

Merced College Catalog

2006-2007



The online catalog is divided into three parts, each as a separate PDF. This is Part #2, Majors, Certificates, and Transfer Programs, which includes:

- Associate Degree Majors
- Certificate Programs
- Transfer Programs

This web version of the 2006-2007 Merced College Catalog is an adaptation of the official printed publication, and is published for informational purposes. Some content and references have been altered to facilitate posting to the web. Students are advised to consult the current Schedule of Classes and college counselors for supplementary information.

Accredited by the Western Association of Schools and Colleges

Merced College, 3600 M Street, Merced, CA 95348-2898

(209) 384-6000 www.mccd.edu

ASSOCIATE DEGREE MAJORS AND CERTIFICATE PROGRAMS

Associate Degrees:

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

Certificates of Completion:

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

Merced College awards Associate Degrees or Certificates in the following areas:

05000.1	Accounting (AA)		
05000.3	Accounting (CC)		
21050.1	Addiction Studies (AA)		
21050.3	Addiction Studies (CC)		
01052.3	Agricultural Chemicals (CC)		
01000.1	Agriculture Business (AA)		
01000.2	Agriculture Business (AS)		
01000.3	Agriculture Business (CC)		
01050.1	Agriculture, General (AA)		
01050.2	Agriculture, General (AS)		
01050.3	Agriculture, General (CC)		
01100.1	Animal Science (AA)		
01100.2	Animal Science (AS)		
01100.3	Animal Science (CC)		
22100.1	Anthropology (AA)		
<i>Automotive Technology</i>			
09000.1	Automotive Technology (AA)		
09001.3	Automotive - Body and Fender (CC)		
09002.3	Automotive - Engine Performance (CC)		
09003.3	Automotive - Automotive Engines (CC)		
09007.3	Automotive - Parts and Service Professional (CC)		
09004.3	Automotive - Suspension and Brakes (CC)		
09006.3	Automotive - Transmissions (CC)		
09750.1	Toyota-Approved Automotive Program (AA)		
09005.3	Toyota-Approved Automotive Program (CC)		
09751.3	Toyota-Approved Parts and Service Professional (CC)		
04100.2	Biological Science (AS)		
04130.2	Biotechnology (AS)		
04130.3	Biotechnology (CC)		
05100.1	Business Administration (AA)		
05150.1	Business, General (AA)		
05150.3	Business, General (CC)		
19100.2	Chemistry (AS)		
19150.2	Chemistry - Pre-Professional (AS)		
13010.1	Child Development (AA)		
10200.3	Commercial Art (CC)		
15601.1	Communication Studies (AA)		
		<i>Computer Studies</i>	
		07300.2	Computer Studies - Management Information Systems (AS)
		07200.2	Computer Studies - Computer Science (AS)
		21100.1	Corrections (AA)
		21100.3	Corrections (CC)
		21150.1	Criminal Justice (AA)
		21150.3	Criminal Justice (CC)
		01150.1	Crop Science (AA)
		01150.2	Crop Science (AS)
		01150.3	Crop Science (CC)
		01200.1	Diesel Equipment Technology (AA)
		01200.2	Diesel Equipment Technology (AS)
		01200.3	Diesel Equipment Technology (CC)
		<i>Drafting Technology</i>	
		09102.1	Computer-Aided Design - Mechanical (AA)
		09102.3	Computer-Aided Design - Mechanical (CC)
		09101.1	Computer-Aided Drafting - Architectural (AA)
		09101.3	Computer-Aided Drafting - Architectural (CC)
		10300.1	Drama (AA)
		09200.1	Electrical Technology (AA)
		09200.3	Electrician (CC)
		<i>Electronics Technology</i>	
		09250.1	Electronics Technician (AA)
		09250.3	Electronics Technician (CC)
		09040.1	Computer & Networking Technology (AA)
		09040.3	Computer & Networking Technology (CC)
		09300.1	Engineering (AA)
		09300.2	Engineering (AS)
		09350.2	Engineering Technology (AS)
		15200.1	English (AA)
		03301.2	Environmental Technologies (AS)
		03301.3	Environmental Technologies (CC)
		21400.1	Fire Technology (AA)
		21400.3	Fire Technology (CC)
		13160.1	Foods and Nutrition (AA)
		13160.3	Foods and Nutrition (CC)
		13200.3	Foster Care Education (CC)

11200.1	French (AA)	05350.3	Management, Merchandising (CC)
49100.1	General Studies (AA)	05400.1	Management, Small Business (AA)
19400.2	Geology (AS)	05400.3	Management, Small Business (CC)
11400.1	German (AA)	05450.1	Management, Supervisory (AA)
12300.1	Health Sciences (AA)	05450.3	Management, Supervisory (CC)
22300.1	History (AA)	10400.1	Music (AA)
01250.1	Horse Management (AA)	12500.2	Nursing, Registered (AS)
01250.2	Horse Management (AS)	12550.1	Nursing, Vocational (AA)
01250.3	Horse Management (CC)	12550.3	Nursing, Vocational (CC)
01302.3	Horseshoeing - Advanced (CC)	<i>Office Technology</i>	
01301.3	Horseshoeing - Beginning (CC)	05200.1	Clerical Office (AA)
21500.1	Human Services (AA)	05200.3	Clerical Office (CC)
21500.3	Human Services (CC)	05250.1	Information/Word Processing (AA)
49300.1	Humanities (AA)	05250.3	Information/Word Processing (CC)
<i>Heating, Ventilation, Air Conditioning, and Refrigeration Technology</i>		05301.1	Legal Office (AA)
09401.3	HVAC - Commercial Refrigeration Technician (CC)	05301.3	Legal Office (CC)
09400.1	HVAC Technician (AA)	05500.1	Medical Office (AA)
09400.3	HVAC Technician (CC)	05500.3	Medical Office (CC)
09500.1	Industrial Electronics Technology (AA)	05551.1	Office Administration (AA)
09500.3	Industrial Electronics Technology (CC)	05551.3	Office Administration (CC)
09550.1	Industrial Maintenance Technology (AA)	14300.1	Paralegal Studies (AA)
09550.3	Industrial Maintenance Technology (CC)	14300.3	Paralegal Studies (CC)
09650.1	Instrumentation and Process Control (AA)	15400.1	Philosophy (AA)
09650.3	Instrumentation and Process Control (CC)	10500.1	Photography (AA)
06500.1	Journalism (AA)	10500.3	Photography (CC)
09700.2	Laboratory Technology (AS)	08500.1	Physical Education (AA)
01350.1	Landscape Horticulture (AA)	19600.1	Physical Science (AA)
01350.2	Landscape Horticulture (AS)	19700.2	Physics (AS)
01350.3	Landscape Horticulture (CC)	20500.1	Psychology (AA)
09720.1	Laser Electro-Optics (AA)	12700.2	Radiologic Technology (AS)
09720.3	Laser Electro-Optics (CC)	12700.3	Radiologic Technology (CC)
49501.1	Liberal Studies – Elementary Teaching Preparation (AA)	05600.1	Real Estate (AA)
04300.1	Life Science (AA)	05600.3	Real Estate (CC)
17400.1	Mathematics (AA)	22500.1	Social Science (AA)
01450.1	Mechanized Ag Technology - Heavy Equipment Mechanics (AA)	12800.3	Sonography, Diagnostic Medical – Abdominal and OB/GYN (CC)
01450.2	Mechanized Ag Technology - Heavy Equipment Mechanics (AS)	12801.3	Sonography, Diagnostic Medical – Cardiac Track (CC)
01450.3	Mechanized Ag Technology - Heavy Equipment Mechanics (CC)	11600.1	Spanish (AA)
01453.3	Mechanized Agriculture - Compact Power Equipment (CC)	49650.1	Transfer Studies (AA)
05350.1	Management, Merchandising (AA)	49700.1	University Studies (AA)
		10700.1	Visual Arts (AA)
		10700.3	Visual Arts (CC)
		09800.1	Welding Technology (AA)
		09800.3	Welding Technology (CC)

Accounting

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:

	Units
ACTG-04A Fundamentals of Financial Accounting	4
ACTG-04B Fundamentals of Managerial Accounting	4
ACTG-31 Computerized Accounting	2
ACTG-51 Applied Accounting	4
BUS-10 Introduction to Business	3
BUS-18A Business Law	4
CPSC-30 Computer Applications	3

Plus six units from the following:

ACTG-52 Payroll Records and Accounting	3
ACTG-54 Cost Accounting	3
ACTG-56 Governmental and Not-For-Profit Accounting	3
ACTG-70A-ZZ Special Topics in Accounting	$\frac{1}{2} - 3$
	30

Suggested electives include:

	Units
BUS-43 Business Communication	3
CPSC-01 Introduction to Management	3
ECON-01A Introduction to Macroeconomics	3
ECON-01B Introduction to Microeconomics	3
MATH-10 Elementary Statistics	3
MATH-15 Finite Mathematics	3

Certificate of Completion:

A Certificate of Completion 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.

Addiction Studies

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

	Units
ADST-41 Introduction to Addiction Studies	3
ADST-42A Screening, Assessment, and Treatment	3
ADST-42B Planning in Addiction Counseling	3
ADST-43 Introduction to Addiction Counseling Skills	3
ADST-43 Professional Responsibilities and Ethical Practice in Addiction Counseling	3
ADST-44 Pharmacology of Substance Abuse	3
ADST-45 Leadership and Counseling in Addiction Group	3
ADST-46 Addiction Education and Prevention	3
COOP-41 Cooperative Education	6
PSYC-01A Introduction to Psychology	3
PSYC-23 Personal and Social Adjustment	3
or	
PSYC-51 Applied Psychology	3
	33

Certificate of Completion:

A fully accredited CAADE Certificate of Completion will be awarded upon the satisfactory completion of the 33-unit

curriculum listed above plus an additional six units from the following electives with a 2.0 GPA or higher in each class:

	Units
ADST-49A-ZZ Special Topics in Addiction Studies	$\frac{1}{2} - 4$
CLDV-08 Families and Societies	3
COMM-05 Interpersonal Communication	3
CPSC-30 Computer Applications	3
CRIM-33 Family Violence	3
HLTH-10 Contemporary Health	3
HMSV-50 Survey and Utilization of Community Resources	3
PSYC-22 Human Sexuality	3
SOC-01 Introduction to Sociology	3
SOC-02 Contemporary Social Problems	3
SOC-28 Marriage and the Family	3
	39

Agricultural Chemicals

Certificate of Completion:

A Certificate of Completion in Agricultural Chemicals will be awarded upon satisfactory completion of the 18-unit core courses listed below:

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
	18

Agriculture Business

The Associate in Science Degree in Agriculture Business is available upon satisfactory completion of the graduation requirements in addition to the Agriculture Business core and 12 units from the elective list. The Associate in Arts Degree is available upon satisfactory completion of the graduation requirements in addition to the Agriculture Business core and 3 units from the elective list.

Core:

	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
	19

Electives:

	Units
AGBS-14 Farm Management	3
AGBS-30* Agricultural Leadership	2
AGBS-31* Agricultural Ambassadors	3
AGBS-49 Agriculture Business: Problems	2
AGBS-70 Special Topics in Agriculture Business	$\frac{1}{2} - 4$
ANSC Animal Science Electives**	1-4
PLSC Plant Science Electives***	1-4
MECH Mechanized Ag Electives	1-4

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

**Includes Animal Science and Dairy Husbandry courses.

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

Certificate of Completion:

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

Suggested agriculture courses to meet General Education

Breadth Requirements: AGBS-11 (Area D); ANSC-10 or PLSC-10 (area B2); and SOIL-10 (area B1).

Agriculture, General/Agricultural Education

The Associate in Science Degree in General Agriculture is available upon satisfactory completion of the graduation requirements in addition to the General Agriculture Core and 18 units from the elective list. 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.

Core:		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 Environmental Horticulture	3
MECH-31	Equipment Safety	1
		13

Electives:		Units
<u>Agriculture Business</u>		
AGBS -10	Introduction to Agriculture Business	3
AGBS -12	Agricultural Accounting	3
AGBS-13	Agricultural Marketing	3
AGBS-17	Agricultural Sales and Communication	3
AGBS-30	Agricultural Leadership	2
<u>Animal Science</u>		
ANSC-11	Elements of Animal Nutrition	3
ANSC-13	Animal Disease and Parasite Control	3
ANSC-15	Livestock Selection	3
ANSC-30	Fitting, Showing, and Merchandising Livestock	1.5
<u>Crop Science/Plant Science/Soil Science</u>		
CROP-10	Elements of Agronomy	3
CROP-12	Vegetable Crops	3
CROP-13	Forage Crops	3
PLSC-13	Economic Entomology	3
SOIL-11	Fertilizer and Soil Amendments	3
<u>Landscape Horticulture</u>		
LAND-10A	Plant Identification and Usage: Fall	3
LAND-12	Landscape Design	3
LAND-14	Landscape Construction and Installation	3
PLSC-16	Plant Propagation	3
<u>Mechanized Agriculture</u>		
MECH -06	Fundamentals of Oxy-Fuel Welding and Shielded Metal Arc Welding	3
MECH-10	Agricultural Skills	3
MECH-15	Small Engine Repair and Maintenance	3
MECH-35	Small Power Equipment	2

Certificate of Completion:

A Certificate of Completion 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.

Suggested agriculture courses to meet General Education Breadth Requirements:

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

Animal Science

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

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

Plus one animal production course from the following list:

ANSC-16	Horse Husbandry	3
ANSC-17	Beef Production	3
ANSC-18	Sheep Production	3
ANSC-19	Swine Production	3
DAIR-10	Elements of Dairy	3
		22

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

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

Certificate of Completion:

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

Anthropology

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

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

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

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

Cultural Anthropology Concentration	Units
ANTH-10 Southeast Asian Culture	3
GEOG-02 World Geography	3
MATH-10 Elementary Statistics	3
PHIL-15 Comparative Religions	3
SCI-30 Science Lab Experience	1

Physical Anthropology Concentration	
ANAT-25 General Human Anatomy	4
CHEM-04A General Chemistry	5
CHEM-04B General Chemistry	5
GENE-10 Introduction to Genetics	3
GEOL-01 Physical Geology	4
MATH-10 Elementary Statistics	3
SCI-30 Science Lab Experience	1

Archaeology Concentration	
GEOG-01 Physical Geography	3
GEOG-01L Physical Geography Lab	1
GEOL-01 Physical Geology	4
MATH-10 Elementary Statistics	3
SCI-30 Science Lab Experience	1
SOIL-10 Soil Science	3

Automotive Technology

For an Associate in Arts Degree in Automotive Technology, students must meet the graduate requirements and complete one of the following certificate options (with the exception of Automotive Engines -- no A.A. is available):

Automotive Engines (Certificate Only)	Units
AUTO-04 Introduction to Automotive Technology	3
AUTO-41 Automotive Engines	4
AUTO-48C Special Problems in Automotive Engines	2
DRFT-59 Basic Drafting	3
	12

Automotive Parts and Service Professional Option	Units
AUTO-04 Introduction to Automotive Technology	3
AUTO-60 Consumer Automotive Service	2
AUTO-65 Automotive Parts and Service Advising	4
BUS-43 Business Communication	3
BUS-50 Business Mathematics/Computer Applications	3
BUS-53 Business English	3
MGMT-50B Foundation Essentials: Values and Ethics	.½

MGMT-50C Basic Time and Space Management	½
MGMT-50D Communicating with People	½
MGMT-50H Customer Service	½
MGMT-51F Conflict Resolution	½
MGMT-51G Stress Management & Job Burnout	½
OFCT-50B Keyboarding and Document Formatting	3
	24

Body and Fender Option	Units
AUTO-04 Introduction to Automotive Technology	3
AUTO-32 Wheel Alignment and Suspension	4
AUTO-50 Basic Auto Body Repair and Painting	4
AUTO-51 Advanced Auto Body	4
AUTO-62 Basic Electronics for Technicians	3
DRFT-59 Basic Drafting	3
WELD-06 Oxy-Fuel Welding and Shielded Metal Arc Welding	3
	24

Engine Performance Option	Units
AUTO-04 Introduction to Automotive Technology	3
AUTO-42 Automotive Electrical Systems	3
AUTO-43 Automotive Fuel Systems	3
AUTO-47 Engine Performance	4
AUTO-48B Special Problems in Engine Performance	2
AUTO-55 Basic/Enhanced Emission Control Devices and Servicing	5
AUTO-62 Basic Electronics for Technicians	3
DRFT-59 Basic Drafting	3
	26

Suspension and Brakes Option	Units
AUTO-04 Introduction to Automotive Technology	3
AUTO-32 Wheel Alignment and Suspension	4
AUTO-33 Brakes	4
AUTO-48D Special Problems in Automotive Suspension	2
or	
AUTO-48E Special Problems in Automotive Brakes	2
AUTO-62 Basic Electronics for Technicians	3
DRFT-59 Basic Drafting	3
WELD-06 Oxy-Fuel Welding and Shielded Metal Arc Welding	3
	22

Transmissions Option	Units
AUTO-04 Introduction to Automotive Technology	3
AUTO-36 Automotive Manual Transmissions and Drive Trains	4
AUTO-46 Automatic Transmissions	4
AUTO-48A Special Problems in Automotive Transmissions	2
AUTO-62 Basic Electronics for Technicians	3
DRFT-59 Basic Drafting	3
	19

Certificate of Completion:
A Certificate of Completion will be awarded upon successful completion of one of the certificate options listed above. For successful completion, a student must complete the requirements with a minimum grade point of 2.0 in each course required for the certificate.

Automotive Program, Toyota-Approved

The Associate in Arts Degree in Toyota-Approved Automotive is designed to prepare students for employment as an automotive technician or parts and service advisor. Students must meet the graduation requirements and complete the major requirements for one of the following options:



Toyota-Approved Automotive Program Option		Units
AUTO-04	Intro to Automotive Technology	3
AUTO-32	Wheel Alignment and Suspension	4
AUTO-33	Brakes	4
AUTO-36	Automotive Manual Transmission Drive Trains	4
AUTO-41	Automotive Engines	4
AUTO-42	Automotive Electrical Systems	3
AUTO-43	Automotive Fuel Systems	3
AUTO-44	Auto Air Conditioning, Heating & Cooling	4
AUTO-46	Automatic Transmissions	4
AUTO-47	Engine Performance	4
AUTO-55	Basic/Enhanced Emission Control Devices and Servicing	5
AUTO-62	Basic Electronics for Technicians	3
AUTO-65	Automotive Parts and Service Advising	4
COOP-41	Cooperative Education	8
		57

Students must also complete the following requirements:

1. Pass two ASE certification tests from area A-1 to A-8.
2. Pass Refrigerant Recovery and Recycling Certification tests offered by one of the following organizations: ASE, Mobile Air Conditioning Society, or International Mobile Air Conditioning Association.
3. Meet dealership hiring requirements that may include drug testing and DMV driving record print out.
4. Pass relevant Toyota certification tests with a minimum score of 80%.

Certificate of Completion:

A Certificate of Completion in Toyota-Approved Automotive Program will be awarded upon the satisfactory completion of the full program option above with the exception that students must complete two units from one of the following courses: AUTO-48A, 48B, 48C, or 48D). For successful completion, a student must complete the requirements with a minimum grade point of 2.0 in each course required for the certificate.

Toyota-Approved Automotive Parts and Service Professional Option

	Units	
AUTO-04	Introduction to Automotive Technology	3
AUTO-60	Consumer Automotive Service	2
AUTO-65	Automotive Parts and Service Advising	4
BUS-43	Business Communication	3
BUS-50	Business Mathematics/Computer Applications	3
BUS-53	Business English	3
COOP-41A	Cooperative Education	4
MGMT-50B	Foundation Essentials: Values & Ethics	1/2
MGMT-50C	Basic Time and Space Management	1/2
MGMT-50D	Communicating with People	1/2
MGMT-50H	Customer Service	1/2
MGMT-51F	Conflict Resolution	1/2

Continued next column...

MGMT-51G	Stress Management, Job Burnout	1/2
OFCT-50B	Keyboarding and Document Formatting	3
	<u>plus</u>	<u>28</u>
	Automotive Service Excellence (ASE) Parts Counter certification*	

*It will be the responsibility of the student to provide verification of ASE certification to the Industrial Technology Division.

Certificate of Completion:

A Certificate of Completion in Toyota-Approved Automotive Parts and Service Professional is available by completion of the core courses listed above, plus ASE certification. For successful completion, a student must complete the requirements with a minimum grade point of 2.0 in each course required for the certificate.

Biological Science

The student majoring in biological science is generally preparing for transfer to a four-year institution and a career in research, teaching, lab technology, one of the health care professions, or related fields.

Math requirements for biology majors vary widely. It is important to study early the requirements of the student's choice of four-year schools, to allow for careful planning of math courses.

For an Associate in Science Degree in Biological Science, a student must meet the basic graduation requirements (CHEM-02A or CHEM-04A and BIOL-04 or BIOL-04H should be taken for science breadth), and complete the courses listed below:

	Units	
BOT-01	Principles of Botany	5
CHEM-02B	Introductory Chemistry	4
	<u>or</u>	
CHEM-04B	General Chemistry	5
CHEM-12A	Organic Chemistry I	5
ZOO-01	General Zoology	5
		19-20

And select 10-11 units from the following:

BIOL-06	Environmental Science	3
BIOL-20	Microbiology	4
BIOL-31	Introduction to Biotechnology I	4
CHEM-04A	General Chemistry	5
CHEM-12B	Organic Chemistry II	5
MATH-04A	Analytical Geometry and Calculus	4
MATH-04B	Analytical Geometry and Calculus	4
MATH-05A	Applied Calculus	4
MATH-05B	Applied Calculus	4
MATH-10	Elementary Statistics	3
MATH-12	FORTRAN Programming	4
	<u>or</u>	
MATH-14	C++ Programming	3
PHYS-02A	General Physics	4
PHYS-02B	General Physics	4

Biotechnology

The student majoring in Biotechnology is generally preparing for employment in the biotechnology industry or for transfer to a four-year institution to complete the requirements for a bachelor's degree. For the Associate in Science Degree in Biotechnology, a student must meet the basic graduation requirements and complete 30 units from the courses listed below. It is intended that the student complete both courses in the CHEM-02AB sequence, or both courses in the CHEM-04AB sequence, with the first course in the sequence satisfying the physical science breadth requirements. BIOL-04 or BIOL-04H (for students transferring to a university) or BIOL-01 should be taken to satisfy the life science breadth requirement.

BIOL-20	Microbiology	4
BIOL-31	Introduction to Biotechnology I	4
BIOL-33	Biotechnology II: Advanced Laboratory Techniques	4
CHEM-02B	Introductory Chemistry	4
or		
CHEM-04B	General Chemistry	5
GENE-10	Introduction to Genetics	3
		19-20

And the remaining 10-11 units from the following courses:

ANAT-25	General Human Anatomy	4
BIOL-06	Environmental Science	3
BOT-01	Botany	5
CPSC-01	Introduction to Management Information Systems	4
or		
CPSC-30	Computer Applications	3
ENTC-30	Introduction to Environmental Technology	3
PHYO-01	Principles of Physiology	4
PLSC-10	Elements of Plant Science	3
ZOO-01	Zoology	5

For a Certificate of Completion in Biotechnology, students must complete the following required courses:

		Units
BIOL-01	General Biology for Non-Majors	4
or		
BIOL-04	Principles of Biology for Science Majors	4
or		
BIOL-04H	Honors Principles of Biology for Science Majors	4
BIOL-20	Microbiology	4
BIOL-31	Introduction to Biotechnology I	4
BIOL-33	Biotechnology II: Advanced Laboratory Techniques	4
CHEM-02A	Introductory Chemistry	4
and		
CHEM-02B	Introductory Chemistry	4
or		
CHEM-04A	General Chemistry	5
and		
CHEM-04B	General Chemistry	5
GENE-10	Introduction to Genetics	3
		27-29

Business Administration

The Associate in Arts Degree in Business Administration is designed to give students who choose to work toward the Bachelor of Science Degree a well-balanced introduction to professional careers in business. Certain basic courses are included in the first two years of study which should give the

student the proper background for upper division study in Business Administration. These include:

		Units
ACTG-04A	Fundamentals of Financial Accounting	4
ACTG-04B	Fundamentals of Managerial Accounting	4
BUS-10	Introduction to Business	3
BUS-18A	Business Law	4
CPSC-01	Introduction to Management Information Systems	4
ECON-01A	Introduction to Macroeconomics	3
ECON-01B	Introduction to Microeconomics	3
MATH-10	Elementary Statistics	3
MATH-15	Finite Mathematics	3
		31

ECON-01A and ECON-01B may be used to meet degree requirements.

Students should refer to the catalog of the school to which they plan to transfer to determine whether that school requires any specific courses in addition to, or other than, those listed above.

Business, General

The Associate in Arts Degree in General Business is designed to provide students with general preparation for entry into employment in the business community.

Students must meet the graduation requirements and complete the following major requirements:

		Units
ACTG-51	Applied Accounting	4
BUS-10	Introduction to Business	3
BUS-18A	Business Law	4
BUS-35	Money Management	3
CPSC-30	Computer Applications	3
or		
CPSC-31	Word Processing	1
and		
CPSC-32	Spreadsheet	1
and		
CPSC-33	Database	1
ECON-01A	Introduction to Macroeconomics	3
OFCT-50B	Keyboarding and Document Formatting	3
		23

Suggested electives include:

		Units
BUS-18B	Business Law	3
CPSC-01	Introduction to Management Information Systems	4
MGMT-31	Principles of Management	3
MGMT-33	Elements of Effective Leadership	3
MDSE-32	Salesmanship	3

Certificate of Completion:

A Certificate of Completion 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.

Chemistry

The following Chemistry curriculum is designed for students planning to transfer to a California State University. It is assumed that the student has completed two years of a foreign language, one year of chemistry, and math through pre-calculus in high school.

For an Associate in Science Degree in Chemistry a student must meet the graduation requirements (PHYS-02A or PHYS-04A and a course in the life sciences are suggested as courses to satisfy the breadth requirements in the science area) and complete the courses listed below:

	Units
CHEM-04A General Chemistry	5
CHEM-04B General Chemistry	5
CHEM-12AB Organic Chemistry I, II	10
PHYS-02B General Physics	4
or	
PHYS-04B Physics	4
	24

And select seven units from the following:

MATH-04ABC Analytical Geometry and Calculus	12
MATH-05AB Applied Calculus	6
MATH-06 Elementary Differential Equations	3
MATH-12 FORTRAN Programming	3
MATH-14 C++ Programming	3

Chemistry - Pre-Professional

An Associate in Science Degree in Chemistry Pre-Professional is for students intending to study one of the professional areas. These areas include medicine, pharmacy, dentistry, chiropractic, and veterinary medicine. The suggested curriculum below should be modified according to the area of study and major selected. Students should see their counselor for assistance in tailoring a program to specific needs.

A student must complete the graduation requirements (BIOL-01 and PHYS-02A or PHYS-04A are suggested to satisfy breadth requirements in the science area) and complete the courses listed below:

	Units
CHEM-04A General Chemistry	5
CHEM-12A Organic Chemistry I	5
PHYS-02B General Physics	4
or	
PHYS-04B Physics	4
ZOO-01 General Zoology	5

And select 11 units from the following:

BOT-01 Principles of Botany	5
CHEM-04B General Chemistry	5
CHEM-12B Organic Chemistry II	5
MATH-04A Analytical Geometry and Calculus	4
MATH-04B Analytical Geometry and Calculus	4
MATH-05A Applied Calculus	3
MATH-05B Applied Calculus	3

Child Development

For an Associate in Arts in Child Development, students must meet the graduation requirements and complete the following courses:

Core:		Units
CLDV-08	Families and Societies	3
CLDV-29	Child Growth and Development	3
CLDV-31	Introduction to Early Childhood Education ...	3
CLDV-32	Practices in Early Childhood Education	2
CLDV-35	Infant and Toddler Development	2
CLDV-53	Health and Safety in Child Care Settings ...	2
CLDV-56	School-Age Development	2
NUTR-39	Nutrition for Young Children	3

and

Practicums:		Units
CLDV-32L	Practices in Early Childhood Education Lab .	2
or		
CLDV-35L	Infant and Toddler Lab	2
or		
CLDV-56L	School-Age Development Lab	2

and

Select one Supervised Field Experience course listed below:

CLDV-40A	ECE Supervised Field Experience	2
CLDV-40B	ECE Supervised Field Experience	3
ECE Supervised Field Experience: Infant/Toddler		2
CLDV-42B	ECE Supervised Field Experience Infant/Toddler	3
CLDV-44A	ECE Supervised Field Experience: School-Age2	
CLDV-44B	ECE Supervised Field Experience: School-Age3	24-25

Note: Students having pre-school teaching experience should take a two- unit field experience course. Students not having this experience should take the three unit field experience course.

Child Development Certificates of Training

A Merced College Child Development Certificate may be used when applying for a Child Development Permit from the California Commission on Teacher Credentialing, which offers permits that authorize teaching in state and federal preschool programs. The Commission requires an additional verification of teaching experience as noted for each certificate below. In private preschool programs a teacher permit from the Commission is not required. A transcript is all that is needed. A grade of "C" or better is required for each course in all certificates of training.

Site Supervisor Certificate of Training

This certificate qualifies students for a Site Supervisor Permit, Option-1, from the Commission on Teacher Credentialing, if they have completed the courses below and have a total of at least 350 days of preschool teaching experience which includes 100 days of supervising adults (three+ hours per day within the last four years).

Education: Teacher Certificate, Option-2 and completion of the following courses:

		Units
CLDV-34A	Administration and Supervision of ECE Programs: Licensing and Staffing	3
CLDV-34B	Administration and Supervision of ECE Programs: Managing People, Time and Resources	3
CLDV-37	Supervising Adults in ECE Settings	2

Continued next page...

Associate Teacher Certificate of Training

This certificate qualifies students for a Child Development Associate Teacher Permit from the Commission on Teacher Credentialing if they have completed the courses below and have an additional 50 days of preschool teaching experience (three+ hours per day within the last two years).

Education:

Completion of the following courses:

	Units
CLDV-08 Families and Societies	3
CLDV-29 Child Development	3

Plus any six units of child development courses to make a total of 12 units.*

*Note: For the Commission on Teacher Credentialing, students who take practicum classes may take them for either units or experience, but not both. Students who need the experience should count practicums as experience and take any other CLDV classes to make a total of 12 units. Students who don't need experience because they have been working in a preschool program may take practicum classes as part of the 12 units.

Teacher Certificate of Training, Option-1

This certificate qualifies students for a Child Development Teacher Permit, Option 1, from the Commission on Teacher Credentialing, when students have the education below and a total of at least 175 days of preschool teaching experience (three+ hours per day within the last four years).

Education:

Completion of the Associate Teacher Certificate of Training and 12 more units of CLDV courses to total at least 24 units* and 16 units of general education.**

*Note: For the Commission on Teacher Credentialing, students who take practicum classes may take them for either units or experience, but not both. Students who need the experience should count practicums as experience and take any other CLDV classes to make a total of 24 units. Students who don't need experience because they have been working in a preschool program may take practicum classes as part of the 24 units.

**Note: Students must have at least one A.A. degree level course in each of the following general education breadth areas to total 16 units: 1) English/Language Arts, 2) Math or Science, 3) Humanities/Fine Arts, 4) Social Science.

Teacher Certificate of Training, Option-2

This certificate qualifies students for a Child Development Teacher Permit, Option-2, from the Commission on Teacher Credentialing if they have the education below. Teaching experience is not required.

Education:

Complete the Child Development A.A. Degree requirements.*

*Note: For students who plan to transfer to a B.A. program, breadth requirements for the A.A. must be transferable to CSU/UC. These students should check with a counselor for specific transfer requirements for the major.

Master Teacher Certificate of Training

This certificate qualifies students for a Master Teacher Permit, Option-1, from the Commission on Teacher Credentialing, when students have completed the courses below and have a total of at least 350 days of preschool teaching experience

(three hours plus per day within the last four years). Students may earn as many specializations as they wish.

Education:

Teacher Certificate, Option-1

or

Teacher Certificate, Option-2

and

CLDV-37 Supervising Adults in ECE Settings 2

and

Completion of any specialization below:

Family Child Care Specialization

CLDV-33 Working with Families	1
CLDV-52 Diversity Curriculum	1
CLDV-55 Day Care Issues	1
CLDV-70A-ZZ Special Topics	<u>3</u>
	6

Infant/Toddler Specialization

CLDV-30C Infant/Toddler Curriculum	2
CLDV-33 Working with Families	1
CLDV-52 Diversity Curriculum	1
NUTR-41 Infant Feeding	1
CLDV-70A-ZZ Special Topics	<u>1</u>
	6

Preschool Specialization

CLDV-30A Preschool Curriculum A	2
or	
CLDV-30B Preschool Curriculum B	2
and	
CLDV-33 Working with Families	1
CLDV-52 Diversity Curriculum	1
CLDV-70A-ZZ Special Topics	<u>2</u>
	6

School-Age Specialization

CLDV-30D School-Age Curriculum	2
CLDV-33 Working with Families	1
NUTR-43 Children and Weight Concerns	1
CLDV-52 Diversity Curriculum	1
CLDV-70A-ZZ Special Topics	<u>1</u>
	6

Early Literacy Specialization

CLDV-30B Preschool Curriculum B	2
CLDV-51 Early Literacy for Young Children	1
and	
ENGL-31 Children's Literature	3
or	
CLDV-70A-ZZ Special Topics	<u>3</u>
	6

Nutrition and Foods Specialization

NUTR-40 Menu Planning	3
NUTR-41 Infant Feeding	1
NUTR-43 Children and Weight Concerns	1
NUTR-70A-ZZ Special Topics in Nutrition	<u>1</u>

Early Intervention Assistant Specialization

CLDV-11 Introduction to Early Intervention	3
CLDV-38 Children with Special Needs	<u>3</u>
	6

Communication Studies

The Communication Studies curriculum is designed to assist students from all majors in developing communication skills. Those students interested in majoring in communication studies, with possible emphasis in public speaking, small group discussion, interpersonal communication, intercultural communication, or oral interpretation, should consult the catalog of the college to which they plan to transfer for these and other options.

For an Associate in Arts Degree in Communication Studies, students must meet the graduation requirements and complete the additional 21-unit curriculum listed below:

	Units
DRAM-03 History of Dramatic Literature	3
PHIL-10 Critical Thinking	3
or	
PHIL-13 Critical Reasoning and Writing	3
COMM-01 Fundamentals of Speech	3
or	
COMM-01H Honors Fundamentals of Speech	3
COMM-02* Rhetorical Criticism and Interpretation of Literature	3
COMM-04 Small Group Discussion and Communication	3
COMM-05 Interpersonal Communication	3
COMM-30** Introduction to Intercultural Communication	3
	21

*Offered in the spring semester only.

**Offered in the fall semester only.

Computer Studies

The Associate in Science Degree in Management Information Systems is designed for students pursuing degrees in Business Administration, Computer Information Systems, or Management Information Systems. Students should determine what other lower division requirements are required by the institution to which they intend to transfer.

Associate in Science -- Management Information Systems

	Units
ACTG-04A Financial Accounting	4
ACTG-04B Managerial Accounting	4
BUS-10 Introduction to Business	3
CPSC-01 Introduction to Management Information Systems	4
CPSC-05 Visual Basic Programming	3
CPSC-06 Programming Concepts and Methodology I	3
ECON-01A Introduction to Macroeconomics	3
MATH-10 Elementary Statistics	3

Plus at least three units from the following courses:

MATH-04A Applied Geometry and Calculus	3
MATH-05A Applied Calculus	3
MATH-15 Finite Mathematics	3
	30

The Associate in Science Degree in Computer Science is designed for students pursuing degrees in Computer Science or Computer Engineering.

Associate in Science -- Computer Science

	Units
CPSC-01 Introduction to Management Information Systems	4
CPSC-06 Programming Concepts and Methodology I	3
CPSC-39 Introduction to Object-Oriented Programming	4
MATH-04AB Analytical Geometry and Calculus	8
MATH-10 Elementary Statistics	3
MATH-14 C++ Programming	3
	25

Plus a minimum of 12 units from the following courses:

CHEM-04A General Chemistry	5
CHEM-04B General Chemistry	5
CPSC-05 Visual Basic Programming	3
MATH-04C Analytical Geometry and Calculus	4
MATH-06 Elementary Differential Equations	3
MATH-08 Linear Algebra	3
PHYS-04A Physics	4
PHYS-04B Physics	4
	37

Corrections

For an Associate in Arts Degree in Corrections, students must complete the graduation requirements and the course work listed below with a 2.0 GPA or higher in each class.

	Units
CORR-01 Introduction to Corrections	3
CORR-04 Concepts of Criminal Law for Corrections	3
CORR-41 Correctional Writing	3
CORR-42 Control and Supervision in Corrections	3
CORR-43 Correctional Interviewing	3
CORR-44 Legal Aspects of Corrections	3
	18

Plus six units from the following electives:

	Units
CRIM-06 Introduction to Evidence	3
CRIM-08 Introduction to Investigation	3
CRIM-30 Juvenile Procedures	3
CRIM-33 Family Violence	3
CRIM-35 Narcotics	3
CRIM-37 Communication and Ethics in Law Enforcement	3
CRIM-39 Police Tactics	1
CORR-30 Probation and Parole	3

A Certificate of Completion in Corrections can be obtained by completion of the following classes with a 2.0 GPA or higher:

	Units
CRIM-06 Introduction to Evidence	3
CRIM-08 Introduction to Investigation	3
CRIM-30 Juvenile Procedures	3
CRIM-35 Narcotics	3
CRIM-37 Communication and Ethics in Law Enforcement	3
CRIM-39 Police Tactics	1
CORR-01 Introduction to Corrections	3
CORR-04 Concepts of Criminal Law for Corrections	3
CORR-30 Probation and Parole	3
CORR-41 Correctional Writing	3
CORR-42 Control and Supervision	3
CORR-43 Correctional Interviewing	3
CORR-44 Legal Aspects of Corrections	3
	34

Criminal Justice

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.

	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-10 Writing for Criminal Justice	3
CRIM-37 Communication and Ethics in Law Enforcement	3

Plus three units from the following electives:

	Units
CRIM-08 Introduction to Investigation	3
CRIM-30 Juvenile Procedures	3
CRIM-33 Violence in the Family	3
CRIM-35 Narcotics	3
CRIM-36 Patrol Procedures	3
CRIM-39 Police Tactics	1
CRIM-42A 832 PC Arrest Methods	3
CRIM-42B 832 PC Firearms	1
CRIM-42C Reserve Peace Officer Module Level 3	7
CRIM-42D Reserve Peace Officer Module Level 2	13.5
CRIM-49A-ZZ Special Problems in Criminal Justice	½-3
CORR-30 Probation and Parole	3
	24

A Certificate of Completion in Criminal Justice can be obtained by completion of the following classes with a 2.0 GPA or higher in each class taken:

	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
CRIM-39 Police Tactics	1

Plus three units from the following classes:

	Units
CRIM-30 Juvenile Procedures	3
CRIM-33 Family Violence	3
CRIM-36 Patrol Procedures	3
CRIM-49A-ZZ Special problems in Criminal Justice	½ - 3
CORR-30 Probation and Parole	3
	31

Crop Science

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 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 each degree.

	Units
Core:	
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	3
MECH-31 Equipment Safety	1
	19

	Units
Electives:	
AGBS-18 Agricultural Computer Applications	3
CROP-13 Forage Crops	3
FPRO-12 Vineyard Production and Management	3
FPRO-13 Fruit Tree Maintenance	3
MECH-21 Hydraulics	3
MECH-22A Diesel Engines	4
PLSC-13 Economic Entomology	3
PLSC-16 Plant Propagation	3

Certificate of Completion:

A Certificate of Completion will be awarded upon satisfactory completion of the 19 unit core and 18 units from the electives above.

Diesel Equipment Technology

The Associate in Arts Degree or Associate in Science Degree in Diesel Equipment Technology is available upon satisfactory completion of the graduation requirements and completion of 39 units from the following major requirements.

	Units
MECH-06 Fundamentals of Oxy-Fuel Welding and Shielded Metal Arc Welding	3
MECH-21 Hydraulics	3
MECH-22AB Diesel Engines	8
MECH-23 Diesel Fuel System Diagnostics	2
MECH-24 Power Trains	4
MECH-26 Power Equipment Electrical Systems	3
MECH-30 Equipment Mechanics Skills	2
MECH-31 Equipment Safety	1
MECH-32 Applied Electrical and Hydraulic Service	3
MECH-33 Power Equipment Air Conditioning	2
MECH-35 Small Power Equipment	2
MECH-40 Equipment Repair	2
MECH-51 Truck Brakes and Chassis	4
	39

Certificate of Completion:

A Certificate of Completion in Diesel Equipment Technology will be awarded upon successful completion of 39 units from the major requirements listed above.

Drafting Technology

An Associate in Arts Degree is available for students who meet the graduation requirements and successfully complete the courses listed below for either Computer-Aided Drafting - Architectural - Level II or Computer-Aided Design - Mechanical - Level II (an A.A. is not available for either Level I certificate):

Computer-Aided Drafting - Architectural - Level I		Units
DRFT-04A	Computer-Aided Drafting - AutoCAD	3
DRFT-04B	Computer-Aided Drafting - AutoCAD	3
DRFT-42A	Architectural Drafting - AutoCAD	3
DRFT-42B	Architectural Drafting - Solid Builder	3
DRFT-44	Print Reading and Sketching	3
INDT-38	Industrial Technology Computer Applications and Literacy	3
		18

Computer-Aided Drafting - Architectural - Level II		Units
DRFT-04AB	Computer-Aided Drafting - AutoCAD	6
DRFT-25	Graphics	3
DRFT-42A	Architectural Drafting - AutoCAD	3
DRFT-42B	Architectural Drafting - Solid Builder	3
DRFT-44	Print Reading and Sketching	3
INDT-38	Industrial Technology Computer Applications and Literacy	3
		21

Computer-Aided Design - Mechanical - Level I		Units
DRFT-04ABC	Computer-Aided Drafting (AutoCAD)	9
DRFT-05	Computer Graphics	3
DRFT-44	Print Reading and Sketching	3
INDT-38	Industrial Technology Computer Applications and Literacy	3
		18

Computer-Aided Design - Mechanical - Level II		Units
DRFT-04ABC	Computer-Aided Drafting - AutoCAD	9
DRFT-05	Computer Graphics	3
DRFT-25	Graphics	3
DRFT-44	Print Reading and Sketching	3
INDT-38	Industrial Technology Computer Applications and Literacy	3
		21

Certificate of Completion:
 A Certificate of Completion will be awarded upon successful completion of one of the full certificate options listed above. For successful completion, a student must complete the requirements with a minimum grade point of 2.0 in each course required for the certificate.

Drama

These courses are designed to fulfill most lower division degree requirements of four-year colleges and universities. In addition, the Associate in Arts Degree in Drama will prepare the student for pre-professional and community theater. For an Associate in Arts Degree in Drama, students must meet the graduation requirements and complete the following courses:

		Units
DRAM-01	Introduction to Theater	3
DRAM-02	Drama Productions	6
DRAM-03	History of Dramatic Literature	3
DRAM-04	Actor's Workshop	6
DRAM-10	Beginning Acting	3
DRAM-15	Beginning Theater Crafts	3

Plus six units from the following electives:

DRAM-09	Voice Production for the Performer	3
DRAM-11	Intermediate Acting	3
DRAM-16	Intermediate Theater Crafts	3
ENGL-08	Shakespeare	3
		30

Electrical Technology

For an Associate in Arts Degree in Electrical Technology (Electrician), students must meet the graduation requirements and complete the following required courses:

		Units
DRFT-44	Print Reading and Sketching	3
ELCT-31	Direct Current and Alternating Current Circuits	5
or		
ELCT-52	Introduction to Electricity and Electronics	3
ELCT-41	Industrial Motor and Equipment Control	3
ELCT-42A	Principles and Applications of Programmable Logic Controllers	2
ELCT-47	Electrical Motors, Generators, Transformers, and AC Distribution	3
ELCT-55 A-Z	Electrical Conduit Bending Theory and Techniques	1
INDT-36 A-Z	Electrical Wiring	3
INDT-49 A-Z	Electrical Codes and Ordinances	3
WELD-06	Oxy-Fuel Welding and Shielded Metal Arc Welding	3

Plus six units from the following electives:

INDT-10	Industrial Technical Skills	3
INDT-25	Fluid Power	3
INDT-41	Power Transmission	3
INDT-51	Ventilation & Air Conditioning Systems	6
		30-32

Certificate of Completion:
 A Certificate of Completion will be awarded upon the satisfactory completion of a minimum of 30 units of course work listed above. For successful completion, a student must complete the requirements with a minimum grade point of 2.0 in each course required for the certificate.

Electronics Technology

For an Associate in Arts Degree in Electronics Technology (Electronics Technician or Computer and Networking Technology), students must meet the graduation requirements and complete one of the following options:

Electronics Technician Option		Units
DRFT-04A	Computer-Aided Drafting - AutoCAD	3
ELCT-31	Direct Current and Alternating Current Circuits	5
ELCT-31SL	DC/AC Electronic Circuits Software Lab	1
ELCT-32	Semiconductors and Integrated Circuits	5
ELCT-32SL	Semiconductors and Integrated Circuits Software Lab	2
ELCT-34	Digital Logic Circuits and Systems	3
ELCT-34SL	Digital Logic Circuits and Systems Software Lab	1
ELCT-35	Microcontrollers, Programming, and Interfacing with Robotics Applications	4
ELCT-36	Networking Topologies and Cabling	3
ELCT-43A	Industrial Instrumentation and Process Control	3
ELCT-43B	Graphical Programming for Electronics Data Acquisition	1.5
ELCT-44	Electronic Shop Practices: Fabrication, Soldering, Rework, and Equipment Repair	3
ELCT-51A	PC Configuration, Assembly & Repair	3
		37.5

Computer and Networking Technology Option		Units
ELCT-31	Direct Current and Alternating Current Circuits	5
ELCT-31SL	DC/AC Electronic Circuits Software Lab	1
ELCT-32	Semiconductors and Integrated Circuits	5
ELCT-32SL	Semiconductors and Integrated Circuits Software Lab	2
ELCT-34	Digital Logic Circuits and Systems	3
ELCT-34SL	Digital Logic Circuits and Systems Software Lab	1
ELCT-36	Networking Topologies and Cabling	3
ELCT-40A	Cisco Certified Networking Associate (CCNA) Course I	3
ELCT-40B	Cisco Certified Networking Associate (CCNA) Course II	2
ELCT-40C	Cisco Certified Networking Associate (CCNA) Course III	2
ELCT-40D	Cisco Certified Networking Associate (CCNA) Course IV	2
ELCT-44	Electronic Shop Practices: Fabrication, Soldering, Rework, and Equipment Repair	3
ELCT-51A	Personal Computer Configuration, Assembly and Repair	3
ELCT-51B	A+ Certification Training	3
INDT-38	Industrial Technology Computer Applications and Literacy	3
		41

Certificate of Completion:
A Certificate of Completion may be earned by the successful completion of one of the Electronics Technology options listed above. For successful completion, a student must complete the requirements with a minimum grade point of 2.0 in each course required for the certificate.

Emergency Medical Technician

Emergency Medical Technology is designed to prepare future workers for emergency medical care services. The curriculum in Emergency Medical Technology includes:

		Units
ALLH-50	Emergency Medical Technician I	4
ALLH-51	Emergency Medical Technician I, Ambulance	1

These courses meet the requirements of Title 22, Division of California Administrative Code. Students successfully completing the courses are eligible to take the EMT-1 certifying exam from any EMS agency within the State of California.

Limitations on enrollment for both ALLH-50 and ALLH-51: Participants must have a current CPR card based on American Red Cross or American Heart Association that includes one- and two-rescuer CPR plus infant CPR; negative TB skin test or negative chest X-ray for TB.

Advisories: ENGL-84; ALLH-67; a first aid course equivalent to the course offered by the Red Cross.

ALLH-50 and ALLH-51 should be taken concurrently in order to verify that the student has met all EMT I course requirements.

Engineering

Widely diversified professional engineering programs are available at California universities. Merced College offers the first two years of engineering to prepare students for transfer at the junior class level into a bachelor's degree program.

Students must be aware that completion of the course selection below does not necessarily satisfy all lower division requirements as specified by the Engineering Liaison Committee. The program is listed in such a way as to permit sufficient flexibility for students transferring to a variety of institutions. Students must work closely with their counselors to assure a smooth transition to the four-year institution of their choice.

For an Associate in Science Degree in Engineering, students must meet the graduation requirements (MATH-04A, CHEM-04A, and a life science course are suggested to satisfy breadth requirements in the science area) and complete the courses listed below:

		Units
ENGR-10	Engineering Materials	3
ENGR-30	Introduction to Engineering	2
MATH-04B	Analytical Geometry and Calculus	4
MATH-04C	Analytical Geometry and Calculus	4
MATH-06	Differential Equations	3
PHYS-04A	Physics	4
PHYS-04B	Physics	4
		24

A minimum of five additional units from the following list of courses is required for an A.S. Degree. Care should be taken in selecting courses appropriate to the area of engineering, and the student's intended transfer institution:

CHEM-04B	General Chemistry	5
ENGR-12	FORTTRAN Programming	3
or		
ENGR-14	C++ Programming	3
ENGR-15	Elementary Mechanics (Statics)	3
ENGR-18	Electrical Circuits Analysis	4
ENGR-25	Graphics	3
MATH-08	Linear Algebra	3
PHYS-04C	Physics	4

Continued next page...

An Associate in Arts Degree in Engineering is designed for students investigating the area of engineering and who have sufficient units to graduate but lack specific prerequisites to advance to junior class standing in engineering. It must be noted that an A.A. in engineering does not necessarily satisfy entry requirements to four-year engineering curricula.

For an A.A. Degree in Engineering, students must meet the graduation requirements, and complete 18 units from the courses listed below.

	Units
CHEM-04B General Chemistry	5
ENGR-10 Engineering Materials	3
ENGR-12 FORTRAN Programming	3
ENGR-14 C++ Programming	3
ENGR-15 Elementary Mechanics (Statics)	3
ENGR-18 Electrical Circuits Analysis	3
ENGR-25 Graphics	3
ENGR-30 Introduction to Engineering	2
MATH-04B Analytical Geometry and Calculus	4
MATH-04C Analytical Geometry and Calculus	4
MATH-06 Elementary Differential Equations	3
MATH-08 Linear Algebra	3
PHYS-04A Physics	4
PHYS-04B Physics	4
PHYS-04C Physics	4

Engineering Technology

Engineering Technology is that part of the technological field which requires the application of scientific and engineering knowledge and methods combined with technical skills in support of engineering activities; it lies in the occupational spectrum between the craftsman and the engineer.

Engineering Technology prepares the student for junior class standing at California State University at Pomona, San Jose, San Luis Obispo, and Sacramento, and Northrop Institute of Technology in most specialized fields of engineering technology. This program leads to a Bachelor's in Science Degree and classification as an engineering technologist.

For an Associate in Science Degree in Engineering Technology, students must meet the basic graduation requirements (PHYS-04A and a life science course should be taken for science breadth) and complete the 30-unit curriculum listed below:

	Units
CHEM-04A General Chemistry	5
ENGR-10 Engineering Materials	3
ENGR-12 FORTRAN Programming	3
ENGR-15 Elementary Mechanics (Statics)	3
ENGR-25 Graphics	3
ELCT-31 Direct Current and Alternating Current Circuits	5
MATH-04A Analytical Geometry and Calculus	4
PHYS-04B Physics	4
	30

Suggested electives include:

ENGR-30 Introduction to Engineering	2
MATH-02 College Algebra and Trigonometry	4
PHYS-04A Physics	4

English

The English curriculum prepares the student in written and analytical skills and acquaints the student with a wide range of literature. An English major qualifies a student for employment in educational institutions, business and industry, and communications. It is a frequently recommended major for students interested in pre-law, journalism, or library work.

For an Associate in Arts Degree in English, the student must complete the graduation requirements and the 21-unit curriculum listed below with a minimum GPA in his or her English courses. The courses listed below must be in addition to the basic graduation requirements.

	Units
ENGL-01B Introduction to Literature	3
Plus 18 units from the following courses:	
ENGL-03 The History of Dramatic Literature	3
ENGL-04A Introduction to World Literature: Ancients to 1650	3
ENGL-04B Introduction to World Literature: 1650 to Present	3
ENGL-05 Introduction to Fiction	3
ENGL-06A Major English Writers	3
ENGL-06B Major English Writers	3
ENGL-07 Studies in Literature - Poetry	3
ENGL-08 Shakespeare	3
ENGL-10 American Literature - Beginnings to Civil War	3
ENGL-11 American Literature - Civil War to Present	3
ENGL-12 Creative Writing	3
ENGL-13 Critical Reasoning and Writing	3
or	
PHIL-13 Critical Reasoning and Writing	3
ENGL-14 Introduction to Film	3
ENGL-18 African and African-American Literature	3
ENGL-22 Research and Bibliography	1
ENGL-31 Children's Literature	3
ENGL-47 Special Topics in Language and Literature	3
	21

Suggested electives to meet applicable A.A./A.S. Breadth Requirements:

ART-01 Art History - Ancient through Gothic	3
ART-02 Art History - Renaissance Through Modern	3
Foreign Languages	5
HIST-04AB History of Civilization: Parts I & II	6
HUM-01 Studies in Humanities - Pre-History to Renaissance	3
or	
HUM-01H Honors Studies in Humanities - Ancient to Renaissance	3
HUM-02 Studies in Humanities - Renaissance to Present	3
or	
HUM-02H Honors Studies in Humanities - Renaissance to Present	3
PHIL-03 Ancient Philosophy	3
PHIL-04 Modern Philosophy	3

Environmental Technologies

Environmental Technologies is a program designed to train and educate technicians for employment in business, industry, and governmental agencies to assist in compliance with federal, state, and local regulations. For an Associate in Science Degree in Environmental Technologies, students must meet the basic graduation requirements and complete the courses listed below:

	Units
BIOL-01 General Biology for Non-Majors	4
or	
BIOL-04 Principles of Biology for Science Majors	4
or	
BIOL-04H Honors Principles of Biology for Science Majors	4
BIOL-06 Environmental Science	3
CHEM-02A Introductory Chemistry	4
CHEM-02B Introductory Chemistry	4
ENTC-30 Introduction to Environmental Technology	3
ENTC-32 Industrial Hazardous Waste Generation, Treatment, and Reduction	3
ENTC-34 Health Effects of Hazardous Materials	3
ENTC-36 Hazardous Waste Management Applications	4
ENTC-38 Safety and Emergency Response	4
ENTC-40 Hazardous Materials Management Applications	4
	36

The following courses are suggested to fulfill general education requirements/and or recommended as electives:

ANAT-25 General Human Anatomy	4
or	
ANAT-50 Survey of Anatomy and Physiology	3
COMM-01 Fundamentals of Speech	3
or	
COMM-05 Interpersonal Communication	3
CPSC-30 Computer Applications	3
ECON-01A Introduction to Macroeconomics	3
or	
PSYC-01A Introduction to Psychology	3
ENGL-01A Composition and Reading I	3
GEO-01 Physical Geology	4
MATH-C Intermediate Algebra	5
NUTR-10 Nutrition	3
POSC-01 Essentials of the American Political System	3
A Technical Writing Course	3

Certificate of Completion:
A Certificate of Completion will be awarded upon the satisfactory completion of the major listed above.

Fire Technology

For an Associate in Arts in Fire Technology, students must meet the graduation requirements and complete the following required courses with a 2.0 GPA or higher in each class:

	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
	15

Plus six units from the following electives:

	Units
FIRE-35 Fire Fighting Tactics and Strategy	3
FIRE-36 Hazardous Materials	3
FIRE-37 Fire Hydraulics	3
FIRE-38 Fire Apparatus and Equipment	3
FIRE-39 Fire Company Organization and Procedure	3
FIRE-49A-ZZ Special Problems in Fire Technology	0.5 - 3
FIRE-61 EMT I NA/FS - EMT I Non-Ambulance/FS	5
FIRE-65F Hazardous Materials – First Responder Operations (Haz Mat Fro)	1
FIRE-65G First Responder Operations/Decontamination (Decon Fro)	0.5
FIRE-67B Auto Extrication	0.5
FIRE-69B First Responder Re-certification	1
FIRE-70 Fire Department Administration	3

Certificate of Completion:
A Certificate of Completion will be awarded upon the satisfactory completion of 30 units of course work in this area of study, which must include the first five courses listed for the A.A. Degree in Fire Technology. A 2.0 GPA or higher must be earned in each class.

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.

Firefighter

FIRE-63AB	Basic Firefighter I, Academy
FIRE-64	Basic Firefighter II, Academy

Fire Officer I
The following courses are designed to provide the fire officer with instruction according to the standards identified within the California Fire Service Master Plan for Training and Education. Successful completion of all eight courses may enable the participant to receive certification as a Fire Officer I.

FIRE-47A	Fire Investigation IA
FIRE-71A	Fire Instructor I (Module A)
FIRE-71B	Fire Instructor I (Module B)
FIRE-72A	Fire Command I (Module A)
FIRE-72B	Fire Command I (Module B)
FIRE-73A	Fire Prevention I (Module A)
FIRE-73B	Fire Prevention I (Module B)
FIRE-75	Fire Management I

Foods and Nutrition

For an Associate of Arts Degree in Foods and Nutrition, students must meet the graduation requirements and complete the following courses:

Core:		Units
NUTR-10	Nutrition	3
NUTR-20	Principles of Foods	3
NUTR-36	Nutrition and Food Service Supervised Field Experience	3.5
NUTR-42	Quantity Food Preparation	3
NUTR-44	Food Safety and Sanitation	2
MGMT-31	Principles of Supervision	3
		17.5

Plus seven units from the following courses:

NUTR-26ABC	Independent Study in Foods and Nutrition	1-3
NUTR-39	Nutrition for Young Children	3
NUTR-40	Menu Design	3
NUTR-41	Infant and Toddler Feeding	1
NUTR-43	Children and Weight Concerns	1
NUTR-45	Introduction to Food Programs	1
NUTR-70A-ZZ	Special Topics	1-3
MGMT 50A-I	Customer Service Academy	3
		24.5

Certificate of Completion:

A Certificate of Completion will be awarded upon the satisfactory completion of the 24.5-unit curriculum listed above.

Certificate of Training for Dietetic Service Supervisor:

Upon satisfactory completion of the 17.5-unit core listed above, students meet the California Department of Health licensing requirements for Dietetic Service Supervisor.

Foreign Languages

Studies in foreign languages provide specialists to work in areas such as anthropology, economics, political science, literature, international business, and the travel industry. While teaching is one of the principal areas of employment, other careers may be found in interpreting, translating, research, diplomacy, libraries, publishing, and the service industries.

For an Associate in Arts Degree in French, German, or Spanish, students should meet the graduation requirements and complete the 26-unit curriculum as listed below. The courses listed below must be in addition to the basic graduation requirements:

French		Units
FREN-01	Elementary French	5
FREN-02	Elementary French	5
FREN-03	Intermediate French	5
FREN-04	Intermediate French	5
HIST-04A	History of Civilization Part I	3
HIST-04B	History of Civilization: Part II	3
		26

German		Units
GERM-01	Elementary German	5
GERM-02	Elementary German	5
GERM-03	Intermediate German	5
GERM-04	Intermediate German	5
HIST-04A	History of Civilization: Part I	3
HIST-04B	History of Civilization: Part II	3
		26

Spanish		Units
SPAN-01	Elementary Spanish	5
or		
SPAN-10	Spanish for Spanish Speakers	5
SPAN-02	Elementary Spanish	5
or		
SPAN-11	Spanish for Spanish Speakers	5
SPAN-03	Intermediate Spanish	5
SPAN-04	Intermediate Spanish	5
HIST-04A	History of Civilization: Part I	3
HIST-04B	History of Civilization: Part II	3
		26

Foster Care Education

A Certificate of Completion in Foster Care Education will be awarded upon the satisfactory completion of 15 units from the following courses:

		Units
CLDV-08	Families and Societies	3
CLDV-09	Human Development	3
or		
CLDV-29	Child Growth and Development	3
NUTR-10	Nutrition	3
or		
NUTR-39	Nutrition for Young Children	3
CLDV-82A-Z	Foster Care Education	2
		11

Plus a minimum of four units from the following:

		Units
COMM-04	Small Group Discussion and Problem Solving .	3
or		
COMM-05	Interpersonal Communication	3
CLDV-35	Infant and Toddler Care	2
CLDV-35L	Infant and Toddler Care Lab	2
PSYC-01A	Introduction to Psychology	3
		15

General Studies

The General Studies major is designed for students who seek to broaden their education and explore a variety of subject areas before beginning to specialize or make occupational choices.

The Associate in Arts Degree in General Studies requires a total of 18 units consisting of six units in each of any three of the following areas. These courses must be in addition to those taken to satisfy basic graduation requirements. (No courses numbered in the 80 or 90 series are acceptable toward graduation requirements.)

The areas and their course prefixes are:

Agriculture:

AGBS, AGRI, ANSC, CROP, DAIR, FPRO, FORS, PLSC, LAND, MECH, and SOIL.

Allied Health:

ALLH, VOEN, REGN, RADT, SONO, and SPMD.

Arts:

ART, DNCE, DRAM, MUS, and PHOT.

Business:

ACTG, BUS, CPSC, MDSE, MGMT, MKTG, OFCT, PLGL, and REAL..

Continued next page...

Child Development:
CLDV.
Guidance:
GUID.
Humanities
COMM, ENGL, FREN, GERM, HNRS, HMNG, HUM, ITAL,
JPNS, JOUR, LBST, PHIL, and SPAN.
Industrial Technology:
AUTO, DRFT, ELCT, INDT, LEOT, and WELD.
Lifelong Learning:
COOP, EDUC, LRNR, and TUTR.
Mathematics:
MATH.
Nutrition:
NUTR.
Physical Education:
HLTH, PHED, and RECR.
Public Services:
ADST, CORR, CRIM, and FIRE.
Science:
ANAT, ARCH, ASTR, BIOL, BOT, CHEM, ENGR, ENT, C,
GENE, GEOG, GEOL, NTSC, PHSC, PHYO, PHYS, SCI,
WWT, and ZOO.
Social Science:
ANTH, ECON, GEOG, HIST, HMSV, POSC, PSYC, SOC,
SCSC, and STGV.

Geography

Geography is the study of the physical aspects of the planet. Topics studied include population pressures, food supply, and resource availability. Physical Geography is a natural science about weather, climate, and earth processes creating different landforms, while World Geography is a social science of how mankind utilizes earth resources to create different cultures and standards of living. The study of Geography enables a student to better understand world problems and events; it prepares a student for a career as a planner, teacher, journalist, earth scientist, and for other occupations.

Lower division preparation for transfer students intending to major in geography should include:

	Units
ANTH-02 Cultural Anthropology	3
ENGL-01A Composition and Reading I	3
ENGL-01B Introduction to Literature	3
GEOG-01 Physical Geography	3
GEOG-01L Physical Geography Lab	1
GEOG-02 World Geography	3
GEOL-01 Physical Geology	4

Other pertinent courses are:

	Units
ECON-01A Introduction to Macroeconomics	3
BIOL-01 General Biology for Non-Majors	4
HIST-04AB History of Civilization: Parts I & II	6
PHSC-01 Physical Science Survey	3

Geology

The Geology curriculum is suggested for those students interested in any branch of earth science. This curriculum is designed to meet the lower division requirements of most universities offering a major in the earth sciences. This curriculum could lead to careers in fields such as paleontology, mineralogy, geophysics, hydrology, marine geology, and geochemistry, as well as general geology. People trained in these disciplines are employed in research companies as well as by companies associated with mining and petroleum industries.

For an Associate in Science Degree in Geology, the student must complete the graduation requirements (PHYS-02A or PHYS-04A and ARCH-01 are suggested to satisfy the breadth requirements in the science area), and complete the courses listed below:

	Units
BIOL-01* General Biology for Non-Majors	4
or	
BIOL-04 Principles of Biology	4
or	
BIOL-04H Honors Principles of Biology for Science Majors	4
CHEM-04A General Chemistry	5
CHEM-04B General Chemistry	5
GEOG-01 Physical Geology	4
PHYS-02B General Physics	4
or	
PHYS-04B Physics	4
	22

The student must also select at least eight units from the following list (depending on the choice of four-year institution):

ENGR-25 Graphics	3
GEOG-02 Historical Geology	3
MATH-04A Analytical Geometry and Calculus	4
MATH-04B Analytical Geometry and Calculus	4
MATH-04C Analytical Geometry and Calculus	4
MATH-12 FORTRAN Programming	3
MATH-14 C++ Programming	3
PHYS-04C Physics	4

Health Sciences

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:

BIOL-01 General Biology for Non-Majors	4
CHEM-02B Introduction to Chemistry	4
NUTR-10 Nutrition	3

And select eight units from the following:

ANAT-25 General Human Anatomy	4
BIOL-20 Microbiology	4
PHYO-01 Principles of Physiology	4

Heating, Ventilation, Air Conditioning, and Refrigeration Technology

An Associate in Arts Degree in HVAC is available for students who meet the graduation requirements, and complete one of the certificate options listed below:

HVAC Technician Option		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 Ordinance	3
INDT-50	HVAC - Heating and Control Systems	6
INDT-51	Ventilation and Air Conditioning	6
INDT-52	Refrigerant Usage Certification - EPA Requirements	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 T.I.G. and M.I.G. Welding	3
		37

Commercial Refrigeration Technician Option		Units
ELCT-41	Industrial Motor and Equipment Control	3
ELCT-42	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 Design, Installation, and Service	3
INDT-49 A	Electrical Codes and Ordinances	3
INDT-51	Ventilation and Air Conditioning	6
MATH-B	Applied Mathematics	5
WELD-06	Fundamentals of Oxy-Fuel & Shielded Metal Arc Welding	3
WELD-07	Fundamentals of T.I.G. and M.I.G. Welding	3
		34

Certificate of Completion:
 A Certificate of Completion will be awarded upon successful completion of one of the full certificate options listed above. For successful completion, a student must complete the requirements with a minimum grade point of 2.0 in each course required for the certificate.

History

The following history program is designed for the first two years of work required for students majoring in history who are interested in obtaining either a secondary or elementary teaching credential. Students should work with their counselor for specific transfer requirements.

For an Associate in Arts Degree in History, students must meet the graduation requirements and complete the 18-unit curriculum from the two lists below (3-12 units from the first list, and 6-15 units from the second list). The courses listed below must be in addition to the basic graduation requirements.

Students must select a minimum of three units from the following (depending on the student's choice of four-year institution):

HIST-04A	History of Civilization: Part I	3
HIST-04B	History of Civilization: Part II	3
HIST-17A	Political and Social History of the United States	3
HIST-17B	Political and Social History of the United States	3

Students must choose a minimum of six units from the list below:

HIST-05	History of Europe Since 1901	3
HIST-08A	History of the Americas	3
HIST-08B	History of the Americas	3
HIST-09A	Introduction to East Asian Civilization: China	3
HIST-09B	Introduction to East Asian Civilization: Japan	3
HIST-21	History of Minorities -- Ethnic Groups, 19th Century to the Present	3
HIST-22	History of Minorities - Black Emphasis	3
HIST-23	History of Hispanic-Americans in the Southwest U.S	3
HIST-24	History of the Native American	3
HIST-29	History of California	3
or		
HIST-39ABC	Exploring California's Past	3
		18

Horse Management

The Associate in Science Degree in Horse Management is available upon satisfactory completion of the graduation requirements and 30 units from the following list which includes the core courses; the Associate in Arts Degree is available upon satisfactory completion of the graduation requirements and the 23-unit core.

Core:		Units
AGBS-12	Agricultural Accounting	3
ANSC-11	Elements of Animal Nutrition	3
ANSC-16	Horse Husbandry	3
ANSC-39	People and Livestock in the Sierras	3
ANSC-46A	Specialized Horse Training	4
CROP-13	Forage Crops	3
MECH-06	Fundamentals of Oxy-Fuel Welding and Shielded Metal Arc Welding	3
MECH-31	Equipment Safety	1
		23

Electives:		Units
AGBS-18	Agricultural Computer Applications	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
ANSC-46B	Specialized Horse Training	4
ANSC-47A	Back Country Animal Management	1
ANSC-48	Tack Repair	1
ANSC-52	Hoof Care and Trimming	2
MECH-12	Agriculture Equipment	3

Certificate of Completion:
 A Certificate of Completion will be awarded upon the satisfactory completion of the 23-unit core, and 16 units from the electives above.

Horseshoeing

A Certificate of Completion will be awarded upon the satisfactory completion of ANSC-50 (Horseshoeing), and another Certificate of Completion will be awarded upon the satisfactory completion of ANSC-51 (Advanced Horseshoeing).

Human Services

The Associate in Arts Degree in Human Services is available for students who meet the graduation requirements and complete the following required courses:

	Units
COOP-41 Cooperative Education	2-4
COMM-05 Interpersonal Communication	3
CPSC-30 Computer Applications	3
HMSV-50 Survey and Utilization of Community Resources	3
HMSV-51 Human Behavior and the Helping Process	3
HMSV-61 Social Welfare	3
PSYC-23 Personal and Social Adjustment	3
PSYC-51 Applied Psychology	3

Students must take two of the three following courses:

ANTH-10 Southeast Asian Culture: Emphasis Hmong Culture	3
HIST-22 History of Minorities -- Black Emphasis	3
HIST-23 History of Hispanic Americans in the Southwest United States	3

Students must also choose one course from the following electives:

	Units
ADST-41 Introduction to Addiction Studies	3
CRIM-33 Family Violence	3
PSYC-01A Introduction to Psychology	3
PSYC-09 Human Development	3
SOC-28 Marriage and the Family	3
SCSC-01 Introduction to Social Science	3
	<u>32-35</u>

Certificate of Completion:

A Certificate of Completion will be awarded upon the satisfactory completion of the curriculum listed above.

Humanities

Humanities is the study of cultural manifestations in all its varieties, such as literature, philosophy, foreign language, and the fine arts. It is the study of intellectual, cultural, and aesthetic development through history with an integration of multi-cultural influences. A humanities major prepares a student for employment in many diverse fields, including education and research, law, international business, government, and the creative arts.

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.

	Units
HUM-01 Studies in Humanities - Ancient to Early Renaissance	3
or	
HUM-01H Honors Studies in Humanities - Ancient to Early 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, 03, 06A, 06B, 08, 09, 10, 11, 18

Philosophy and Humanities (3 units)

PHIL-03, 04, 05, 15

HUM-15, 21, 47

Art and Music (3 units)

ART-01, 02, 03, 04

MUS-11, 12, 13, 14

Foreign Language (5 units)

FREN-02, 03, 04, 39

GERM-02, 03, 04, 39

HMNG-02

ITAL-02, 03

SPAN-02, 03, 04, 39

Industrial Electronics Technology

For an Associate in Arts Degree in Industrial Electronics Technology (Industrial Electronics Technician), students must meet the graduation requirements and complete the following required courses:

	Units
DRFT-44 Print Reading and Sketching	3
ELCT-31 Direct Current and Alternating Current Circuits	5
ELCT-31SL DC/AC Electronic Circuits Software Lab	1
ELCT-32 Semiconductors and Integrated Circuits	5
ELCT-32SL Semiconductors and Integrated Circuits Software Lab	2
ELCT-34 Digital Logic Circuits and Systems	3
ELCT-34SL Digital Logic Circuits and Systems Software Lab	1
ELCT-41 Industrial Motor and Equipment Control	3
ELCT-42A Programmable Logic Controllers	2
ELCT-42B Advanced Programmable Logic Controllers	1
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 Techniques1	3
INDT-49 Electrical Codes and Ordinances	3

Plus six units from the following electives:

INDT-10 Industrial Technical Skills	3
INDT-25 Fluid Power	3
INDT-41 Power Transmission	3
	<u>42</u>

Certificate of Completion:

A Certificate of Completion will be awarded upon the satisfactory completion of the 42 units of course work listed above. For successful completion, a student must complete the requirements with a minimum grade point of 2.0 in each course required for the certificate.

Industrial Maintenance Technology

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::

	Units
DRFT-44 Print Reading and Sketching	3
ELCT-41 Industrial Motor and Equipment Control	3
ELCT-47 Electrical Motors, Generators, Transformers, and AC Distribution	3
ELCT-52 Introduction to Electricity and Electronics	3
INDT-10 Industrial Technical Skills	3
INDT-25 Fluid Power	3
INDT-32 Building Construction Concepts	3
INDT-36 Electrical Wiring	3
INDT-41 Power Transmission	3
INDT-49 Electrical Codes and Ordinances	3
MATH-B Applied Mathematics	5
WELD-06 Fundamentals of Oxy-Fuel & Shielded Metal Arc Welding	3
WELD-07 Fundamentals of T.I.G. and M.I.G. Welding	3
WELD-40A Welding Design and Construction	3
	44

Certificate of Completion:

A Certificate of Completion will be awarded upon successful completion of the full certificate listed above. For successful completion, a student must complete the requirements with a minimum grade point of 2.0 in each course required for the certificate.

Industrial Technology

Industrial Technology is a program which blends technical, scientific, and business principles, and which prepares versatile individuals for technological management, production supervision, and related leadership positions.

For locating the various degrees and certificates that fall under Industrial Technology, students should refer to the following degree and certificate titles in this portion of the catalog:

Automotive Technology
Automotive Technology, Toyota-Approved
Drafting Technology
Electrical Technology
Electronics Technology
Heating, Ventilation, Air Conditioning, and Refrigeration Technology
Industrial Electronics Technology
Industrial Maintenance Technology
Instrumentation and Process Control
Laser Electro-Optics Technology
Welding Technology

Instrumentation and Process Control

For an Associate in Arts Degree in Instrumentation and Process Control, students must meet the graduation requirements and complete the following required courses:

	Units
ELCT-31 Direct Current and Alternating Current Circuits	5
ELCT-31SL DC/AC Electronic Circuits Software Lab	1
ELCT-32 Semiconductors and Integrated Circuits	5
ELCT-32SL Semiconductors and Integrated Circuits Software Lab	2
ELCT-34 Digital Logic Circuits and Systems	3
ELCT-34SL Digital Logic Circuits and Systems Software Lab	1
ELCT-35 Microcontrollers, Programming, and Interfacing with Robotics Applications	4
ELCT-41 Industrial Motor and Equipment Control	3
ELCT-42A Programmable Logic Controllers	2
ELCT-42B Advanced Programmable Logic Controllers	1
ELCT-43A Industrial Instrumentation and Process Control	3
ELCT-43B Graphical Programming for Electronics Data Acquisition	1.5
ELCT-44 Fabrication, Soldering, and Equipment Repair	3
ELCT-47 Electrical Motors, Generators, Transformers and AC Distribution	3
ELCT-55 Electrical Conduit Bending Theory and Techniques1	1
INDT-25 Fluid Power	3
	41.5

Certificate of Completion:

A Certificate of Completion will be awarded upon the satisfactory completion of the 41.5 units of course work listed above. For successful completion, a student must complete the requirements with a minimum grade point of 2.0 in each course required for the certificate.

Journalism

The mass communications industry is experiencing rapid growth worldwide. Merced College's A.A. program in journalism enables students to obtain skills they will use when transferring to a four-year institution. A two-year degree may qualify students for entry-level jobs with local mass media.

The Associate in Arts in Journalism consists of the following courses:

	Units
JOUR-01 Mass Media and Society	3
JOUR-08 Introduction to Newswriting and Reporting	3
JOUR-32 Newspaper Staff (repeat once)	6
PHOT-10A Basic Photography	3

Choose three units from:

POSC-01 Essentials of the American Political System	3
POSC-02 An Introduction to World Political Systems	3

Choose three units from:

ENGL-12 Creative Writing	3
ENGL-13 Critical Reasoning and Writing	3
PHOT-10B Intermediate Photography	3
	21

Suggested Area C2 breadth course: PHIL-05 - Contemporary Moral and Social Issues.

Lab Technology

The Associate in Science Degree in Lab Technology provides a student with sufficient training to enable him/her to perform lab work in food processing quality control labs or related technical lab work.

	Units
BIOL-06 Environmental Science	3
BIOL-20 Microbiology	4
CHEM-04B General Chemistry	5
CHEM-06* Quantitative Analysis	4
CPSC-01 Introduction to Management Information Systems	4
MATH-02 College Algebra and Trigonometry	4
	24

Suggested Area A2/B Breadth courses: BIOL-01, CHEM-04A, and MATH-C.

*Students must contact the Science, Math, and Engineering Division Chairperson for a suitable substitute for this course.

Landscape Horticulture

The Associate in Science Degree in Landscape Horticulture is available upon completion of the graduation requirements in addition to 30 units from the following list; the Associate in Arts Degree is available upon completion of the graduation requirements in addition to 18-19 units from the following list. The core must be completed for each degree.

<u>Core:</u>	Units
LAND-10A Plant Identification and Usage: Fall	3
LAND-10B Plant Identification and Usage: Spring	3
LAND-12 Landscape Design	3
PLSC-10 Elements of Plant Science	3
SOIL-10 Soil Science	3
MECH-15 Small Engine Repair and Maintenance	3
or	
MECH-35 Small Power Equipment	2
MECH-31 Equipment Safety	1
	18-19

<u>Electives:</u>	Units
AGBS-18 Agricultural Computer Applications	3
LAND-11 Elements of Environmental Horticulture	3
LAND-14 Landscape Construction and Installation	3
LAND-15 Landscape Maintenance	3
LAND-17 Nursery and Garden Center Practice	3
PLSC-13 Economic Entomology	3
PLSC-16 Plant Propagation	3
SOIL-11 Fertilizer and Soil Amendments	3

Certificate of Completion:
A Certificate of Completion will be awarded upon the satisfactory completion of the 18-19 unit core and 18 units from the electives above.

Laser Electro-Optics Technology

An Associate in Arts Degree in Laser Electro-Optics Technology prepares the student to enter the workforce in the fields of lasers and electro-optics as technicians, installers, technologists, engineers, and scientists. Students must meet the graduation requirements and complete the following major requirements (PHYS-02A is recommended to fulfill breadth requirements):

	Units
ELCT-31 Direct Current and Alternating Current Circuits	5
and	
ELCT-49A DC/AC Electronic Circuits Software Lab	1
or	
ELCT-31A Direct Current Circuits	3
and	
ELCT-31B Alternating Current Circuits	3
ELCT-32 Semiconductors and Integrated Circuits	5
ELCT-33 Pulse Circuits, Operational Amplifiers, and Linear Integrated Circuits	3
ELCT-34 Digital Logic Circuits and Systems	3
LEOT-37 Laser Electronics	3
ELCT-44 Electronic Shop Practices	3
ELCT-49B Electronic Circuits Software Lab	1
ELCT-49C Electronic Circuits Software Lab	1
ELCT-49D Electronic Circuits Software Lab	1
LEOT-42 Vacuum Technology	3
LEOT-30 Introduction to Laser Electro-Optics Technology	3
LEOT-32 Laser Technology	3
LEOT-34 Laser Electro-Optics Devices	3
LEOT-36 Laser Applications	3
PHYS-02B General Physics	4
	45

A Certificate of Completion will be awarded upon the satisfactory completion of the major listed above. For successful completion, a student must complete the requirements with a minimum grade point of 2.0 in each course required for the certificate.

Liberal Studies - Elementary Teaching Preparation

The Liberal Studies - Elementary Teaching Preparation major is designed primarily for students who intend to prepare for a career teaching at the elementary level.

For an Associate in Arts Degree in Liberal Studies, students should meet the graduation requirements and complete the 34-unit curriculum listed below. The courses listed below must be in addition to the basic graduation requirements:

Core:	
COMM-01*	Fundamentals of Speech 3
or	
COMM-01H*	Honors Fundamentals of Speech 3
CPSC-30	Computer Applications 3
ENGL/PHIL-13*	Critical Reasoning and Writing 3
or	
ENGL/PHIL-13H*	Honors Critical Reasoning and Writing 3
ENGL-31	Children's Literature 3
HIST-17A	United States History and United States Constitution 3
or	
HIST-17AH	Honors United States History and United States Constitution 3
LBST-10	Career Exploration: Teaching I 3
LBST-20	Career Exploration: Teaching II 3
MATH-20A	Basic Structure of Mathematics I 3
PHSC-01	Introduction to Physical and Earth Science
PHSC-01L	Introduction to Physical and Earth Science Laboratory 1
Plus six units from the following:	
ART-12A	Sculpture 3
or	
ART-15	Fundamentals of Design in Art 3
or	
ART-24A	Drawing I 3
BIOL-01	General Biology for Non-Majors 4
CLDV/PSYC-09	Human Development 3
COMM-30	Introduction to Intercultural Communication 3
ENGL-08	Introduction to Shakespeare 3
ENGL/HUM-18	African and African-American Literature 3
HIST-29	History of California 3
HUM-15	Comparative Cultures 3
or	
PHIL-15	Comparative Religions 3
MATH-20B	Basic Structure of Mathematics II 3
MUS-14	American Popular Music 3

Students should see the Liberal Studies counselor for general breadth lower-division requirements specific to the transfer Institution.

*COMM-01 and ENGL/PHIL-13 may count for the major and for general breadth lower division requirements.

Life Science

To earn an Associate in Arts Degree in Life Science, the student must complete the basic graduation requirements (a course in chemistry should be taken for science breadth) and the courses listed below:

	Units
BIOL-01* General Biology for Non-Majors	4
or	
BIOL-04* Principles of Biology for Science Majors	4
or	
BIOL-04H Honors Principles of Biology for Science Majors	4
BOT-01 Principles of Botany	5
or	
ZOO-01 General Zoology	5
	9

And select nine additional units from the following:

	Units
ANAT-25 General Human Anatomy	4
BIOL-04* Principles of Biology for Science Majors	4
or	
BIOL-04H Honors Principles of Biology for Science Majors	4
BIOL-06 Environmental Science	3
BIOL-08 Conservation of Natural Resources	3
BIOL-20 Microbiology	4
BIOL-31 Introduction to Biotechnology I	4
BOT-01 Principles of Botany	5
or	
ZOO-01 General Zoology	5
CHEM-02B Introductory Chemistry	4
CHEM-04A General Chemistry	5
CHEM-04B General Chemistry	5
MATH-10 Elementary Statistics	3
MATH-12 FORTRAN Programming	3
MATH-14 C++ Programming	3
PHYO-01 Principles of Physiology	4

*Note: A student may not take BIOL-01 for credit after having taken BIOL-04 or BIOL-04H.

Management, Merchandising/Marketing

The Associate in Arts Degree in Merchandising/Marketing Management is in preparation for employment in the merchandising and marketing areas. Students must meet the graduation requirements and complete the major requirements with the following core courses:

	Units
ACTG-04A Fundamentals of Financial Accounting	4
or	
ACTG-51 Applied Accounting	4
BUS-10 Introduction to Business	3
BUS-18A Business Law	4
CPSC-01 Introduction to Management Information Systems	4
or	
CPSC-30 Computer Applications	3
ECON-01A Introduction to Macroeconomics	3
MDSE-31 Retail Management	3
MDSE-33 Advertising	3
MGMT-31 Principles of Management	3
MGMT-50 Management Series	1
MKTG-30 Marketing	3

Suggested electives include:

	Units
BUS-35 Money Management	3
COMM-04 Small Group Discussion and Problem Solving	3
MDSE-32 Salesmanship	3
MGMT-37 Small Business Management	3

Certificate of Completion:

A Certificate of Completion 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 Associate in Arts Degree in Merchandising/Marketing Management.

Management, Small Business

The Associate in Arts Degree in Small Business Management offers training in the establishment and operation of a small business and the process of business plan creation.

Students must meet the graduation requirements and complete the following required courses:

	Units
ACTG-04A Fundamentals of Financial Accounting	4
or	
ACTG-51 Applied Accounting	4
BUS-10 Introduction to Business	3
BUS-18A Business Law	4
CPSC-01 Introduction to Management Information Systems	4
or	
CPSC-30 Computer Applications	3
ECON -01A Introduction to Macroeconomics	3
MGMT-31 Principles of Supervision	3
MGMT-32 Human Resources Management	3
MGMT-37 Small Business Management	3
MGMT-50-52 Management Series	1
MKTG-30 Marketing	3
	30-31

Suggested electives include:

	Units
BUS-35 Money Management	3
COMM-04 Small Group Discussion and Problem Solving	3

Certificate of Completion:

A Certificate of Completion 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 Management, Small Business.

Management/Supervisory Training

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:

	Units
ACTG-04A Fundamentals of Financial Accounting	4
or	
ACTG-51 Applied Accounting	4
BUS-18A Business Law	4
CPSC-01 Introduction to Management Information Systems	4
or	
CPSC-30 Computer Applications	3
ECON-01A Introduction to Macroeconomics	3
MGMT-31 Principles of Supervision	3
MGMT-32 Human Resources Management	3
MGMT-33 Elements of Effective Leadership	3
MGMT-34 Employment Law	3
MGMT-50-52 Management 50 Series	3
	30-31

Suggested electives include:

	Units
BUS-10 Introduction to Business	3
BUS-35 Money Management	3
COMM-04 Small Group Discussion and Problem Solving	3
ECON-01B Introduction to Microeconomics	3
MGMT-37 Small Business Management	3
MGMT-50 Management Series	½ - 3 ½
MGMT-51 Management Series	½ - 3 ½
MGMT-52 Management Series	½ - 3 ½

Certificate of Completion:

A Certificate of Completion 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 Management/Supervisory Training.

Customer Service

	Units
MGMT-50B Foundation Essentials: Values and Ethics	½
MGMT-50C Basic Time and Space Management	½
MGMT-50D Communicating with People	½
MGMT-50F Team Building	½
MGMT-50G Decision Making and Problem Solving	½
MGMT-50H Customer Service	½
MGMT-50I Attitude in the Workplace	½
MGMT-51F Conflict Resolution	½
MGMT-51G Stress Management	½
MGMT-52D Managing Organizational Change	½
	5

For a Certificate of Achievement in Customer Service, students must complete all ten management courses listed above.

Mathematics

The following curriculum is designed for students majoring in mathematics in the California State University system. The student should check the specific requirements in the catalog of the college to which he/she plans to transfer.

For an Associate in Arts Degree in Mathematics, students must meet the graduation requirements and complete 18 units (including MATH-04ABC) from the courses listed below:

	Units
MATH-04A Analytical Geometry and Calculus	4
MATH-04B Analytical Geometry and Calculus	4
MATH-04C Analytical Geometry and Calculus	4

And select a minimum of six units from the following:

MATH-06 Elementary Differential Equations	3
MATH-08 Linear Algebra	3
MATH-12 FORTRAN Programming	3
MATH-14 C++ Programming	3
MATH-21 Math for General/Liberal Arts	3
PHYS-04A Physics	4
or	
PHYS-04B Physics	4

Mechanized Agriculture – Compact Power Equipment

Certificate of Completion:

A Certificate of Completion in Compact Power Equipment will be awarded to students who successfully complete the following core courses:

Core:	
MECH-15 Small Engine Repair and 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-31 Equipment Safety	1
MECH-35 Small Power Equipment	2
MECH-40 Equipment Repair	2
	<u>20</u>

Mechanized Agriculture Technology/Heavy Equipment Mechanics

The Associate in Arts Degree or Associate in Science Degree in Mechanized Agriculture Technology/Heavy Equipment Mechanics is available upon completion of the graduation requirements, the 22-unit core, and 15 units from the elective list.

Core:	Units
MECH-12 Agriculture Equipment	3
MECH-21 Hydraulics	3
MECH-22A Diesel Engines	4
MECH-24 Power Trains	4
MECH-26 Power Equipment Electrical Systems	3
MECH-30 Equipment Mechanics Skills	2
MECH-31 Equipment Safety	1
MECH-33 Power Equipment Air Conditioning	2
	<u>22</u>

Continued next column...

Electives:

	Units
MECH-06 Fundamentals of Oxy-Fuel Welding and Shielded	
	3
MECH-13 Metal Arc Welding	3
MECH-15 Agriculture Equipment	3
MECH-22B Small Engine Repair and Maintenance	4
MECH-23 Diesel Engines	2
MECH-32 Diesel Fuel System Diagnostics	3
MECH-35 Applied Electrical and Hydraulic Service	2
MECH-40 Small Power Equipment	2
	<u>37</u>

Certificate of Completion:

A Certificate of Completion in Mechanized Agriculture Technology/Heavy Equipment Mechanics will be awarded upon completion of the 22-unit core and 15 units from the electives list.

Music

For an Associate in Arts Degree in Music, students must meet the basic graduation requirements in addition to the 34-unit curriculum below.

Core	Units
MUS-04ABCD Music Theory I-IV	12
MUS-11 History and Appreciation of Music	3
MUS-12 History and Appreciation of Music	3
MUS-24ABCD Applied Music	4
MUS-27A Elementary Piano	2
	<u>24</u>

And choose one area of concentration (10 units):

Piano Concentration

MUS-27BCD	6
Plus four units from the following music ensembles:	
MUS-41A Concert Band I	2
MUS-42A Jazz Ensemble I	2
MUS-44A Chorus	2

Vocal Concentration

MUS-43B Advanced Voice	3
MUS-47 Song Interpretation: Music Theater	3
Plus four units from the following vocal ensembles:	
MUS-44A Chorus	2
MUS-44B Chorus	2
MUS-44C Chorus	2
MUS-44D Chorus	2
MUS-45A Chamber Singers	2
MUS-45B Chamber Singers	2
MUS-45C Chamber Singers	2
MUS-45D Chamber Singers	2

Guitar Concentration

MUS-36ABC Guitar	6
Plus 4 units from the following vocal ensembles:	
MUS-41ABCD Concert Band	2
MUS-42ABCD Jazz Ensemble	2
MUS-44 Chorus	2

Continued next page...

Instrumental Concentration

Eight units from the following music ensembles:

MUS-41A	Concert Band I	2
MUS-41B	Concert Band II	2
MUS-41C	Concert Band III	2
MUS-41D	Concert Band IV	2
MUS-42A	Jazz Ensemble I	2
MUS-42B	Jazz Ensemble II	2
MUS-42C	Jazz Ensemble III	2
MUS-42D	Jazz Ensemble IV	2

Plus two units from the following electives:

MUS-02	Musical Stage Production	3
MUS-13	History and Appreciation of Jazz	3
MUS-28	Jazz Improvisation	2
MUS-36A	Beginning Guitar	2
MUS-61	Fine and Performing Arts - Special Topics	2

Music History Concentration

MUS-13	History and Appreciation of Jazz	3
MUS-14	American Popular Music	3
MUS-27B	Intermediate Piano	2
MUS-36A	Beginning Guitar	2

Nurse Assistant

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; Penal Code violations clearance.

A statement of eligibility will be awarded upon the satisfactory completion of the following courses:

	Units
ALLH-80 Nurse Assistant	3
ALLH-80L Nurse Assistant Laboratory	2.5

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

Nursing

All individuals who meet minimum enrollment requirements are eligible to apply to the nursing programs. Criteria and complete information on the selection process as well as the philosophy and objectives of each program are described in the Nursing Application Handbooks which are available in the Merced College Bookstore. The handbooks are extensive and may contain updates to the following brief program outline.

Completion of the Registered Nursing Program at Merced College qualifies students to take the National Council Licensure Examination for Registered Nurses (NCLEX-RN). Completion of the Vocational Nursing Program qualifies students to take the National Council Licensure Examination for Vocational Nurses (NCLEX-PN).

Nursing, Registered

The registered nursing program requires two academic years beyond completion of the prerequisite courses, and is designed to prepare competent nurses for service in the community. 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 meet eligibility for licensure requirements by the State Board of Nursing.

Completion of the prerequisite courses is required for enrollment eligibility to 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 to the program.

Enrollment in the Registered Nursing Program is determined on a first-come, first-served basis. The date of submission on the required application determines the order in which qualified students are accepted. Merced Community College District residents may be accepted for admission prior to nonresidents. Complete information, selection process and enrollment forms are contained in the Registered Nursing Application Handbook, available in the Merced College Bookstore, or through the web site: www.mccd.edu/alliedhealth/regnurshp.htm.

Prerequisite Courses:		Units
ANAT-25*	General Human Anatomy	4
CHEM-02A*	Introductory Chemistry	4
BIOL-20*	Microbiology	4
PHYO-01*	Principles of Physiology	4
ENGL-01A	Composition and Reading I	3
REGN-50**	Nursing Careers Seminar	1/3

Non-nursing program requirements which also fulfill A.S. breadth requirements:

ANTH-02	Cultural Anthropology	3
or		
SOC-01	Introduction to Sociology	3
COMM-01	Fundamentals of Speech	3
or		
COMM-05	Interpersonal Communication	3
CLDV-09***	Human Development	3
HIST-17A	Political and Social History of the United States	3
or		
HIST-17B	Political and Social History of the United States	3
or		
POSC-01	Essentials of the American Political System	3
	Any Humanities A.S. Breadth Area C course	3
	A Physical Education activity course	2

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Registered Nursing curriculum:**First Semester**

REGN-10	Foundations of Nursing Practice	9
REGN-13A	Nursing Skills Simulation I	2

Second Semester

REGN-11	Nursing in Health and Illness I	9
REGN-13B	Nursing Skills Simulation II	2

Third Semester

REGN-20	Nursing in Health and Illness II	9
REGN-21	Professional Relationships and Responsibilities	1
REGN-24A	Nursing Concepts Simulation I	2

Fourth Semester

REGN-22	Nursing in Health and Illness III	9
REGN-23	Professional Relationships and Responsibilities II	1
REGN-24B	Nursing Concepts Simulation II	2

*Recommended to be completed within five years prior to enrollment into the program; a minimum cumulative GPA of 2.5 is required in ANAT-25, BIOL-20, CHEM-02A, and PHYO-01. A waiver for recency may be requested. See REGN Application Handbook.

**Advisory.

***Must be completed prior to or concurrently with REGN-11.

Competencies as required by Merced College for graduation:

Writing:	Met by completion of ENGL-01A within program prerequisites.
Math:	Met by MATH-A or higher level math course.
Reading:	Met by ENGL-41 or completion of A.S. Breadth courses with "C" grade or better.

[Completion of the Registered Nursing Program at Merced College satisfies CILC areas A through G.]

LVN to RN Program

The program 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. 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 program requires the completion of the previously identified prerequisite courses. In addition, REGN 19 and CLDV-09 are prerequisite for the LVN to RN applicant. 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 to the program.

Credits earned in the Merced College Registered Nursing Program are transferable to California State Universities having two-plus-two baccalaureate programs in nursing. 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.

Nursing, Vocational

The Vocational Nursing curriculum comprises three semesters of combined didactic and clinical work on campus and at affiliated health care facilities. Upon satisfactory completion of the prerequisites and the nursing courses, a Certificate of Completion is awarded and the student is then eligible for the National Licensure Examination. An Associate in Arts Degree is also available for those students who complete the Merced College General Education requirements.

In accordance with the rules and regulations of the Board of Vocational Nurse and Psychiatric Technicians Examiners, a student's previous education and/or experience will be evaluated by the Nursing Department on an individual basis for credit and/or advanced placement.

Minimum requirements for admission to the LVN program:

1. Must be a high school (or higher) graduate with a grade point average of 2.0 or higher, or the equivalent as measured by the General Education Development (G.E.D.) test or by the California State High School Proficiency examination. Applicants with high school grade point averages below 2.0 must have completed 15 units of college-level work with a grade point average of 2.0 or higher.
 2. Must be in good health.
 3. Must have completed within five years of the date of application the following courses or their equivalent with a grade of "C" or better: ANAT-25 or 50, NUTR-10, ALLH-67, and VOCN-46A.
 4. Must have completed ENGL-A and MATH-80, their equivalents, or a higher level English or math course with a grade of "C" or better.
- Application: Qualified applicants must meet the above prerequisites, provide transcripts documenting high school graduation or G.E.D./Proficiency score results and file a completed application with the Allied Health Office. Applications are accepted year round, but enrollment is determined on a first come, first served basis.

A freshman class will be admitted every fourth semester. For further information contact the Allied Health Counselor. Enrollment in the Nursing Program requires that students purchase appropriate nursing uniforms, obtain malpractice insurance, have a physical examination, show proof of immunization, have a current CPR card, and have transportation to the clinical facilities.

First Semester

VOCN-40	Foundations of Nursing	11	Units
VOCN-46B	Pharmacology for Nurses	2	
VOCN-47A	Nursing Guidance I	1	

Second Semester

VOCN-42	Principles and Practices of Nursing Care I	14	Units
VOCN-47B	Nursing Guidance II	1	

Third Semester

VOCN-44	Principles and Practices of Nursing Care II	14	Units
VOCN-47C	Nursing Guidance III	1	

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.

Office Technology

The Office Technology program offers a variety of options that guide students toward successful employment in business.

Associate in Arts Degree

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.

Certificate

Core Courses (required of all Office Technology majors)

	Units
ACTG-51 Applied Accounting	4
BUS-43 Business Communication	3
BUS-53 Business English	3
OFCT-50B Keyboarding and Document Formatting	3
OFCT-51 Keyboarding/Word Processing	3
OFCT-53 Advanced Office Applications	4
OFCT-54 Machine Transcription	2
OFCT-57 Records Management	2
	24

Program Options

In addition to the core, the following are required for the program options listed below:

Clerical Office Program

	Units
COOP-41A Cooperative Education Office Technology	2
OFCT-55C Clerical, Office Administration and Information/Word Processing Office Technology Seminar	1
OFCT-72 Office Practice	3
	30

Legal Office Program

BUS-18A Business Law	4
COOP-41A Cooperative Education Office Technology	2
OFCT-55A Legal Office Technology Seminar	1
OFCT-69 Legal Office Practice	3
	34

Medical Office Program

ANAT-50 Survey of Anatomy and Physiology	3
ALLH-67 Medical Terminology	3
COOP-41A Cooperative Education Office Technology	2
OFCT-55B Medical Office Seminar	1
OFCT-68 Medical Office Practice	3
	36

Information/Word Processing Program

COOP-41A Cooperative Education Office Technology	2
CPSC-24 Introduction to Computer Studies and Technology	3
OFCT-55C Clerical, Office Administration and Information/Word Processing Office Technology Seminar	1
OFCT-72 Office Practice	3
	33

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Office Administration Program

COOP-41A Cooperative Education Office Technology	2
MGMT-31 Principles of Supervision	3
OFCT-55C Clerical, Office Administration and Information/Word Processing Office Technology Seminar	1
OFCT-72 Office Practice	3
	33

Suggested electives include:

	Units
BUS-10 Introduction to Business	3
CPSC-01 Introduction to Management Information Systems	4
CPSC-24 Introduction to Computer Studies and Technology	3
OFCT-52B Keyboarding Speed and Accuracy	2

Certificate of Completion:

A Certificate of Completion will be awarded upon the successful completion of the 24-unit core plus one of the program options listed above.

Paralegal Studies

The Associate in Arts Degree in Paralegal Studies is designed for the student who desires employment and advancement in the field of paralegal work. Students must meet the graduation requirements and, in addition, complete the following required courses:

	Units
BUS-18A Business Law	4
PLGL-50 Introduction to Paralegal Studies	3
PLGL-51A Legal Research and Writing	4
PLGL-52A Civil Litigation	4
PLGL-53 Law Office Practices	3
PLGL-59 Evidence/Trial Preparation	3
	21

And nine units from the following courses:

	Units
BUS-18B Business Law	3
CRIM-04 Criminal Law	3
MGMT-34 Employment Law	3
PLGL-51B Advanced Legal Research and Writing	3
PLGL-52B Advanced Civil Litigation	3
PLGL-54 Torts	3
PLGL-57 Estate Planning and Probate Procedures	3
PLGL-60 Family Law	3
REAL-42 Real Estate Principles	3
	30

Certificate of Completion:

A Certificate of Completion will be awarded upon the satisfactory completion of 30 units of course work in Paralegal Studies, including the core courses listed above.

Philosophy

The philosophy curriculum stresses analytical reasoning, writing, and oral expression. The study of philosophy has had an historic role in liberal arts education because it develops careful, independent thinking and aids in defining one's most fundamental values and beliefs. A philosophy major prepares a student for employment in many fields, including teaching, law, medicine, business, the ministry, social work, government, and the fine arts.

For an Associate in Arts Degree in Philosophy, the student must complete the graduation requirements and the additional 21-unit curriculum listed below.

	Units
HIST-04A History of Civilization: Part I	3
and	
HIST-04B History of Civilization: Part II	3
or	
HUM-01* Studies in Humanities - Ancient to Early Renaissance	3
and	
HUM-02* Studies in Humanities - Renaissance to Present	3
PHIL-03 Ancient Philosophy	3
PHIL-04 Modern Philosophy	3
PHIL-05 Contemporary Moral and Social Issues	3
PHIL-10 Critical Thinking	3
PHIL-12 Logic	3
or	
PHIL-15 Comparative Religions	3
	21

*Honors HUM-01H can be substituted for HUM-01; Honors HUM-02H can be substituted for HUM-02.

Photography

For an Associate in Arts Degree in Photography, students must meet the graduation requirements and complete the 28-unit curriculum listed below. The courses listed below must be in addition to those taken to satisfy basic graduation requirements.

	Units
ART-15 Fundamentals of Design in Art	3
ART-40A Digital Art	3
PHOT-10A Basic Photography	3
PHOT-10B Intermediate Photography	3
PHOT-11A Digital Camera Basics	3
PHOT-30 Introduction to Color Photography	3
PHOT-31 Basic View Camera	2
PHOT-32 Studio Photography	2

Plus three units of Art History from:

ART-02 Art History - Renaissance through Modern	3
ART-06 Art of the 20th Century	3

Plus three units from the following photo electives:

JOUR-32 Newspaper Staff	3
PHOT-34 Photo Expression	2
PHOT-49 Independent Study in Photography	1
	28

A Certificate of Completion in Photography may be earned by completing the 28-unit curriculum listed above.

Physical Education

For an Associate in Arts Degree in Physical Education, students should meet the graduation requirements and complete the 20-unit curriculum listed below.

	Units
HLTH-11 Advanced First Aid and Emergency Care	3
PHED-10 A-H Life Fitness Activity Course	2
PHED-11 A-E Individual or Dual Activity Course	1
PHED-12 A-H Team Activity Course	1
PHED-13 A-H Aquatics	1
PHED-20 Introduction to Physical Education	3
RECR-30 Introduction to Community Recreation	3
SPMD-42 Introduction to Athletic Training	3
	17

Plus at least three units from the following:

	Units
PHED-03 Varsity Conditioning	2
PHED-14 A-D Dance	3
PHED-31 Techniques of Sports Officiating	2
PHED-32 Techniques of Sports Officiating	2
HLTH-15 Drugs, Alcohol, and Tobacco	3

Physical Science

To earn an Associate in Arts Degree in Physical Science it is expected that a student will have completed math through a pre-calculus course (the courses at Merced College that will satisfy that requirement are MATH-02, or MATH-25 and MATH-26). The student must complete the basic graduation requirements (BIOL-01 or BIOL-04 or BIOL-04H are recommended for science breadth) and the courses listed below:

	Units
CHEM-02A Introductory Chemistry	4
or	
CHEM-04A General Chemistry	5
GEOLOG-01 Physical Geology	4
PHYS-02A General Physics	4

And select six units from the following:

	Units
ARCH-01 Introduction to Archaeology	3
ASTR-01 Principles of Astronomy	3
CHEM-04B General Chemistry	5
GEOG-01 Physical Geography	3
GEOLOG-02 Historical Geology	4
PHYS-02B General Physics	4

Physics

The following curriculum is designed for students planning to major in physics in a California State University. Students should check the specific requirements of their intended transfer school and work with his/her counselor.

For an Associate in Science Degree in Physics, students must meet the graduation requirements and complete the 32-unit curriculum listed below. The courses listed below must be in addition to the basic graduation requirements. (PHYS-04A and a life science course are recommended to satisfy science breadth.)

		Units
CPSC-01	Introduction to Management Information Systems	4
MATH-04A	Analytical Geometry and Calculus	4
MATH-04B	Analytical Geometry and Calculus	4
MATH-04C	Analytical Geometry and Calculus	4
MATH-06	Elementary Differential Equations	3
MATH-08	Linear Algebra	3
MATH-12	FORTRAN Programming	3
PHYS-04B	Physics	4
PHYS-04C	Physics	4
		33

Psychology

The Psychology major is designed for students planning to major in psychology at a California State University. The students should work with their counselors for specific university requirements.

For an Associate in Arts Degree in Psychology, students must meet the graduation requirements and complete the 19-unit curriculum listed below. These courses must be in addition to the basic graduation requirements.

ANTH-02	Cultural Anthropology	3
or		
SOC-01	Introduction to Sociology	3
BIOL-01	General Biology for Non-Majors	4
MATH-10	Elementary Statistics	3
PSYC-01A	Introduction to Psychology	3
PSYC-01B	Introduction to Psychological Methods	3
PSYC-23	Personal and Social Adjustment	3
or		
SOC-02	Contemporary Social Problems	3
or		
SOC-28	Marriage and the Family	3

Radiologic Technology

The Radiologic Technology Program is a full-time Associate Degree and Certificate of Completion program to which a minimum of 16 students are admitted each fall semester. The entire program is 29 consecutive months in length and is composed of five semesters and two twelve-week summer sessions. Students wishing to enter the program must make formal application, including verification of completion of prerequisites. Upon verification that all prerequisites have been met, the applicant will be placed on a waiting list. Prerequisites completed more than ten years ago are subject to evaluation, and repetition of course work may be required when deemed appropriate. Applications are accepted year-round.

Mission Statement

The mission of the Merced College Radiologic Technology Program is to prepare our students for careers as diagnostic radiographers by providing a continually-improving educational program which is accredited by the JRCERT and by instilling in our students a commitment to continued professional growth and lifelong learning.

Program Review and Student Learning Objectives

In support of this mission, the Radiography Program:

- 1) will uphold the standards for satisfactory educational preparation for entry into the program
- 2) will provide a curriculum which
 - a. emphasizes the principles of radiation protection for patients, self, and others
 - b. supports and assesses the knowledge and skills required to intelligently perform the tasks typically required for entry level practice into the profession
- 3) will encourage students to develop
 - a. effective communication skills
 - b. critical thinking skills to enhance their problem-solving skills
 - c. a commitment for life-long learning in preparation for a complex and changing society
- 4) will advocate and expect ethical and compassionate treatment for patients.

NOTE:

CHEM-02A has been added as a program prerequisite beginning with students entering the program as of Fall 2007. Students on the Radiologic Technology waiting list will have until June 30, 2007 to verify this prerequisite AND maintenance of a 2.35 GPA in all program prerequisites, including CHEM-02A. Students failing to submit this documentation by the stated date will be automatically removed from the waiting list. Students should check with an Allied Health counselor for further information.

Requirements for Application (Prerequisites)

ANAT-25, COOP-41ART, ENGL-A, ENGL-41, ENGL-41L, MATH-A, and ALLH-67. Advisory: CHEM-02A. All prerequisites and program requirements must be passed with a grade of "C" or better, and their combined GPA must be 2.35 or higher.

Program requirements must be satisfied prior to submitting an application to the program. An official transcript listing all program prerequisites must accompany an application before the application will be officially accepted. Applications are accepted year-round. For additional program information and application forms, refer to the Radiologic Technology Handbook available at the Merced College Bookstore, or visit the RADT program web site and download the forms at: www.mccd.edu/alliedhealth/radtechhp.htm.

Upon admission to the program, students are required to have a physical examination providing evidence of good health and immunization, and must provide annual proof of a negative TB skin test or TB screening, and must have a chest X-ray at least every four years.

Also upon admission, additional information on malpractice insurance and uniforms will be provided. While enrolled in the program, students will be assigned to various clinical facilities

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in addition to the on-campus portions of the program. This ensures the strongest educational experience for each student. By application and acceptance into this program, the student agrees to accept clinical assignments in whatever hospital or clinical site the student is assigned. During internship, clinical assignments may include day, evening, and weekend hours.

In order to progress satisfactorily in the RADT program, students must complete Radiologic Technology courses in the specified sequence with a minimum grade of "C" in each course, and maintain an overall GPA of 2.35 in supportive and RADT course work.

Required:	Units
First Semester (Fall)	
RADT-41 Basic Radiologic Technology	4
RADT-42 Principles of Radiologic Technology I	4
Second Semester (Spring)	
RADT-40 Radiation Physics	4
RADT-43A Principles of Radiologic Technology II	4
RADT-43B Clinical Education I	4
First Summer Session	
RADT-44A Principles of Radiographic Exposure	2
RADT-44B Clinical Education II	4
Third Semester (Fall)	
RADT-45A Principles of Radiologic Technology III	3
RADT-45B Clinical Education III	7
A.S. degree breadth requirements and the above listed courses must be completed by the end of the fourth session (i.e., Third Semester - Fall), at which time an Associate in Science Degree in Radiologic Technology is awarded. The intern portion of the RADT Program commences with:	
Fourth Semester (Spring)	
RADT-67A Advanced Radiologic Procedures I	2
RADT-67B Advanced Clinical Education I	10
RADT-67C Radiographic Pathology	1
Second Summer Session	
RADT-68A Principles of Radiation Protection and Biology	2
RADT-68B Advanced Clinical Education II	7
Fifth Semester (Fall)	
RADT-69A Integrative Study in Radiologic Technology	2
RADT-69B Advanced Clinical Education III	9
RADT-69C Sectional Anatomy for the Radiographer	1

Students successfully completing the Radiologic Technology Internship are awarded a Certificate of Completion in Radiologic Technology. Upon successful completion of the Associate in Science Degree **AND** Certificate of Completion in Radiologic Technology, graduates are eligible to write the American Registry of Radiologic Technologist Examination for Radiography, and, if successful, to obtain the credentials necessary for employment in the field.

Real Estate

The Associate in Arts in Degree in Real Estate is in preparation for the California Real Estate Salesman's License and Broker's License.

Students must meet the graduation requirements and complete the major requirements with the following courses:

ACTG-04A	Fundamentals of Financial Accounting	4
or		
ACTG-51	Applied Accounting	4
BUS-18A	Business Law	4
CPSC-30	Computer Applications	3
REAL-42	Real Estate Principles	3
REAL-43	Real Estate Practices	3
REAL-45	Real Estate Finance	3
REAL-46	Real Estate Appraisal	3
REAL-48	Real Property Management	3
REAL-49	Escrow Procedure	3
		29

Completion of these core courses plus appropriate experience in real estate sales will qualify the student to take the broker's examination.

Suggested electives include:

	Units	
BUS-10	Introduction to Business	3
BUS-43	Business Communication	3
CPSC-01	Introduction to Management Information Systems	4
ECON-01A	Introduction to Macroeconomics	3
or		
ECON-01B	Introduction to Microeconomics	3
MDSE-32	Salesmanship	3
MDSE-33	Advertising	3
OFCT-50B	Keyboarding and Document Formatting	3
REAL-44	Legal Aspects of Real Estate	3

Certificate of Completion:

A Certificate of Completion will be awarded upon the satisfactory completion of the required courses for the A.A. Degree in Real Estate.

Social Science

The Social Science major is designed for students planning to major in social science and earn an elementary or secondary teaching credential at one of the California State Universities. Students should work with their counselors for specific university requirements.

For an Associate in Arts Degree in Social Science, students should meet the graduation requirements and complete the 18-unit curriculum listed below with nine units from each of the two categories (these courses must be in addition to the basic graduation requirements):

	Units	
Category 1:		
ANTH-02	Cultural Anthropology	3
ANTH-10	Southeast Asian Cultures	3
ECON-01A	Introduction to Macroeconomics	3
ECON-01B	Introduction to Microeconomics	3
GEOG-02	World Geography	3
GEOG-30	California Geography	3
PSYC-01A	Introduction to Psychology	3
PSYC-01B	Introduction to Psychological Methods	3
PSYC-23	Personal and Social Adjustment	3
SOC-01	Introduction to Sociology	3
SOC-02	Contemporary Social Problems	3

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Category 2:

HIST-04A	History of Civilization: Part I	3
HIST-04B	History of Civilization: Part II	3
HIST-05	History of Europe Since 1901	3
HIST-08A	History of the Americas	3
HIST-08B	History of the Americas	3
HIST-09A	Introduction to East Asian Civilization: China	3
HIST-09B	Introduction to East Asian Civilization: Japan	3
HIST-17A	Political and Social History of the United States	3
HIST-17B	Political and Social History of the United States	3
HIST-21	History of Minorities -- Ethnic Groups, 19th Century to the Present	3
HIST-22	History of Minorities--Black Emphasis	3
HIST-23	History of Hispanic-Americans in the Southwest U.S.	3
HIST-24	History of the Native American	3
HIST-29	History of California	3
or		
HIST-39ABC	Exploring California's Past	3
POSC-01	Essentials of the American Political System	3
POSC-02	An Introduction to World Political Systems	3
SCSC-01	Introduction to Social Science	3

Sonography, Diagnostic Medical

The Diagnostic Medical Sonography Program will offer didactic and clinical training in two tracks in order to accommodate and facilitate meeting the critical shortage of general sonographers (Abdominal and OB/GYN track) and echocardiographers (Cardiac Track). The campus hands-on campus learning along with the clinical education will provide our students with job-ready skills.

OPTION NO. 1 - ABDOMINAL AND OB/GYN

This option is a full-time Certificate of Completion program. The entire program is 18 months in length, and is composed of two summer sessions and three semesters. If you wish to enter the program, you must make a formal application, including verification of completion of prerequisites listed below. Upon submission of a COMPLETED application, the date and time received will be stamped on the application. After your records have been verified, that date and time will become your official application date. You will receive a notice in the mail, advising you of the following:

1. that you "Meet All Program Requirements/Prerequisites"
2. your official application date and time, and
3. your number on the enrollment list.

If you do NOT meet all the application requirements, your application will be returned, nullifying any application receipt date. If you are accepted into the program but must decline, your application will be kept on file.

Enrollment will be based on a first-come, first-served basis. Only one class is in session at a time.

Requirements for Application and Prerequisites

Requirements:
 Completion of a two-year Allied Health program that is patient-care related, such as radiologic technology, registered nursing, respiratory therapist, physical therapy, associate degree licensed vocational nurse, or baccalaureate degree and health care experience.

Prerequisites:

ANAT-25; PHYO-01; MATH-A: ALLH-67; and PHYS-10 or RADT-40. All program prerequisites must be passed with a grade of "C" or higher with a minimum cumulative grade of 2.35 GPA

Contact the Allied Health Office for an application or visit our website at: www.mccd.edu/alliedhealth/sonohp.htm.

Upon admission to the program, you are required to have a physical examination providing evidence of good health and immunization, and must provide annual proof of a negative TB skin test or TB screening, and must have a chest X-ray at least every four years. You must also comply with the technical standards set for working in this field. Additional information on malpractice insurance and 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 Completion in Diagnostic Medical Sonography and will be eligible to write the following qualifying examinations of the American Registry of Diagnostic Medical Sonographers (ARDMS): 1) physical principles/instrumentation, and 2) Special Examination Option in Abdomen, and 3) Special Examination Option in OB/GYN.

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

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OPTION NO. 2 - CARDIAC OPTION

This option provides the didactic and clinical experience to meet the ARDMS guidelines for registry eligibility in the areas of Adult Echocardiography and Cardiovascular Physics.

Core Prerequisites

ANAT-25; PHYO-01; MATH-A: ALLH-67; and PHYS-10 or RADT-40. All option prerequisites must be passed with a grade of "C" or higher with a minimum cumulative grade of 2.35 GPA
Track 1- Prerequisites

Candidates following this track must have completed a two-year Allied Health Degree, i.e., radiologic technology, respiratory therapist, registered nursing, physical therapy, associate degree licensed vocational nurse, or baccalaureate degree and health care experience. These candidates are eligible to take their ARDMS exam immediately upon graduation.

Track 2 - Prerequisites

Candidates following this track must be an EKG technician in addition to completing the core prerequisites. These candidates will require additional one-year full time paid employment post graduation before they are eligible to write the ARDMS Echocardiography and Cardiovascular Physics exams under the ARDMS's Prerequisite No. 1 examination option.

Program Length: 24 months

If you successfully complete the Diagnostic Medical Sonography Program (Cardiac Option), you will be eligible to write the following qualifying examinations of the American Registry of Diagnostic Medical Sonographers (ARDMS): 1) Special Examination Option in Adult Echo , and 2) Special Examination Option in Cardiovascular Physics .

First Semester (Spring)	Units
SONO-45C Basics of Vascular Sonography	2
SONO-46A Echocardiography	1.5
First Summer Session	
SONO-40 Basic Ultrasound Physics	1.5
SONO-41 Introduction to Sonography	1.5
Second Semester (Fall)	
SONO-36B Beginning Clinical Experience I	9
SONO-36C Advanced Echocardiography	4
Third Semester (Spring)	
SONO-37A Cardio Physiology and Principles	2
SONO-37B Beginning Clinical Experience II	9
Second Summer Session	
SONO-44A Advanced Ultrasound Physics	1.5
SONO-38B Advanced Clinical Experience I	4.5
Fourth Semester (Fall)	
SONO-45A Integrative Study in Sonography	2
SONO 39B - Advanced Clinical Experience II	9
	<u>47.5</u>

Transfer Studies

The Merced College Transfer Studies Degree is designed for students who wish to transfer to a CSU or UC, especially in the Central Valley. This associate degree is not recommended for majors that require extensive lower division preparation such as, but not limited to, engineering, biology, and chemistry. Students are strongly encouraged to consult a counselor for specific transfer details. The degree will be awarded upon completion of :

60 (sixty) transfer units which includes full certification of either CSU General Education Breadth lower division pattern

OR

the Intersegmental General Education Transfer Curriculum (IGETC) pattern.

The remaining units may be selected from the lower division major preparation for the major at the university of your choice. In recognition of the rigor of the coursework required for this AA degree, all local course and competency requirements shall be considered satisfied with completion of the above.

Notes:

Pending implementation of the agreement between CVHEC colleges, students earning this degree with a minimum grade point average of 2.4 in transfer courses will be guaranteed admission to CSU, Bakersfield, Fresno, or Stanislaus, and students earning this degree with a minimum grade point average of 2.8 in transfer courses will be guaranteed admission to UC Merced, University of the Pacific, or Fresno Pacific.

This guarantee does not apply to admission in a specific program or major. This agreement is subject to change on a yearly basis. Students should speak to a counselor for current information.

University Studies

The University A.A. Degree is helpful to most students who intend to transfer to a four-year college and who want to earn an associate degree. A University Studies major is earned by completing 18 units from a transfer breadth certification pattern, either the Intersegmental General Education Transfer Curriculum (IGETC) or the California State University General Education breadth requirements. These 18 units are in addition to the associate degree breadth requirements. For the University Studies major, four of the five areas in a transfer breadth certification must be represented by at least one class.

Notes:

1. An A.A. degree with a University Studies major or any other major is not required for, nor does it guarantee transfer to, a university.
2. Students who intend to transfer In certain disciplines which require a large number of units or lower division preparation courses (for example, engineering), might not find this A.A. degree appropriate to their goal.
3. All students who wish to transfer are strongly encouraged to consult a counselor.

Visual Arts

The Art curriculum below is suggested for students majoring in art or planning to earn a teacher's credential from a California State University with a major or minor in Art. For specific courses, students should consult the catalog of their intended transfer school, and work with a counselor to evaluate their capabilities and preparedness.

For an Associate in Arts Degree in Visual Arts, students should meet the graduation requirements and complete the following courses:

	Units
Art History (Choice of ART-01, 02, 06)	6
ART-12A Sculpture	3
ART-15 Fundamentals of Design in Art	3
ART-24A Beginning Drawing and Composition	3
ART-26A Figure Drawing	3
ART-25A Introduction to Acrylic Painting	3
or	
ART-28A Introduction to Oil Painting	3

Plus nine units from the following courses:

ART-17ABC Ceramics	3-9
ART-20 A-D Printmaking	3-9
ART-28 A-C Introduction to Oil Painting	3
ART-29 A-D Watercolor Painting	3
ART-41 A-C Graphic Design I-III	3
PHOT-10A Basic Photography	<u>3</u>
	30

Certificates of Completion will be awarded upon the satisfactory completion of the required units in the following two art programs:

Commercial Art	Units
Art History (Choice of ART-01, 02, 03, 04, 05, 06)	6
ART-15 Fundamentals of Design in Art	3
ART-20 Printmaking (Choice of A, B, C)	6
ART-24 Drawing and Composition	3
ART-41A Graphic Design I	3
PHOT-10A Basic Photography	<u>3</u>
	24

Visual Arts	Units
Art History (Choice of ART-01, 02, 03, 04, 05, 06)	6
ART-15 Fundamentals of Design in Art	3
ART-24A Beginning Drawing and Composition	3
ART-25A Introduction to Acrylic Painting	3
ART-26A Beginning Figure Drawing	3
ART-28A Introduction to Oil Painting	3
ART-29A Watercolor Painting	3
Plus six units of electives within art studio classes, including photography	<u>6</u>
	30

Welding Technology

An Associate in Arts Degree in Welding Technology is available for students who complete the graduation requirements and successfully complete the courses required below for the certificate:

DRFT-59 Basic Drafting	3
MATH-B Applied Mathematics	5
WELD-06 Fundamentals of Oxy-Fuel & Shielded Metal Arc Welding	3
WELD-07 Fundamentals of T.I.G. and M.I.G. Welding	3
WELD-40A Welding Design and Construction	3
WELD-40B Welding Design and Construction	3
WELD-45 Advanced Arc Welding Procedures	3
WELD-48 Special Problems in Welding Technology	<u>2</u>
	25

Certificate of Completion:

A Certificate of Completion will be awarded upon successful completion of the full certificate courses listed above.