate in Arts in Economics for Transfer (AA-T), students must complete the following:

- 1. 60 semester CSU-transferable units.
- 2. the California State University-General Education-Breadth pattern (CSU GE-Breadth); OR the Intersegmental General Education Transfer Curriculum (IGETC) pattern.
- 3. a minimum of 18 semester in the major or area of emphasis as determined by the community college district.
- 4. obtainment of a minimum grade point average (GPA) of 2.0.
- 5. earn a grade of C or better in all courses required for the major or area

of emphasis.

Note: Students are not required to complete any additional local graduation requirements for the AA-T (e.g., PE and Computer and Information Literacy courses).

Program Requirements:

Program Core: (19-21 Units)

ECON - 01	Introduction to Microeconomics .....	3
ECON - 02	Introduction to Macroeconomics .....	3
MATH - 04A	Calculus I .....	4

MATH - 10	Elementary Statistics .....	3
or		
PSYC - 05	Introduction to Statistics in Psychology .....	3

List A:

Select 1 course (3-4 units) of the following.

ACTG - 04A	Financial Accounting .....	4
ACTG - 04B	Managerial Accounting .....	4
MATH - 04B	Calculus II .....	4
MATH - 15	Finite Mathematics .....	3
SOC - 01	Introduction to Sociology .....	3

List B:

Select 1 course (3-4 units) of the following.

MATH - 04C	MultiVariable Calculus .....	4
MATH - 08	Linear Algebra .....	3

Total Units that may be double counted (CSU-GE/IGETC): (9-12 Units)

General Education Units: (39/37 Units)

CSU-General Education Breadth Certification Requirements

or

Intersegmental General Education Transfer Curriculum

Elective (CSU Transferable) Units: (9-16 Units)

Total: (60 Units)

**Elementary Teacher Education, A.A.-T. (49810.AAT)**

The Elementary Teacher Education program 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.

The Associate in Arts in Elementary Teacher Education for Transfer degree at Merced College is designed to prepare students to successfully transfer to a CSU campus to complete a pre-professional program leading to a multiple subject or special education credentialing program. Upon completion of the associate for transfer degree, the student is eligible for transfer with junior standing in the California State University (CSU) system.

Program Student Learning Outcomes:

- A. Make explicit connections between California K-8 Content Standards and subject matter knowledge in Liberal Studies coursework.
- 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 communication skills in a variety of communication contexts.
- C. Develop sensitivity to the diverse cultural, linguistic, and learning abilities of elementary-age students.
- D. Formulate an understanding of a variety of teaching strategies to teach all learners effectively.

For an Associate in Arts in Elementary Teacher Education for Transfer (AAT), students must complete the following:

- 1. 60 semester CSU-transferable units.
- 2. the California State University-General Education-Breadth pattern (CSU GE-Breadth); OR the Intersegmental General Education Transfer Curriculum (IGETC) pattern.
- 3. a minimum of 18 semester in the major or area of emphasis as determined by the community college district.
- 4. obtainment of a minimum grade point average (GPA) of 2.0.
- 5. earn a grade of C or better in all courses required for the major or area

of emphasis.

Note: Students are not required to complete any additional local graduation requirements for the AA-T (e.g., PE and Computer and Information Literacy courses).

Program Requirements:

Program Core: (52 Units)

Required Core Courses (43 Units):

LBST - 10	Introduction to Education I .....	3
CLDV - 01	Child Growth and Development .....	3
BIOL - 01	General Biology for Non-Majors .....	4
PHSC - 02	Survey of Chemistry and Physics .....	3
PHSC - 02L	Survey of Chemistry and Physics Laboratory .....	1
GEOL - 03	Earth Science .....	4
MATH - 20A	Basic Structure of Mathematics I .....	3
COMM - 01	Fundamentals of Speech .....	3
or		
COMM - 01H	Honors Fundamentals of Speech .....	3
ENGL - 01A	College Composition and Reading .....	4
ENGL - 01B	Introduction to Literature .....	3
GEOG - 02	World Geography .....	3
HIST - 17A	United States History and United States Constitution 3	
or		
HIST - 17AH	Honors United States History and United States Constitution .....	3
HIST - 04A	World History Part 1 .....	3
POSC - 01	Essentials of American Political System .....	3
List A: (3 Units)		
Select 1 course from the following		
ENGL - 13	Critical Reasoning and Writing .....	3
or		
ENGL - 13H	Honors Critical Reasoning and Writing .....	3
or		
PHIL - 13	Critical Reasoning and Writing .....	3
or		
PHIL - 13H	Honors Critical Reasoning and Writing .....	3
List B: (3 Units)		
Select 1 course from the following		
ART - 01	Art History: Ancient Through Gothic .....	3
ART - 02	Art History: Renaissance Through 20Th Century .....	3
ART - 06	Survey of Modern Art .....	3
DRAM - 01	Introduction to Theater .....	3
MUSG - 10	Music Fundamentals .....	3
MUSG - 11	Classical Music History I .....	3
MUSG - 12	Classical Music History II .....	3
MUSG - 14	American Popular Music History .....	3
List C: (3 Units)		
Up to 3 additional units*:		
Any course(s) not selected above, and/or any courses that are lower preparation for the targeted major at a university.		
AOM-30	Introduction to Computer Applications .....	3
HUM - 01	Studies in Humanities--Ancient Through Renaissance .....	3
or		
HUM - 01H	Honors Studies in Humanities--Ancient Through Renaissance .....	3
HUM - 15	Comparative Cultures .....	3
LBST - 20	Introduction to Education II .....	3
LBST - 30	Children's Literature .....	3
MATH - 20B	Basic Structure of Mathematics II .....	3
PSYC - 09	Human Development .....	3
or		
CLDV - 09	Human Development .....	3

Total Units that may be double counted: (28-34 Units)

General Education Units: (37-39 Units)

CSU-General Education Breadth Certification Requirements  
or

Intersegmental General Education Transfer Curriculum

Elective (CSU Transferable) Units: (0-3 Units)

Total: (60 Units)

Note:

\*Additional requirements for the Elementary Teacher Education major may vary at each CSU campus. It is highly recommended that students speak to a counselor to discuss other possible courses that are part of major preparation at a local CSU campus.

Suggested Sequence:

With the exception of LBST 30, all core courses in the Elementary Education AA-T and Liberal Studies AA are offered each semester. LBST 30 is offered in the fall semester only. Because many of the required program courses also fulfill GE Breadth, it is recommended that students meet with an academic counselor to develop a course of study.

**Geography, A.A.-T. (22250.AAT)**

The Associate in Arts in Geography for Transfer degree is designed to provide students with the common core of lower division courses required to transfer and pursue a baccalaureate degree in Geography within the California State University system. The Geography Department at Merced College is a program that facilitates the success of general education students and geography majors by offering lower-division geography courses.

The Geography Program offers students a variety of courses in physical, cultural, regional and applied geography. Students gain the ability to analyze geographical issues, read and interpret maps, and develop the skills to communicate local, national, and international geographic phenomena to others.

The Associate in Arts in Geography for Transfer degree is designed to prepare students for a seamless transfer into the CSU system to complete a baccalaureate degree in Geography or similar major.

Program Student Learning Outcomes:

- A. Analyze core geographic principles, concepts, models and phenomena.
- B. Demonstrate understanding of the global natural and cultural environments and the geographic methods by which they are studied.
- C. Examine the diversity of people, places and events globally as well as within specific geographic regions.
- D. Interpret maps and mapped data utilizing basic map elements.

For an Associate in Arts in Geography for Transfer (AA-T), students must complete the following:

- 1. 60 semester CSU-transferable units.
- 2. the California State University-General Education-Breadth pattern (CSU GE-Breadth); OR the Intersegmental General Education Transfer Curriculum (IGETC) pattern.
- 3. a minimum of 18 semester in the major or area of emphasis as determined by the community college district.
- 4. obtainment of a minimum grade point average (GPA) of 2.0.
- 5. earn a grade of C or better in all courses required for the major or area of emphasis.

Note: Students are not required to complete any additional local graduation requirements for the AA-T (e.g., PE and Computer and Information Literacy courses).

Program Requirements:

Program Core: (19-22 Units)

GEOG - 01	Physical Geography .....	3
GEOG - 01L	Physical Geography Laboratory .....	1
GEOG - 02	World Geography .....	3



GEOG - 12	Introduction to Human Geography .....	3
GEOG - 15	Introduction to Weather and Climate .....	3
List B: (6 Units)		
Select 2 courses (6 units) of the following:		
ANTH - 02	Sociocultural Anthropology .....	3
BIOL - 01	General Biology for Non-Majors .....	4
CHEM - 02A	Introductory Chemistry .....	4
CHEM - 04A	General Chemistry I .....	5
CPSC - 01	Introduction to Computer Information Systems .....	4
GEOG - 01	Physical Geology .....	4
MATH - 10	Elementary Statistics .....	3
PHYS - 02A	General Physics I .....	4
POSC - 01	Essentials of American Political System .....	3
Total Units that may be double counted: (-7-13 Units)		
General Education Units: (37-39 Units)		
CSU-General Education Breadth Certification Requirements		
or		
Intersegmental General Education Transfer Curriculum		
Elective (CSU Transferable) Units: (6-17 Units)		
Total: (60 Units)		

Suggested Sequence:

Fall 1		
GEOG - 01	Physical Geography .....	3
GEOG - 01L	Physical Geography Laboratory .....	1 *
Spring 1		
GEOG - 01L	Physical Geography Laboratory .....	1
GEOG - 02	World Geography .....	3
Fall 2		
GEOG - 15	Introduction to Weather and Climate .....	3
CPSC - 01	Introduction to Computer Information Systems .....	4 **
Spring 2		
GEOG - 12	Introduction to Human Geography .....	3
GEOG - 01	Physical Geology .....	4 **

Note:

\* Only offered during the spring semester.

\*\* Choose a 3-4 unit course from List B.

**History, A.A.-T. (22300.AAT)**

The Associate in Arts in History for Transfer combines two critical and interrelated focuses: 1) students will acquire an increasingly sophisticated reservoir of historical data, such as, issues, eras, chronology, and thought systems without which historical analysis is not possible, and, 2) armed with this knowledge, students will develop historical thinking skills, and their articulation, that enable one to critically assess and respond to the past and present. Students will comprehend the forces that have shaped both the United States and other nations around the world within a larger global perspective. They will gain skills in historical research and analysis, historiography, critical thinking, factual knowledge of specific historical periods, and a chronological understanding of the past. As a discipline, history helps to nurture an informed public and is, therefore, of vital importance to a democratic society. Further, it complements the mission of the college by having students develop a respect and awareness of and respect for all cultures and the dignity and worth of all individuals. Upon completion, students with an AA-T in History will be eligible to transfer with junior standing into an equivalent major within the California State University (CSU) system.

Career Opportunities

As part of a career path, historical study excels in advantageously developing career skills in research, writing, argumentation (interpersonal communication), and documentation. Such skills and knowledge prepare students for careers in the field of history, education, law, government, business, management, public relations, writing, and research.

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. Analyze research involving varieties of experience found in the

- historical record by exploring diversity as a critical component of history.
- C. Construct historical arguments by understanding the philosophical assumptions of historical interpretation.
- D. Articulate their understanding of the past clearly and convincingly.
- E. Combine 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.

For an Associate in Arts in History for Transfer (AA-T), students must complete the following:

1. 60 semester CSU-transferable units.
2. the California State University-General Education-Breadth pattern (CSU GE-Breadth); OR the Intersegmental General Education Transfer Curriculum (IGETC) pattern.
3. a minimum of 18 semester in the major or area of emphasis as determined by the community college district.
4. obtainment of a minimum grade point average (GPA) of 2.0.
5. earn a grade of C or better in all courses required for the major or area of emphasis.

Note: Students are not required to complete any additional local graduation requirements for the AA-T (e.g., PE and Computer and Information Literacy courses).

Program Requirements:

Program Core: (18-20 Units)

Required Core: (12 Units)

HIST - 04A	World History Part 1 .....	3
HIST - 04B	History of Civilization: Part II .....	3
HIST - 17A	United States History and United States Constitution .....	3
or		
HIST - 17AH	Honors United States History and United States Constitution .....	3
HIST - 17B	United States History and California State and Local Government .....	3
or		
HIST - 17BH	Honors United States History and California State and Local Government .....	3
Diversity: (3-5 Units)		
HIST - 09A	China: Introduction to East Asian Civilization .....	3
HIST - 09B	Japan: Introduction to East Asian Civilization .....	3
HIST - 19	Women in American History .....	3
HIST - 22	History of Minorities -- Black Emphasis .....	3
HIST - 23	The History of Hispanic-Americans in the Southwest U.S. ....	3
ANTH - 10	Southeast Asian Culture: Hmong .....	3
ENGL - 18	African and African American Literature .....	3
HUM - 01	Studies in Humanities--Ancient Through Renaissance .....	3
or		
HUM - 01H	Honors Studies in Humanities--Ancient Through Renaissance .....	3
HUM - 02	Studies in Humanities--Renaissance to Present .....	3
or		
HUM - 02H	Honors Studies in Humanities--Renaissance to Present .....	3
HUM - 15	Comparative Cultures .....	3
FREN - 01	Elementary French I .....	5
FREN - 02	Elementary French II .....	5
FREN - 03	Intermediate French I .....	5
FREN - 04	Intermediate French II .....	5
GERN - 01	Elementary German I .....	5
GERN - 02	Elementary German II .....	5

GERN - 03 Intermediate German I ..... 5  
 GERN - 04 Intermediate German II ..... 5  
 HIST - 03A History of Western Civilization, Part 1 ..... 3  
 HIST - 03B History of Western Civilization, Part 2 ..... 3  
 HIST - 07 History of Southeast Asia ..... 3  
 HIST - 10 History of the Middle East ..... 3  
 HMNG - 01 Elementary Hmong I ..... 5  
 HMNG - 02 Elementary Hmong II ..... 5  
 JPNS - 01A Elementary Japanese ..... 2.5  
 JPNS - 01B Elementary Japanese ..... 2.5  
 JPNS - 02 Elementary Japanese ..... 5  
 SPAN - 01 Elementary Spanish I ..... 5  
 SPAN - 02 Elementary Spanish II ..... 5  
 SPAN - 03 Intermediate Spanish I ..... 5  
 SPAN - 04 Intermediate Spanish ..... 5  
 SPAN - 10 Spanish for Spanish Speakers I ..... 5  
 SPAN - 11 Spanish for Spanish Speakers II ..... 5

Elective: (3 Units)

Any HIST or HUM course from the Diversity list not used above (3)

HIST - 29 History of California ..... 3  
 POSC - 01 Essentials of American Political System ..... 3  
 POSC - 02 An Introduction to World Political Systems ..... 3

Total Units that may be double counted: (6-12 Units)

General Education Units: (37-39 Units)

CSU-General Education Breadth Certification Requirements

or

Intersegmental General Education Transfer Curriculum

Elective (CSU Transferable) Units: (7-17 Units)

Total: (60 Units)

Suggested Sequence:

Fall 1

HIST - 17A United States History and United States  
 Constitution ..... 3

or

HIST - 17AH Honors United States History and United States  
 Constitution ..... 3

Any History Course from the following: (3 Units)

HIST - 09B Japan: Introduction to East Asian Civilization ..... 3  
 HIST - 19 Women in American History ..... 3  
 HIST - 22 History of Minorities -- Black Emphasis ..... 3  
 HIST - 23 The History of Hispanic-Americans in the Southwest  
 U.S. .... 3  
 HIST - 29 History of California ..... 3

Spring 1

HIST - 17B United States History and California State and Local  
 Government ..... 3

or

HIST - 17BH Honors United States History and California State  
 and Local Government ..... 3

Any History Course from the following: (3 Units)

HIST - 09A China: Introduction to East Asian Civilization ..... 3  
 HIST - 19 Women in American History ..... 3  
 HIST - 22 History of Minorities -- Black Emphasis ..... 3  
 HIST - 23 The History of Hispanic-Americans in the Southwest  
 U.S. .... 3  
 HIST - 29 History of California ..... 3

Fall 2

HIST - 04A World History Part 1 ..... 3

Any History Course from the following: (3 Units)

HIST - 09B Japan: Introduction to East Asian Civilization ..... 3  
 HIST - 19 Women in American History ..... 3  
 HIST - 22 History of Minorities -- Black Emphasis ..... 3  
 HIST - 23 The History of Hispanic-Americans in the Southwest  
 U.S. .... 3  
 HIST - 29 History of California ..... 3

Spring 2

HIST - 04B History of Civilization: Part II ..... 3

Any History Course from the following: (3 Units)

HIST - 09A China: Introduction to East Asian Civilization ..... 3  
 HIST - 19 Women in American History ..... 3

HIST - 22 History of Minorities -- Black Emphasis ..... 3  
 HIST - 23 The History of Hispanic-Americans in the Southwest  
 U.S. .... 3  
 HIST - 29 History of California ..... 3

**Psychology, A.A.-T.  
 (20500.AAT)**

The Associate in Arts in Psychology for Transfer degree is designed for students planning on transferring to a California State University. Upon completion of the transfer associate degree, the student is eligible for transfer with junior standing into the California State University (CSU) system. Students will be given priority consideration when applying to a particular program that is similar to the student's community college area of emphasis.

For an Associate in Arts in Psychology for Transfer (AA-T), students must complete 60 semester units that are eligible for transfer to the California State University with a minimum grade point average of 2.0, including both of the following:

1. Certification of the Intersegmental General Education Transfer Curriculum (IGETC) or the California State University General Education-Breadth Requirements.
2. A minimum of 19 semester units from the list below.

Important note: Students are not required to complete any additional local graduation requirements for the AA-T (e.g., PE and Computer and Information Literacy courses).

Program Student Learning Outcomes

- A. Analyze the major theoretical explanations of behavior in the field of psychology.
- B. Appraise the applications of psychology.
- C. Critically evaluate statistical analyses, and the claims supported by them.
- D. Display effective writing skills using APA format.

Program Requirements:

Program Core: (19 Units)

PSYC - 01A Introduction to Psychology ..... 3  
 or  
 PSYC - 01AH Honors Introduction to Psychology ..... 3

PSYC - 01B Introduction to Psychological Research Methods .... 3

PSYC - 05 Introduction to Statistics in Psychology ..... 3

or

MATH - 10 Elementary Statistics ..... 3

List A

Select one of the following courses:

BIOL - 01 General Biology for Non-Majors ..... 4  
 BIOL - 02 Human Biology ..... 4

List B

Select one of the following courses:

ANTH - 02 Sociocultural Anthropology ..... 3  
 PSYC - 09 Human Development ..... 3  
 SOC - 01 Introduction to Sociology ..... 3

List C

Select one of the following courses:

PSYC - 15 Biological Psychology ..... 3  
 PSYC - 22 Human Sexuality ..... 3  
 PSYC - 23 Personal and Social Adjustment ..... 3  
 PSYC - 25 Introduction to Abnormal Psychology ..... 3  
 PSYC - 36 Developmental Psychology: Adolescence ..... 3  
 PSYC - 49A-ZZ Special Topics in Psychology ..... 3

Additional courses toward CSU Breadth or IGETC certification and transferable electives: (41 Units)

CSU-General Education Breadth Certification Requirements

or

Intersegmental General Education Transfer Curriculum

Total: (60 Units)

**Sociology, A.A.-T. (22650.AAT)**

The Sociology Department at Merced College offers students a strong and challenging curriculum. It is designed to provide students with an understanding of how sociological research and theory can be applied to daily experiences and to the issues current to our social milieu. Students also gain insight into the structure, function, and interaction of groups and social institutions, and of the social forces that impinge on the behavior of individuals and of the cultures in which they live. The primary goals of the Sociology Department are: 1) To enable students to achieve their educational goals; 2) To teach students about the various approaches to the scientific study of society and its components; 3) To help students develop critical thinking skills when examining questions and issues; and 4) To help students better serve their communities through greater awareness of the roles played by such factors as social stratification, gender, ethnicity, and cultural values. Upon completion, students with an AA-T in Sociology will be eligible to transfer with junior standing into an equivalent major within the California State University (CSU) system.

**Program Student Learning Outcomes:**

- A. Compare and contrast the functionalist, conflict, and symbolic interactionist models of sociological thought.
- B. Describe the essence of "culture" and the myriad forms this essence may take in terms of the institutions of family, education, medicine, religion, government, and economic systems.
- C. Analyze the dynamics of a social problem or issue in terms of such social factors as race, gender, sociopolitical status, and ethnicity.

For an Associate in Arts in Sociology for Transfer (AA-T), students must complete the following:

- 1. 60 semester CSU-transferable units.
- 2. the California State University-General Education-Breadth pattern (CSU GE-Breadth); OR the Intersegmental General Education Transfer Curriculum (IGETC) pattern.
- 3. a minimum of 18 semester in the major or area of emphasis as determined by the community college district.
- 4. obtainment of a minimum grade point average (GPA) of 2.0.
- 5. earn a grade of C or better in all courses required for the major or area of emphasis.

Note: Students are not required to complete any additional local graduation requirements for the AA-T (e.g., PE and Computer and Information Literacy courses).

**Program Requirements:**

Program Core: (18 Units)

SOC - 01	Introduction to Sociology .....	3
SOC - 02	Contemporary Social Problems .....	3
SOC - 03	Marriage and the Family .....	3
CRIM - 01	Criminology .....	3

MATH - 10	Elementary Statistics .....	3
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or		
PSYC - 05	Introduction to Statistics in Psychology .....	3

List B: (3 Units)

Select 3 units

ANTH - 02	Sociocultural Anthropology .....	3
ANTH - 10	Southeast Asian Culture: Hmong .....	3
HIST - 09A	China: Introduction to East Asian Civilization .....	3
HIST - 09B	Japan: Introduction to East Asian Civilization .....	3
HIST - 22	History of Minorities -- Black Emphasis .....	3
HIST - 23	The History of Hispanic-Americans in the Southwest U.S. ....	3

PSYC - 01A	Introduction to Psychology .....	3
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or		
PSYC - 01AH	Honors Introduction to Psychology .....	3

PSYC - 22	Human Sexuality .....	3
PSYC - 23	Personal and Social Adjustment .....	3
PSYC - 36	Developmental Psychology: Adolescence .....	3
Total Units that may be double counted: (-9-12 Units)		
General Education Units: (37-39 Units)		
CSU-General Education Breadth Certification Requirements		
or		
Intersegmental General Education Transfer Curriculum		
Elective (CSU Transferable) Units: (14-18 Units)		
Total: (60 Units)		

**Associate of Science for Transfer**

**Early Childhood Education, A.S.-T. (13010.AST)**

The Associate in Science in Early Childhood Education for Transfer (AS-T in ECE) at Merced College is based on the approved Transfer Model in accordance to SB1440 and California Education Code sections 66746-66749. The AS-T in ECE is consistent with and supports the colleges' mission of commitment to continuously improve methods of providing an accessible, affordable, and relevant education that improves the quality of life for all students and their communities. The AS-T in ECE is designed to prepare students for transfer into the CSU system with guarantee admission with junior status to complete a baccalaureate degree in ECE or similar major. Students who obtain advanced degrees and/or professional certificates, such as a baccalaureate degree, will have the foundation to pursue careers in the early care and education workforce.

**AS-T in ECE students will:**

- 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.

**Program Requirements:**

Program Core: (24 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
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CLDV - 05	Health, Safety and Nutrition .....	3
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CLDV - 06	Teaching in a Diverse Society .....	3
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CLDV - 07	Introduction to Curriculum for the Young Child .....	3
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CLDV - 07L	Practicum .....	3
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Total: (24 Units)

**Associate of Arts**

**Child Development, A.A. (13010.AA)**

For an Associate in Arts in Child Development, students must meet the graduation requirements and complete the following courses.

**Program Student Learning Outcomes**

- A. Develop knowledge of high quality developmentally appropriate practices.
- B. Analyze the various theoretical frameworks and domains associated with typical and atypical development.
- C. Formulate effective strategies that empower families and community.
- D. Construct personal philosophy regarding professionalism and best practices in child development.

**Program Requirements:**

Program Core: (24 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
Total: (24 Units)		

**Human Services, A.A. (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.

**Program Requirements:**

**Program Core: (25 Units)**

COOP - 41	Cooperative Education .....	4
HMSV - 20	Social Welfare & Social Work .....	3
HMSV - 21	Human Behavior and the Helping Process .....	3
HMSV - 22	Survey and Utilization of Community Resources .....	3
Take 6 units from the following courses: (6 Units)		
HMSV - 41	Case Management .....	3
HMSV - 42	Introduction to Counseling Skills .....	3
HMSV - 43	Ethics in Counseling .....	3
HMSV - 44	Leadership and Counseling in Groups .....	3
Take 6 units from the following electives: (6 Units)		
ANTH - 02	Sociocultural Anthropology .....	3
ANTH - 10	Southeast Asian Culture: Hmong .....	3
CRIM - 33	Violence in the Family .....	3
HIST - 22	History of Minorities -- Black Emphasis .....	3
HIST - 23	The History of Hispanic-Americans in the Southwest U.S. ....	3
HLTH - 15	Drugs, Alcohol, and Tobacco .....	3
HUM - 15	Comparative Cultures .....	3
PSYC - 01A	Introduction to Psychology .....	3
or		
PSYC - 01AH	Honors Introduction to Psychology .....	3
CLDV - 09	Human Development .....	3
or		
PSYC - 09	Human Development .....	3
PSYC - 22	Human Sexuality .....	3
PSYC - 23	Personal and Social Adjustment .....	3
PSYC - 40	Drugs and Behavior .....	3
SOC - 01	Introduction to Sociology .....	3
SOC - 03	Marriage and the Family .....	3

**Completion of MCCD-GE Breadth pattern: (23 Units)**

**CSU-General Education Breadth Certification Requirements**

Electives (as needed to reach 60 units): 1 (2 Units)

Total: (60 Units)

**Suggested Sequence:**

<b>Semester 1:</b>	
HMSV - 20	Social Welfare & Social Work .....
Degree elective	
<b>Semester 2:</b>	
HMSV - 21	Human Behavior and the Helping Process .....
Degree elective	
<b>Semester 3:</b>	
HMSV - 22	Survey and Utilization of Community Resources .....
COOP - 41A	Cooperative Education in (Subject) .....
Degree Elective	
<b>Semester 4:</b>	
COOP - 41B	Cooperative Education in (Subject) .....
Degree Elective	

**Liberal Arts Studies, Teaching Preparation, A.A. (49501.AA)**

For an Associate in Arts Degree in Liberal Studies, students should meet the graduation requirements and complete the 35-unit curriculum listed below, with a minimum grade of a "C" in each course in the degree and maintain a 2.0 GPA. The courses listed below must be in addition to the basic graduation requirements.

**Program Student Learning Outcomes**

- A. Draw 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. Examine volunteer service activities in K-8 classrooms.
- C. 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.
- D. 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.

**Program Requirements:**

**Program Core: (35 Units)**

COMM - 01	Fundamentals of Speech .....	3 *
or		
COMM - 01H	Honors Fundamentals of Speech .....	3 *
AOM-30	Introduction to Computer Applications .....	3
ENGL - 13	Critical Reasoning and Writing .....	3 *
or		
PHIL - 13	Critical Reasoning and Writing .....	3 *
or		
ENGL - 13H	Honors Critical Reasoning and Writing .....	3 *
or		
PHIL - 13H	Honors Critical Reasoning and Writing .....	3 *
GEOL - 03	Earth Science .....	4
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 - 02	Survey of Chemistry and Physics .....	3
PHSC - 02L	Survey of Chemistry and Physics Laboratory .....	1
Note:		
*COMM 01 and ENGL 13/PHIL 13 may count for the major and for general breadth lower division requirements.		
Plus six units from the following: (6 Units)		
ART - 12A	Sculpture: 3-D Foundations .....	3
or		

ART - 15	Design: 2-D Foundations .....	3
or		
ART - 24A	Drawing I .....	3
BIOL - 01	General Biology for Non-Majors .....	4
CLDV - 09	Human Development .....	3
or		
PSYC - 09	Human Development .....	3
COMM - 30	Introduction to Intercultural Communication .....	3
ENGL - 08	Introduction to Shakespeare .....	3
HIST - 29	History of California .....	3
HUM - 15	Comparative Cultures .....	3
or		
PHIL - 15	Comparative Religions .....	3
LBST - 30	Children's Literature .....	3
MATH - 20B	Basic Structure of Mathematics II .....	3
MUSG - 14	American Popular Music History .....	3
Total: (35 Units)		

**Suggested Sequence:**

With the exception of LBST 30, all core courses in the Elementary Education AA-T and Liberal Studies AA are offered each semester. LBST 30 is offered in the fall semester only. Because many of the required program courses also fulfill GE Breadth, it is recommended that students meet with an academic counselor to develop a course of study.

**Psychology, A.A. (20500.AA)**

The Associate in Arts Degree in Psychology is designed for students who are interested in learning more about psychology, but not planning on transferring. Students who are planning on transferring to a California State University should consider the Associate in Arts in Psychology for Transfer degree (AA-T). Students should discuss these options with their counselors.

For this degree, students must complete the 18-unit curriculum listed below. These courses must be in addition to the basic graduation requirements (see catalog for information about the requirements including PE).

Important note: Students who complete this degree will not be granted priority admission to a CSU at junior status. Students who are planning on transferring should complete the AA-T (Associate in Arts in Psychology for Transfer).

**Program Student Learning Outcomes**

- A. Analyze the major theoretical explanations of behavior in the field of psychology.
- B. Appraise the applications of psychology.
- C. Evaluate the credibility of a claim based on empirical evidence.

**Program Requirements:**

Program Core: (18 Units)

PSYC - 01A	Introduction to Psychology .....	3
or		
PSYC - 01AH	Honors Introduction to Psychology .....	3
Plus 15 units from the following electives:		
ANTH - 02	Sociocultural Anthropology .....	3
BIOL - 01	General Biology for Non-Majors .....	4
PSYC - 01B	Introduction to Psychological Research Methods .....	3
PSYC - 15	Biological Psychology .....	3
PSYC - 22	Human Sexuality .....	3
PSYC - 23	Personal and Social Adjustment .....	3
PSYC - 25	Introduction to Abnormal Psychology .....	3
PSYC - 36	Developmental Psychology: Adolescence .....	3
PSYC - 37	Sport Psychology .....	3
PSYC - 40	Drugs and Behavior .....	3
PSYC - 49A-ZZ	Special Topics in Psychology .....	3
SOC - 01	Introduction to Sociology .....	3

MATH - 10	Elementary Statistics .....	3
or		
PSYC - 05	Introduction to Statistics in Psychology .....	3
PSYC - 09	Human Development .....	3
or		
CLDV - 09	Human Development .....	3
Total: (18 Units)		

**Social and Behavioral Sciences, A.A. (22600.AA)**

The Associate in Arts degree with an area of emphasis in Social and Behavioral Sciences is available for students who meet the graduation requirements and complete the following required courses, with a minimum grade of a "C" in each course in the degree and maintain a 2.0 GPA. Select 12 units from Category 1 and 6 units from Category 2 below. Courses listed below may be counted as general education requirements as well as area of emphasis requirements.

**Program Student Learning Outcomes**

- A. Evaluate various aspects of human nature and behavior in order to understand the impact on social behavior and relationships.
- B. Develop a broader understanding of diverse cultures and historical perspectives to better understand human behavior in contemporary society.
- C. Appraise individual motivation and behaviors within various social constructs, including cultural, economic, political, psychological, and sociological.

**Program Requirements:**

Program Core: (18 Units)

Category 1: (12 Units)

Select 12 units

ANTH - 02	Sociocultural Anthropology .....	3
CRIM - 02	Introduction to Criminal Justice .....	3
CRIM - 04	Criminal Law .....	3
ECON - 01	Introduction to Microeconomics .....	3
ECON - 02	Introduction to Macroeconomics .....	3
GEOG - 02	World Geography .....	3
HIST - 04A	World History Part 1 .....	3
HIST - 04B	History of Civilization: Part II .....	3
HIST - 22	History of Minorities -- Black Emphasis .....	3
HIST - 23	The History of Hispanic-Americans in the Southwest U.S. ....	3
POSC - 01	Essentials of American Political System .....	3
POSC - 02	An Introduction to World Political Systems .....	3

PSYC - 01A	Introduction to Psychology .....	3
or		
PSYC - 01AH	Honors Introduction to Psychology .....	3

PSYC - 01B	Introduction to Psychological Research Methods .....	3
SOC - 01	Introduction to Sociology .....	3

Category 2: (6 Units)

Select 6 units

AGBS - 11	Agricultural Economics .....	3
AGRI - 10	Agriculture, Environment, and Society .....	3
ANTH - 10	Southeast Asian Culture: Hmong .....	3
CLDV - 01	Child Growth and Development .....	3
CLDV - 02	Child, Family and Community .....	3
CLDV - 09	Human Development .....	3
or		
PSYC - 09	Human Development .....	3
COMM - 30	Introduction to Intercultural Communication .....	3
CRIM - 01	Criminology .....	3
HIST - 09A	China: Introduction to East Asian Civilization .....	3
HIST - 09B	Japan: Introduction to East Asian Civilization .....	3

HIST - 17A	United States History and United States Constitution .....	3
or		
HIST - 17AH	Honors United States History and United States Constitution .....	3
HIST - 17B	United States History and California State and Local Government .....	3
or		
HIST - 17BH	Honors United States History and California State and Local Government .....	3
HIST - 29	History of California .....	3
HUM - 15	Comparative Cultures .....	3
PSYC - 15	Biological Psychology .....	3
PSYC - 22	Human Sexuality .....	3
PSYC - 23	Personal and Social Adjustment .....	3
PSYC - 25	Introduction to Abnormal Psychology .....	3
PSYC - 36	Developmental Psychology: Adolescence .....	3
SOC - 02	Contemporary Social Problems .....	3
SOC - 03	Marriage and the Family .....	3
Total: (18 Units)		

Suggested Sequence:

- Semester 1:
- Category 1 Elective
- Category 2 Elective
- Semester 2:
- Category 1 Elective
- Category 2 Elective
- Semester 3:
- Category 1 Elective
- Semester 4:
- Category 2 Elective

## Certificate

### Child Development, Early Intervention Assistant Specialization Certificate (13015.CT)

Students must take the following 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.

Program Requirements:

Program Core: (32 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
CLDV - 11	Introduction to Curriculum & Strategies in Early Intervention .....	3
CLDV - 37	Adult Supervision and Mentoring in Early Care and Education .....	2
CLDV - 38	Children With Special Needs .....	3
Total: (32 Units)		

Suggested Sequence:

All core classes will be offered every fall and spring semesters. In addition, certificate-specific courses will be offered in the following semesters.

Fall 1		
CLDV - 37	Adult Supervision and Mentoring in Early Care and Education .....	2
Spring 1		
CLDV - 37	Adult Supervision and Mentoring in Early Care and Education .....	2
CLDV - 33	Working Effectively With Families .....	1
CLDV - 54	Sexual Development of Young Children .....	1
CLDV - 56	School-Age Development .....	2
CLDV - 56L	School-Age Development Lab .....	2
CLDV - 57	Child Abuse and Neglect .....	1
Fall 2		
CLDV - 37	Adult Supervision and Mentoring in Early Care and Education .....	2
CLDV - 38	Children With Special Needs .....	3
CLDV - 30D	School-Age Curriculum .....	2
Spring 2		
CLDV - 37	Adult Supervision and Mentoring in Early Care and Education .....	2

### Child Development, Families in Crisis Specialization Certificate (13020.CT)

Students must take the following classes designated below to complete a 32 unit certificate of Achievement.

Program Student Learning Outcomes

- A. Assess family strengths, needs and risk factors related to child and family health, mental health and development.
- B. Evaluate procedures for referrals to community resources with consideration for the diverse linguistic and cultural experiences of families.
- C. Advocate in the family and in the community for awareness of risk, resiliency and preventive factors.

Program Requirements:

Program Core: (32 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
CLDV - 33	Working Effectively With Families .....	1
CLDV - 37	Adult Supervision and Mentoring in Early Care and Education .....	2
CLDV - 54	Sexual Development of Young Children .....	1
CLDV - 57	Child Abuse and Neglect .....	1
CRIM - 33	Violence in the Family .....	3
Total: (32 Units)		

Suggested Sequence:

All core classes will be offered every fall and spring semesters. In addition, certificate-specific courses will be offered in the following semesters.

Fall 1		
CLDV - 37	Adult Supervision and Mentoring in Early Care and Education .....	2
Spring 1		
CLDV - 37	Adult Supervision and Mentoring in Early Care and Education .....	2
CLDV - 33	Working Effectively With Families .....	1
CLDV - 54	Sexual Development of Young Children .....	1
CLDV - 56	School-Age Development .....	2
CLDV - 56L	School-Age Development Lab .....	2
CLDV - 57	Child Abuse and Neglect .....	1

Fall 2	
CLDV - 37	Adult Supervision and Mentoring in Early Care and Education ..... 2
CLDV - 38	Children With Special Needs ..... 3
CLDV - 30D	School-Age Curriculum ..... 2
Spring 2	
CLDV - 37	Adult Supervision and Mentoring in Early Care and Education ..... 2

**Child Development, School-Age Care Specialization Certificate (13030.CT)**

Students must take the following 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.

**Program Requirements:**

Program Core: (32 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
CLDV - 30D	School-Age Curriculum ..... 2
CLDV - 37	Adult Supervision and Mentoring in Early Care and Education ..... 2
CLDV - 56	School-Age Development ..... 2
CLDV - 56L	School-Age Development Lab ..... 2
<b>Total: (32 Units)</b>	

**Suggested Sequence:**

All core classes will be offered every fall and spring semesters. In addition, certificate-specific courses will be offered in the following semesters.

Fall 1	
CLDV - 37	Adult Supervision and Mentoring in Early Care and Education ..... 2
Spring 1	
CLDV - 37	Adult Supervision and Mentoring in Early Care and Education ..... 2
CLDV - 33	Working Effectively With Families ..... 1
CLDV - 54	Sexual Development of Young Children ..... 1
CLDV - 56	School-Age Development ..... 2
CLDV - 56L	School-Age Development Lab ..... 2
CLDV - 57	Child Abuse and Neglect ..... 1
Fall 2	
CLDV - 37	Adult Supervision and Mentoring in Early Care and Education ..... 2
CLDV - 38	Children With Special Needs ..... 3
CLDV - 30D	School-Age Curriculum ..... 2
Spring 2	
CLDV - 37	Adult Supervision and Mentoring in Early Care and Education ..... 2
<b>CSU General Education (CSU-GE-Breadth) Certificate</b>	

(49100.CT)

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.

**Human Services Certificate (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.

**Program Requirements:**

Program Core: (31 Units)

COOP - 41AHS	Cooperative Education ..... 2-4
HMSV - 20	Social Welfare & Social Work ..... 3
HMSV - 21	Human Behavior and the Helping Process ..... 3
HMSV - 22	Survey and Utilization of Community Resources ..... 3
HMSV - 41	Case Management ..... 3
HMSV - 42	Introduction to Counseling Skills ..... 3
HMSV - 43	Ethics in Counseling ..... 3
HMSV - 44	Leadership and Counseling in Groups ..... 3
Take 2 courses from the following: (6 Units)	
ANTH - 02	Sociocultural Anthropology ..... 3
ANTH - 10	Southeast Asian Culture: Hmong ..... 3
CRIM - 33	Violence in the Family ..... 3
HIST - 22	History of Minorities -- Black Emphasis ..... 3
HIST - 23	The History of Hispanic-Americans in the Southwest U.S. .... 3
HLTH - 15	Drugs, Alcohol, and Tobacco ..... 3
HUM - 15	Comparative Cultures ..... 3

CLDV - 09	Human Development ..... 3
or	
PSYC - 09	Human Development ..... 3
PSYC - 01A	Introduction to Psychology ..... 3
or	
PSYC - 01AH	Honors Introduction to Psychology ..... 3
PSYC - 22	Human Sexuality ..... 3
PSYC - 23	Personal and Social Adjustment ..... 3
PSYC - 40	Drugs and Behavior ..... 3
SOC - 01	Introduction to Sociology ..... 3
SOC - 03	Marriage and the Family ..... 3
<b>Total: (31 Units)</b>	

**Suggested Sequence:**

<b>Semester 1:</b>	
HMSV - 20	Social Welfare & Social Work ..... 3
Degree elective	
<b>Semester 2:</b>	
HMSV - 21	Human Behavior and the Helping Process ..... 3
Degree Elective	
<b>Semester 3:</b>	
HMSV - 22	Survey and Utilization of Community Resources ..... 3
COOP - 41A	Cooperative Education in (Subject) ..... 1-4 (2 Units)
Degree Elective	

Semester 4:  
 COOP - 41B Cooperative Education in (Subject) ..... 1-4 (2 Units)  
 Degree Elective

**Infant/Toddler Care Certificate  
 (13026.CT)**

For successful completion, a student must complete the required 32 units outlined in the Certificate of Achievement with a GPA of 2.0 or better. A student must have earned a grade of C or better in each course to qualify for a Child Development permit through the Commission on Teacher Credentialing.

Program Student Learning Outcomes

- A. Distinguish infant/toddler care giving principles and infant/toddler education practices.
- B. Design environments and curriculum for infant/toddler care giving settings (including inclusive care) which supports learning and building strong, positive, respectful and culturally responsive relationships with children and families.
- C. Distinguish the professional practices of adults and staff in infant/toddler care giving settings.

Program Requirements:

Program Core: (32 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
CLDV - 30	Infant and Toddler Development .....	3
CLDV - 30L	Infant/Toddler Care and Education Practicum .....	3
CLDV - 37	Adult Supervision and Mentoring in Early Care and Education .....	2

Total: (32 Units)

Suggested Sequence:

All core classes will be offered every fall and spring semesters. In addition, certificate-specific courses will be offered in the following semesters.

Fall 1		
CLDV - 37	Adult Supervision and Mentoring in Early Care and Education .....	2
Spring 1		
CLDV - 37	Adult Supervision and Mentoring in Early Care and Education .....	2
CLDV - 33	Working Effectively With Families .....	1
CLDV - 54	Sexual Development of Young Children .....	1
CLDV - 56	School-Age Development .....	2
CLDV - 56L	School-Age Development Lab .....	2
CLDV - 57	Child Abuse and Neglect .....	1
Fall 2		
CLDV - 37	Adult Supervision and Mentoring in Early Care and Education .....	2
CLDV - 38	Children With Special Needs .....	3
CLDV - 30D	School-Age Curriculum .....	2
Spring 2		
CLDV - 37	Adult Supervision and Mentoring in Early Care and Education .....	2

Intersegmental General Education Transfer Curriculum (IGETC) Certificate (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.

# Adult Education and Noncredit

## Certificate of Competency

### Court Interpreter Certificate of Competency (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.

Program Requirements:

Program Core:

BUSN - 752	Introduction to Microcomputers 24 Total, Open Entry
LAW - 765	Spanish Language Interpreter for Court and Administrative Hearings 108 Total, Open Entry

### Mathematics College Preparatory Basic Skills Certificate (49166.NC)

This noncredit program is designed to serve students who have not met the minimum Mathematics placement test scores to enter college level coursework. Students will benefit from elementary and secondary basic skills instruction in Mathematics and prepare them for credit Mathematics coursework.

Program Student Learning Outcomes

- A. Evaluate arithmetic expressions involving whole numbers without the use of a calculator.
- B. Solve problems including geometry concepts without the use of a calculator.
- C. Solve application problems whole numbers and geometry concepts without the use of a calculator.

Program Requirements:

Program Core:

MAT - 101	College Prep Math 1: Operation of whole Numbers ... 45-63 Total, Open Entry
MAT - 102	College Prep Math II .Applications of Whole Numbers 45-63 Total Open Entry

### Mathematics College Preparatory Basic Skills II Certificate (NC)

This noncredit program is designed to serve students who have not met the minimum Mathematics placement scores to enter college level coursework. Students will benefit from elementary and secondary basic skills instruction in mathematics and prepare them for credit Mathematics coursework.

Program Student Learning Outcomes

- A. Evaluate arithmetic expressions involving fractions and decimals without the use of a calculator.



- B. Solve problems including fractions and decimal concepts without the use of a calculator.
- C. Solve application problems involving fractions and decimals without the use of a calculator.

**Program Requirements**  
**Program Core**

MAT-103	College Prep Math III: Operations on Fractions
MAT-104	College Prep Math IV: Operations on Decimals

GED - 101	288-324 Total, Open Entry Basic Skills Development and GED Preparation
EDU - 112A	324 Total, Open Entry Skills Acquisition for Student Success - General
EDU - 112B	90 Total, Open Entry Skills Acquisition for Student Success - Math
GUI - 101	90 Total, Open Entry Introduction to College
GUI - 102	1.5-6 Total, Open Entry Probation Solutions - Level 1 ... 1.5 Total, Open Entry

**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.

**Program Requirements:**

**Program Core:**

BUSN - 752	Introduction to Microcomputers 24 Total, Open Entry
EDU - 112C	Skills Acquisition for Student Success - Allied Health 8-36 Total, Open Entry
MED - 717	Medical Assisting 960 Total, Open Entry

**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.

**Program Requirements:**

**Program Core:**

BUSN - 749	Microcomputers and Business 720 Total, Open Entry
BUSN - 752	Introduction to Microcomputers . 24 Total, Open Entry

**Certificate of Completion**

**Basic Skills Certificate 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 address the content and proficiency at levels through the twelfth grade and may incorporate a high school diploma.

**Program Requirements:**

**Program Core:**

SOCL - 760	Career and Life Planning 435-455 Total, Open Entry
SOCL - 761	Vocational Life Planning ..... 8 Total, Open Entry
EDU - 110	Reading and Computers ..... 288 Total, Open Entry
EDU - 111	Reading and Computers II

**ESL Beginning Skills Program Certificate of Completion (49196.NC)**

The Beginning ESL program is for preliterate and non literate ESL students who have minimal English language skills. Emphasis in this program is on aural and oral skills with visual reinforcement. The student will be introduced to reading, writing and math skills.

**Program Requirements:**

**Program Core:**

ENG - 801	Beginning ESL Skills ..... 204-255 Total, Open Entry
ENG - 802	Advanced-Beginning ESL Skills 204-255 Total, Open Entry

**ESL Intermediate Skills Program Certificate of Completion (49198.NC)**

The Intermediate ESL program is designed for intermediate level students who have learned basic survival skills, but who need instruction that will lead to a relatively sophisticated level of discourse of issues, and ideas that reach beyond basic survival. The program will prepare students to take credit courses at Merced College. This program includes practice in listening, speaking, reading, and writing.

**Program Requirements:**

**Program Core:**

ENG - 813	Low-Intermediate ESL Skills ..... 204 - 255 Total
ENG - 815	Intermediate ESL Skills ..... 204 - 255 Total

**Reading and Writing College Preparatory Basic Skills Certificate of Completion (49199.NC)**

This noncredit program is designed to serve students who have not met the minimum reading and writing requirements to enter college level coursework. Students will benefit from basic skills instruction in reading and writing and prepare them for credit English coursework. In addition, supplemental instruction will support students in credit English courses.

**Program Student Learning Outcomes**

- A. Demonstrate comprehension of textbooks at a reading Lexile score of 690 or above.
- B. Compose several sentences in response to level-appropriate critical thinking questions.

**Program Requirements:**

**Program Core:**

EDU-112D	Skills Acquisition for Student Success - English 36-180 Total, Open Entry
ENG - 121	College Prep English 1: Reading 45-63 Total, Open Entry
ENG - 122	College Prep English 2: Writing 45-63 Total, Open Entry