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# Merced College Catalog

## 2007-2008

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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

*Accredited by Western Association of Schools and Colleges*

This web version of the 2007-2008 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

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# 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)	19100.2 Chemistry (AS)
05000.3 Accounting (CC)	
21050.1 Addiction Studies (AA)	19150.2 Chemistry - Pre-Professional (AS)
21050.3 Addiction Studies (CC)	13010.1 Child Development (AA)
05006.1 Administrative Legal Office Professional (AA)	15601.1 Communication Studies (AA)
05006.3 Administrative Legal Office Professional (CC)	
05007.1 Administrative Medical Office Professional (AA)	07300.2 Computer Studies - Management Information Systems (AS)
05007.3 Administrative Medical Office Professional (CC)	07200.2 Computer Studies - Computer Science (AS)
05008.1 Administrative Office Professional (AA)	21100.1 Corrections (AA)
05008.3 Administrative Office Professional (CC)	21100.3 Corrections (CC)
01052.3 Agricultural Chemicals (CC)	21150.1 Criminal Justice (AA)
	21150.3 Criminal Justice (CC)
01000.1 Agriculture Business (AA)	01150.1 Crop Science (AA)
01000.2 Agriculture Business (AS)	01150.2 Crop Science (AS)
01000.3 Agriculture Business (CC)	01150.3 Crop Science (CC)
01050.1 Agriculture, General (AA)	
01050.2 Agriculture, General (AS)	01200.1 Diesel Equipment Technology (AA)
01050.3 Agriculture, General (CC)	01200.2 Diesel Equipment Technology (AS)
	01200.3 Diesel Equipment Technology (CC)
01100.1 Animal Science (AA)	Drafting Technology
01100.2 Animal Science (AS)	09102.1 Computer-Aided Design - Mechanical (AA)
01100.3 Animal Science (CC)	09102.3 Computer-Aided Design - Mechanical (CC)
22100.1 Anthropology (AA)	09101.1 Computer-Aided Drafting – Architectural (AA)
	09101.3 Computer-Aided Drafting – Architectural (CC)
Automotive Technology	
09000.1 Automotive Technology (AA)	10300.1 Drama (AA)
09001.3 Automotive - Body and Fender (CC)	
09002.3 Automotive - Engine Performance (CC)	09200.1 Electrical Technology (AA)
09003.3 Automotive - Automotive Engines (CC)	09200.3 Electrician (CC)
09007.3 Automotive - Parts and Service Professional (CC)	
09004.3 Automotive - Suspension and Brakes (CC)	Electronics Technology
09006.3 Automotive - Transmissions (CC)	09250.1 Electronics Technician (AA)
09750.1 Toyota-Approved Automotive Program (AA)	09250.3 Electronics Technician (CC)
09005.3 Toyota-Approved Automotive Program (CC)	09040.1 Computer & Networking Technology (AA)
09751.3 Toyota-Approved Parts and Service Professional (CC)	09040.3 Computer & Networking Technology (CC)
04100.2 Biological Science (AS)	09300.1 Engineering (AA)
	09300.2 Engineering (AS)
04130.2 Biotechnology (AS)	09350.2 Engineering Technology (AS)
04130.3 Biotechnology (CC)	
05100.1 Business Administration (AA)	15200.1 English (AA)
05150.1 Business, General (AA)	
05150.3 Business, General (CC)	03301.2 Environmental Technologies (AS)

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03301.3 Environmental Technologies (CC)	01453.3 Mechanized Agriculture - Compact Power Equipment (CC)
21400.1 Fire Technology (AA)	05350.1 Management, Merchandising (AA)
21400.3 Fire Technology (CC)	05350.3 Management, Merchandising (CC)
13160.1 Foods and Nutrition (AA)	05400.1 Management, Small Business (AA)
13160.3 Foods and Nutrition (CC)	05400.3 Management, Small Business (CC)
13200.3 Foster Care Education (CC)	05450.1 Management, Supervisory (AA)
11200.1 French (AA)	05450.3 Management, Supervisory (CC)
49100.1 General Studies (AA)	10400.1 Music (AA)
19400.2 Geology (AS)	12500.2 Nursing, Registered (AS)
11400.1 German (AA)	12550.1 Nursing, Vocational (AA)
12300.1 Health Sciences (AA)	12550.3 Nursing, Vocational (CC)
22300.1 History (AA)	14300.1 Paralegal Studies (AA)
01250.1 Horse Management (AA)	14300.3 Paralegal Studies (CC)
01250.2 Horse Management (AS)	15400.1 Philosophy (AA)
01250.3 Horse Management (CC)	10500.1 Photography (AA)
01302.3 Horseshoeing - Advanced (CC)	10500.3 Photography (CC)
01301.3 Horseshoeing - Beginning (CC)	08500.1 Physical Education (AA)
21500.1 Human Services (AA)	19600.1 Physical Science (AA)
21500.3 Human Services (CC)	19700.2 Physics (AS)
49300.1 Humanities (AA)	20500.1 Psychology (AA)
Heating, Ventilation, Air Conditioning, and Refrigeration Technology	12700.2 Diagnostic Radiologic Technology (AS)
09401.3 HVAC - Commercial Refrigeration Technician (CC)	12700.3 Diagnostic Radiologic Technology (CC)
09400.1 HVAC Technician (AA)	05600.1 Real Estate (AA)
09400.3 HVAC Technician (CC)	05600.3 Real Estate (CC)
09500.1 Industrial Electronics Technology (AA)	22500.1 Social Science (AA)
09500.3 Industrial Electronics Technology (CC)	12800.3 Sonography, Diagnostic Medical – Abdominal and OB/GYN (CC)
09550.1 Industrial Maintenance Technology (AA)	12801.3 Sonography, Diagnostic Medical – Cardiac Track (CC)
09550.3 Industrial Maintenance Technology (CC)	11600.1 Spanish (AA)
09650.1 Instrumentation and Process Control (AA)	49650.1 Transfer Studies (AA)
09650.3 Instrumentation and Process Control (CC)	49700.1 University Studies (AA)
06500.1 Journalism (AA)	10700.1 Visual Arts (AA)
09700.2 Laboratory Technology (AS)	09800.1 Welding Technology (AA)
01350.1 Landscape Horticulture (AA)	09800.3 Welding Technology (CC)
01350.2 Landscape Horticulture (AS)	
01350.3 Landscape Horticulture (CC)	
09720.1 Laser Electro-Optics (AA)	
09720.3 Laser Electro-Optics (CC)	
49501.1 Liberal Studies – Elementary Teaching Preparation (AA)	
04300.1 Life Science (AA)	
17400.1 Mathematics (AA)	
01450.1 Mechanized Ag Technology - Heavy Equipment Mechanics (AA)	
01450.2 Mechanized Ag Technology - Heavy Equipment Mechanics (AS)	
01450.3 Mechanized Ag Technology - Heavy Equipment Mechanics (CC)	

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# Degree, Certificate, and Transfer Programs

## 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:

		<b>Units</b>
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
		<b>30</b>

Suggested electives include:

BUS-43	Business Communication.....	3
CPSC-01	Introduction to Management Information Systems.....	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:

		<b>Units</b>
ADST-41	Introduction to Addiction Studies.....	3
ADST-42A	Screening, Assessment, and Treatment Planning in Addiction Counseling.....	3
ADST-42B	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 Groups .....	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
		<b>33</b>

**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:

		<b>Units</b>
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
		<b>39</b>

## Administrative Office Management

The Administrative Office Management 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**

**Certificate of Completion:**

A Certificate of Completion will be awarded upon the successful completion of the 30-unit core plus one of the program options listed above.

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

		<b>Units</b>
ACTG-51	Applied Accounting.....	4
AOM-50B	Keyboarding and Document Formatting .....	3
AOM-51	Keyboarding/Word Processing.....	3
AOM-53	Advanced Office Applications.....	4
AOM-54	Machine Transcription .....	2
AOM-57	Records Management.....	2
BUS-43	Business Communication.....	3
BUS-53	Business English.....	3
CPSC-30	Intro to Computer Applications.....	3
MGMT-31	Elements of Supervision .....	3
		<b>30</b>

**Program Options**

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

<b>Administrative Office Professional</b>		
AOM-55C	AOM Seminar .....	1
AOM-52B	AOM Speed & Accuracy.....	2
AOM-72	Office Practice .....	3
COOP-41A	Cooperative Education Office Technology .....	2
		<b>38</b>
<b>Administrative Legal Office Professional</b>		
AOM-55A	AOM Legal Office Seminar .....	1
AOM-69	Legal Office Practice.....	3
BUS-18A	Business Law .....	4
COOP-41A	Cooperative Education Office Technology .....	2
		<b>40</b>

Administrative Medical Office Professional		
BIOL-50	Survey of Anatomy and Physiology.....	3
ALLH-67	Medical Terminology .....	3
COOP-41A	Cooperative Education Office Technology .....	2
AOM-55B	Medical Office Seminar .....	1
AOM-68	Medical Office Practice .....	3
		42

Suggested electives include:

BUS-10	Introduction to Business.....	3
CPSC-01	Introduction to Management Information Systems.....	4
CPSC-24	Introduction to Computer Studies and Technology .....	3
BUS-49A-ZZ	Special Topics in Business.....	½ - 3

Certificate of Completion:

A certificate of completion will be awarded upon the successful completion of the 30-unit core plus one of the program options listed above.

### 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:

	<b>Units</b>	
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:		<b>Units</b>
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:

AGBS-14	Farm Management.....	3
AGBS-30*	Agricultural Leadership .....	2
AGBS-31*	Agricultural Ambassadors .....	3
AGBS-49	Agriculture Business: Problems .....	2
AGBS-70A-ZZ	Special Topics in Agriculture Business.....	½ - 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:		<b>Units</b>
AGBS-18	Agricultural Computer Applications .....	3
AGRI-10	Agriculture, Environment, and Society .....	3
ANSC-10	Elements of Animal Science.....	3
LAND-11	Elements of Landscape Horticulture .....	3
MECH-31	Equipment Safety .....	1
		13

Electives:

Agriculture Business

AGBS -10	Introduction to Agriculture Business.....	3
AGBS -12	Agricultural Accounting.....	3
AGBS-13	Agricultural Marketing .....	3
AGBS-17	Agricultural Sales and Communication .....	3
AGBS-30	Agricultural Leadership .....	2
Animal Science		
ANSC-11	Elements of Animal Nutrition .....	3
ANSC-13	Animal Disease and Parasite Control .....	3
ANSC-15	Livestock Selection .....	3
ANSC-30	Fitting, Showing, and Merchandising Livestock .....	1.5
Crop Science/Plant Science/Soil Science		
CROP-10	Elements of Agronomy .....	3
CROP-12	Vegetable Crops.....	3
CROP-13	Forage Crops .....	3
PLSC-13	Economic Entomology .....	3
SOIL-11	Fertilizer and Soil Amendments .....	3

Landscape Horticulture

LAND-10A	Plant Identification and Usage: Fall.....	3
LAND-12	Landscape Design .....	3
LAND-14	Landscape Construction and Installation .....	3
PLSC-16	Plant Propagation.....	3
Mechanized Agriculture		
MECH-06	Fundamentals of Oxy-Fuel Welding and Shielded Metal Arc Welding.....	3
Mech-10	Agricultural Skills.....	3
MECH-15	Small Engine Repair and Maintenance.....	3
MECH-35	Compact Power Equipment .....	3

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:

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:		<b>Units</b>
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:		
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.

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

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)		<b>Units</b>
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		
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.....	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
MGMT-51G	Stress Management & Job Burnout.....	1/2
OFCT-50B	Keyboarding and Document Formatting.....	3
		24

Body and Fender Option		
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		
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		
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	
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	
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..... 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
	<u>plus</u>

Automotive Service Excellence (ASE) Parts Counter certification\* 28

\*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-04A and BIOL-04 or BIOL-04H should be taken for science breadth), and complete the courses listed below:

	Units
BIOL-12	Principles of Botany ..... 5
CHEM-04B	General Chemistry ..... 5
CHEM-12A	Organic Chemistry I ..... 5
BIOL-13	General Zoology..... 5
	20

And select 10-11 units from the following:

BIOL-06	Environmental Science ..... 3
BIOL-09	Introduction to Genetics ..... 3
BIOL-20	Microbiology ..... 4
BIOL-31	Introduction to Biotechnology..... 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-5B	Applied Calculus ..... 4
MATH-10	Elementary Statistics..... 3
MATH-12	FORTTRAN Programming ..... 4
or	
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.

	Units
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
BIOL-09	Introduction to Genetics .....	3
		19-20
And the remaining 10-11 units from the following courses:		
BIOL-06	Environmental Science .....	3
BIOL-16	General Human Anatomy .....	4
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
BIOL-18	Principles of Physiology .....	4
PLSC-10	Elements of Plant Science .....	3
BIOL-13	General Zoology.....	5

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

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
BIOL-09	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:

		<b>Units</b>
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:

		<b>Units</b>
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:

CPSC-01	Introduction to Management Information Systems.....	4
BUS-49A-ZZ	Special Topics in Business .....	½ -3
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:

		<b>Units</b>
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:

		<b>Units</b>
CHEM-04A	General Chemistry .....	5
CHEM-12A	Organic Chemistry I .....	5



PHYS-02B	General Physics .....	4
or		
PHYS-04B	Physics .....	4
BIOL-13	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:		<b>Units</b>
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
CLDV-39	Nutrition for Young Children .....	3
and		
Practicums:		
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-Age .....	2
CLDV-44B	ECE Supervised Field Experience: School-Age .....	3

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.

#### 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:		<b>Units</b>
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 11, 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 .....	3
		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 .....	1
		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 ..... 2
	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 ..... 1
	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 ..... 3
	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 ..... 1
	6

Early Intervention Assistant Specialization	
CLDV-11	Introduction to Early Intervention ..... 3
CLDV-38	Children with Special Needs ..... 3
	6

Working with "Families in Crisis" Specialization	
CLDV-33	Working with Parents ..... 1
CLDV-54	Sexual Development of Young Children..... 1
CLDV-57	Child Abuse and Neglect..... 1
CRIM-33	Violence in the Family ..... 3
	6

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:

	<b>Units</b>	
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	

### 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:

	<b>Units</b>
COMM-01	Fundamentals of Speech ..... 3
or	
COMM-01H	Honors Fundamentals of Speech..... 3
COMM-02*	Oral Interpretation ..... 3
COMM-04	Small Group Discussion and Communication..... 3
COMM-05	Interpersonal Communication ..... 3
COMM-30	Introduction to Intercultural Communication..... 3
PHIL-10	Critical Thinking..... 3
or	
PHIL-13	Critical Reasoning & Writing ..... 3

Plus six units from the following electives:

ANTH-10	Southeast Asian Culture..... 3
ANTH-32	Anthropological Study of Women..... 3
DRAM-10	Beginning Acting ..... 3
ENGL-30A	Beginning Sign Language ..... 3
LBST-10	Career Exploration: Teaching I..... 3
MGMT-32	Human Resources Management ..... 3
MGMT-33	Elements of Effective Leadership..... 3
MKTG-30	Marketing ..... 3
MKTG-33	Advertising ..... 3
PSYC-23	Personal and Social Adjustment ..... 3
SOC-01	Introduction to Sociology..... 3
	24

\*Offered in the spring 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	
	<b>Units</b>
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	
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
		<u>37</u>

### 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.

	<b>Units</b>	
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
		<u>18</u>

Plus six units from the following electives:

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
CORR-32	Adult Correctional Officer Core Academy.....	6

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

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
		<u>34</u>

### 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.

	<b>Units</b>	
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:

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
		<u>24</u>

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:

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:

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
		<u>13</u>

### 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.

	<b>Units</b>	
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
		<u>19</u>

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.

### Customer Service

See Management/Supervisory Training

### Diagnostic Radiologic Technology

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

#### Program Review and Student Learning Objectives

In support of this mission, the Diagnostic Radiologic Technology 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.

#### Requirements for Application (Prerequisites)

ALLH-67, BIOL-16, CHEM-02A, ENGL-A, ENGL-41, ENGL-41L, MATH-A, and RADT-50 (formerly COOP-41ART). 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/radtechp.htm](http://www.mccd.edu/alliedhealth/radtechp.htm).

Upon admission to the program, students are required to have a physical examination providing evidence of good health and immunization, and must provide annual proof of a negative TB skin test OR an annual TB screening and a chest X-ray at least every four years. Students will also have to supply a criminal background clearance upon admission to the program. A negative criminal background clearance may deny the student's eligibility to sit for the ARRT national exam. If you are unsure about your eligibility status, the ARRT has an exam pre-clearance process that will help identify your eligibility to sit for this exam prior to completing the program. It is recommended that you request this evaluation as soon as possible so that your ability to sit for the ARRT exam is not jeopardized. Further information can be found at [www.ARRT.org](http://www.ARRT.org).

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 in addition to the on-campus portions of the program. This ensures the strongest educational experience for each student. By application and acceptance into this program, the student agrees to accept clinical assignments in whatever hospital or clinical site the student is assigned within our 75 mile service area. During internship, clinical assignments may include day, evening, and weekend hours.

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

overall GPA of 2.35 in supportive and RADT course work.

Required:	Units
First Semester (Fall) – Effective: Summer 2007	
RADT-41 Introduction to Medical Imaging .....	4
RADT-42 Radiologic Procedures I .....	4
Second Semester (Spring) – Effective: Summer 2007	
RADT-40 Radiologic Science I .....	3
RADT-43A Radiologic Procedures II .....	4
RADT-43B Clinical Education I .....	5
First Summer Session – Effective: Summer 2008	
RADT-44A Radiologic Science II .....	2
RADT-44B Clinical Education II .....	3.5
Third Semester (Fall) – Effective: Summer 2008	
RADT-45A Radiologic Procedures III .....	1
RADT-45B Clinical Education III .....	5.5
RADT-45C Advanced Radiologic Procedures I .....	2
RADT-45D Radiologic Pathology .....	1.5

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 Diagnostic Radiologic Technology is awarded. The internship portion of the RADT Program commences with:

Fourth Semester (Spring) – Effective: Summer 2008	
RADT-67A Advanced Radiologic Procedures II .....	2
RADT-67B Advanced Clinical Education I .....	10
RADT-67D Fluoroscopy .....	2
Second Summer Session – Effective: Summer 2009	
RADT-68A Principles of Radiation Protection and Biology .....	2
RADT-68B Advanced Clinical Education II .....	7
Fifth Semester (Fall) – Effective: Summer 2009	
RADT-69A Integrative Study in Radiologic Technology .....	2
RADT-69B Advanced Clinical Education III .....	9
RADT-69C Sectional Anatomy .....	1
RADT-69D Principles of Venipuncture .....	5

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

### 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 Compact Power Equipment .....	3
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):

	<b>Units</b>
Computer-Aided Drafting - Architectural - Level I	
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	
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	
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	
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:

	<b>Units</b>
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:

	<b>Units</b>
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:

	<b>Units</b>
<b>Electronics Technician Option</b>	
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

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:

		<b>Units</b>
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:

		<b>Units</b>
ENGR-10	Engineering Materials .....	3
ENGR-15	Elementary Mechanics (Statics) .....	3
ENGR-18	Electrical Circuits Analysis .....	4
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
		23

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

CHEM-04B	General Chemistry .....	5
ENGR-12	FORTTRAN Programming .....	3
or		
ENGR-14	C++ Programming .....	3
ENGR-25	Graphics .....	3
MATH-08	Linear Algebra .....	3
PHYS-04A	Physics .....	4
PHYS-04B	Physics .....	4
PHYS-04C	Physics .....	4
		30

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.

Complete 5 to 8 units from the following:

ENGR-10	Engineering Materials .....	3
ENGR-15	Elementary Mechanics (Statics) .....	3
ENGR-30	Introduction to Engineering .....	2

Complete the remaining 10 to 13 units from the following courses:

CHEM-04B	General Chemistry .....	5
ENGR-12	FORTTRAN Programming .....	3
ENGR-14	C++ Programming .....	3
ENGR-18	Electrical Circuits Analysis .....	3
ENGR-25	Graphics .....	3
MATH-04B	Analytical Geometry and Calculus .....	4
MATH-04C	Analytical Geometry and Calculus .....	4
MATH-06	Elementary Differential Equations .....	3
MATH-08	Linear Algebra .....	3
PHYS-04A	Physics .....	4
PHYS-04B	Physics .....	4
PHYS-04C	Physics .....	4
		18

**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:

		<b>Units</b>
CHEM-04A	General Chemistry .....	5
ENGR-10	Engineering Materials .....	3
ENGR-12	FORTTRAN 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.

	<b>Units</b>	
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:

	<b>Units</b>	
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:

BIOL-16	General Human Anatomy.....	4
or		
BIOL-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
GEOL-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.

### Family and Consumer Science

See Child Development or Nutrition

### 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:

	<b>Units</b>	
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:

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
NUTR-45 Introduction to Medical Nutrition Therapy .....	2
MGMT-31 Principles of Supervision .....	3
	19.5

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 Medical Nutrition Therapy .....	2
NUTR-70A-ZZ Special Topics .....	1-3
MGMT 50A-I Customer Service Academy .....	3
	26.5

**Certificate of Completion:**

A Certificate of Completion will be awarded upon the satisfactory completion of the 26.5-unit curriculum listed above.

**Certificate of Training for Dietetic Service Supervisor:**

Upon satisfactory completion of the 19.5-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**

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**

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:

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, VOCN, REGN, RADT, SONO, and SPMD.

Arts:

ART, DNCE, DRAM, MUS, and PHOT.

Business:

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

Child Development:

CLDV.

Guidance:

GUID.

Humanities

COMM, ENGL, FREN, GERM, HNRS, HMNG, HUM, 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:

ARCH, ASTR, BIOL, BOT, CHEM, ENGR, ENTC, GEOG, GEOL, NTSC, PHSC, PHYS, SCI, and WWT.

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:

	<b>Units</b>
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:

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:

	<b>Units</b>
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
GEOL-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
GEOL-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:

	<b>Units</b>
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:

BIOL-16 General Human Anatomy.....	4
BIOL-20 Microbiology.....	4
BIOL-18 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:

	<b>Units</b>
<b>HVAC Technician Option</b>	
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

ELCT-41 Industrial Motor and Equipment Control.....	3
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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):

		<b>Units</b>
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 20-unit core.

		<b>Units</b>
AGBS-12	Agricultural Accounting.....	3
ANSC-11	Elements of Animal Nutrition .....	3
ANSC-16	Horse Husbandry .....	3
ANSC-39	People and Livestock in the Sierras (deactivated 12/06).....	3
ANSC-46A	Specialized Horse Training .....	4
CROP-13	Forage Crops .....	3

MECH-06	Fundamentals of Oxy-Fuel Welding and Shielded Metal Arc Welding.....	3
MECH-31	Equipment Safety .....	1
		20

**Electives:**

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:

		<b>Units</b>
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 US.....	3

Students must also choose one course from the following electives:

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
		32-35

**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.

	<b>Units</b>
HUM-01	3
or	
HUM-01H	3
HUM-02	3
or	
HUM-02H	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
- 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:

	<b>Units</b>
DRFT-44	3
ELCT-31	5
ELCT-31SL	1
ELCT-32	5
ELCT-32SL	2
ELCT-34	3
ELCT-34SL	1
ELCT-41	3
ELCT-42A	2
ELCT-42B	1
ELCT-43A	3
ELCT-47	3
ELCT-55	1
INDT-49	3

Plus six units from the following electives:

INDT-10	3
INDT-25	3
INDT-41	3
	<b>42</b>

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:

	<b>Units</b>
DRFT-44	3
ELCT-41	3

ELCT-47	3
ELCT-52	3
INDT-10	3
INDT-25	3
INDT-32	3
INDT-36	3
INDT-41	3
INDT-49	3
MATH-B	5
WELD-06	3
WELD-07	3
WELD-40A	3
	<b>44</b>

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:

	<b>Units</b>
ELCT-31	5
ELCT-31SL	1
ELCT-32	5
ELCT-32SL	2
ELCT-34	3
ELCT-34SL	1
ELCT-35	4
ELCT-41	3
ELCT-42A	2
ELCT-42B	1
ELCT-43A	3
ELCT-43B	1.5
ELCT-44	3
ELCT-47	3
ELCT-55	1
INDT-25	3
	<b>41.5</b>

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:

Table with 2 columns: Course ID and Units. Courses include JOUR-01, JOUR-08, JOUR-32, and PHOT-10A.

Choose three units from:

Table with 2 columns: Course ID and Units. Courses include POSC-01 and POSC-02.

Choose three units from:

Table with 2 columns: Course ID and Units. Courses include ENGL-12, ENGL-13, and PHOT-10B.

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.

Table with 2 columns: Course ID and Units. Courses include BIOL-06, BIOL-20, CHEM-04B, CHEM-06\*, CPSC-01, and MATH-02.

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 Arts Degree is earned upon satisfactory completion of the 19-unit core in addition to the graduation requirements. The Associate in Science degree is earned upon satisfactory completion of the 19-unit core and electives for a total of 30 units in addition to the graduation requirements.

Table with 2 columns: Course ID and Units. Includes Core courses (LAND-10A, LAND-10B, LAND-11, LAND-12, LAND-14, PLSC-10, SOIL-10, MECH-31) and a total of 19 units.

Electives:

Table with 2 columns: Course ID and Units. Lists various elective courses such as AGBS-18, DRFT-04A, FPRO-13, etc.

Certificate of Completion:

A Certificate of Completion will be awarded upon the satisfactory completion of the 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):

Table with 2 columns: Course ID and Units. Lists major requirements for Laser Electro-Optics Technology, including ELCT-31, ELCT-49A, ELCT-31A, etc.

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:

Table with 2 columns: Course ID and Units. Lists core courses for Liberal Studies, including COMM-01\*, COMM-01H\*, CPSC-30, and ENGL/PHIL-13\*.

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.....	3
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

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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:

	<b>Units</b>	
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		
BIOL-13	General Zoology .....	5
		9

And select nine additional units from the following:

BIOL-16	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		
BIOL-13	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	FORTTRAN Programming .....	3
MATH-14	C++ Programming .....	3

BIOL-18	Principles of Physiology .....	4
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\*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:

	<b>Units</b>	
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
		30-31

Suggested electives include:

BUS-35	Money Management .....	3
BUS-49A-ZZ	Special Topics in Business .....	½ - 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:

	<b>Units</b>	
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:

BUS-35	Money Management .....	3
BUS-49A-ZZ	Special Topics in Business .....	½ - 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:

	<b>Units</b>
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
	<b>30-31</b>

Suggested electives include:

BUS-10 Introduction to Business.....	3
BUS-35 Money Management .....	3
BUS-49A-ZZ Special Topics in Business.....	½ - 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

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
	<b>5</b>

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 with 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 21 units from the courses listed below:

All of the following:	<b>Units</b>
MATH-04A Analytical Geometry and Calculus .....	4
MATH-04B Analytical Geometry and Calculus .....	4
MATH-04C Analytical Geometry and Calculus .....	4

Plus 3-6 units from the following:

MATH-06 Elementary Differential Equations.....	3
MATH-08 Linear Algebra.....	3

And the remaining 3-6 units from the following:

MATH-12/CPSC-12/ENGR-12 FORTRAN Programming.....	3
MATH-14/ENGR-14 C++ Programming .....	3
MATH-10 Statistics.....	3
PHYS-04A Physics.....	4
or	
PHYS-04B Physics.....	4
	<b>21</b>

### 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:	<b>Units</b>
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 Compact Power Equipment .....	3
MECH-40 Equipment Repair .....	2
	<b>21</b>

### 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:	<b>Units</b>
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
	<b>22</b>

Electives:

MECH-06 Fundamentals of Oxy-Fuel Welding and Shielded Metal Arc Welding.....	3
MECH-13 Agriculture Equipment.....	3
MECH-15 Small Engine Repair and Maintenance.....	3
MECH-22B Diesel Engines .....	4
MECH-23 Diesel Fuel System Diagnostics.....	2
MECH-32 Applied Electrical and Hydraulic Service.....	3
MECH-35 Compact Power Equipment .....	3
MECH-40 Equipment Repair .....	2
	<b>38</b>

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:	<b>Units</b>
MUS-04ABCD Music Theory I-IV .....	12
MUS-11 History of Classical Music .....	3
MUS-12 History of Classical Music .....	3

MUS-24AB	Applied Music.....	2
MUS-27A	Piano I.....	2
		22

And choose one area of concentration (12 units):

**Piano Concentration**

MUS-27BCD	Piano II-IV .....	6
MUS-24CD	Applied Music.....	2
Plus four units from the following music ensembles:		
MUS-41AB	Concert Band I & II.....	2-4
MUS-42AB	Jazz Ensemble I & II .....	2-4
MUS-44	Chorus.....	2-4

**Vocal Concentration**

MUS-24CD	Applied Music.....	2
MUS43AB	Beginning and Advanced Voice.....	6
MUS-47	Song Interpretation: Music Theater .....	3
Plus four units from the following vocal ensembles:		
MUS-44	Chorus.....	2-4
MUS-45	Chamber Singers .....	2-4

**Instrumental Concentration**

MUS-24CD	Applied Music.....	2
Plus six units from the following music ensembles:		
MUS-40	Orchestra .....	2-6
MUS-41ABC	Concert Band I-III .....	2-6
MUS-42ABC	Jazz Ensemble I-III.....	2-6
Plus four units from the following electives:		
MUS-13	History of Jazz.....	3
MUS-28	Jazz Improvisation .....	2
MUS-36A	Beginning Guitar .....	2
MUS-39A-ZZ	Special Problems in Music.....	3

**Guitar Concentration**

MUS-36ABC	Guitar .....	6
MUS-24CD	Applied Music.....	2
Plus four units from the following music ensembles:		
MUS-41AB	Concert Band I & II.....	2-4
MUS-42AB	Jazz Ensemble I & II .....	2-4
MUS-44	Chorus.....	2-4

**Music History Concentration**

Six units from the following courses:		
MUS-13	History of Jazz.....	3
MUS-14	History of American Popular Music .....	3
Plus six units from the following electives:		
MUS-27BCD	Piano .....	2-6
MUS-36ABC	Guitar .....	2-6
MUS-39A-ZZ	Special Problems in Music.....	3-6

**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; DOJ fingerprint clearance; Penal Code violations clearance.

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

	<b>Units</b>
ALLH-60	Nurse Assistant .....
	5.5

Successful completion of the above course 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 Handbook which is available in the Merced College Bookstore or through the web site: [www.mccd.edu/alliedhealth/regnrshp.htm](http://www.mccd.edu/alliedhealth/regnrshp.htm)

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

**Nursing, Registered**

<b>Prerequisite Courses:</b>		<b>Units</b>
BIOL-16*	General Human Anatomy .....	4
CHEM-02A*	Introductory Chemistry .....	4
BIOL-20*	Microbiology .....	4
BIOL-18*	Principles of Physiology .....	4
ENGL-01A	Composition and Reading I.....	3
REGN-50**	Nursing Careers Seminar.....	1/3

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 (Also Psyc-09) must be taken before or concurrently with 2nd semester .....	3

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

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
PHED	Any activity .....	2
PHIL-05	Contemporary Moral and Social Issues .....	3
or		
Area C	Any Humanities Area (see catalog).....	3

Registered Nursing curriculum:

<b>First Semester</b>		
REGN-15	Nursing in Health and Illness I .....	9
REGN-16	Pharmacology I .....	2
REGN-17	Nursing Skills Simulation I.....	2

<b>Second Semester</b>		
REGN-25	Nursing in Health and Illness II .....	9
REGN-26	Pharmacology II .....	2
REGN-27	Nursing Skills Simulation II.....	1

<b>Third Semester</b>		
REGN-35	Nursing in Health and Illness III .....	9
REGN-36	Pharmacology III .....	1
REGN-37	Nursing Skills Simulation III.....	1
REGN-38	Professional Relationships and Responsibilities I.....	1
REGN-02***	Clinical Skills Transition - LVN to RN .....	1

<b>Fourth Semester</b>		
REGN-45	Nursing in Health and Illness IV .....	9
REGN-46	Pharmacology IV .....	1
REGN-47	Nursing Skills Simulation IV .....	1
REGN-48	Professional Relationships and Responsibilities II.....	1

\*Recommended to be completed within five years prior to enrollment into the program; a minimum cumulative GPA of 2.5 is required in BIOL-16, BIOL-20, CHEM-02A, and BIOL-18. See REGN Application Handbook.

\*\*Advisory.

\*\*\*Must be completed prior to or concurrently with REGN-25.

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 previously identified prerequisite courses. In addition, REGN-01 and CLDV-09/PSYC-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.

**Transfer**

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

**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: BIOL-16 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.

	<b>Units</b>
First Semester	
VOCN-40 Foundations of Nursing .....	11
VOCN-46B Pharmacology for Nurses.....	2
VOCN-47A Nursing Guidance I .....	1
Second Semester	
VOCN-42 Principles and Practices of Nursing Care I.....	14
VOCN-47B Nursing Guidance II .....	1
Third Semester	
VOCN-44 Principles and Practices of Nursing Care II.....	14
VOCN-47C Nursing Guidance III .....	1

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.

**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:

	<b>Units</b>
BUS-18A Business Law .....	4
BUS-43 Business Communication.....	3
PLGL-50 Intro. To Paralegal Studies .....	3
PLGL-51 Legal Research/Writing .....	4
PLGL-52 Civil Litigation .....	4
PLGL-53 Law Office Practices .....	3
PLGL-59 Evidence/Trial Preparation .....	3
	<b>24</b>

And nine units from the following courses:

CRIM-04 Criminal Law .....	3
MGMT-34 Employment Law.....	3
PLGL-54 Torts .....	3
PLGL-57 Estate Planning and Probate Procedures .....	3
PLGL-60 Family Law .....	3
REAL-42 Real Estate Principles .....	3
	<b>33</b>

Certificate of Completion:

A Certificate of Completion will be awarded upon the satisfactory completion of 33 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 a 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 21-unit curriculum listed below.

	<b>Units</b>
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.

CHEM-04B	General Chemistry .....	5
GEOG-01	Physical Geography .....	3
GEOL-02	Historical Geology .....	4
PHYS-02B	General Physics .....	4

### 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.

		<b>Units</b>
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.

		<b>Units</b>
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:		
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:

		<b>Units</b>
CHEM-02A	Introductory Chemistry .....	4
or		
CHEM-04A	General Chemistry .....	5
GEOL-01	Physical Geology .....	4
PHYS-02A	General Physics .....	4
And select six units from the following:		
ARCH-01	Introduction to Archaeology .....	3
ASTR-01	Principles of Astronomy .....	3

### 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.)

		<b>Units</b>
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	FORTTRAN 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 18-unit curriculum listed below. These courses must be in addition to the basic graduation requirements.

		<b>Units</b>
PSYC-01A	Introduction to Psychology .....	3
or		
PSYC-01AH	Honors introduction to Psychology .....	3
PSYC-01B	Introduction to Psychological Methods .....	3
		6
Add 12 units from the following electives:		
ANTH-02	Cultural Anthropology .....	3
BIOL-01	General Biology for Non-Majors .....	4
PSYC-05	Introduction to Statistics for Psychology .....	3
PSYC-15	Biological Psychology .....	3
PSYC-09	Human Development .....	3
PSYC-20	Social Psychology .....	3
PSYC-22	Human Sexuality .....	3
PSYC-23	Personal and Social Adjustment .....	3
PSYC-25	Abnormal Psychology .....	3
PSYC-35	Developmental Psychology; Childhood .....	3
PSYC-36	Developmental Psychology; Adolescence .....	3
PSYC-49A-ZZ	Special Topics in Psychology .....	3
SOC-01	Introduction to Sociology .....	3
		18

### 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:

		<b>Units</b>
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:

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

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):

	<b>Units</b>	
<b>Category 1:</b>		
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
<b>Category 2:</b>		
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-39	ABC 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:

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

If you do NOT meet all the application requirements, your application will be returned, nullifying any application receipt date. If you are accepted into the program but must decline, your application will be kept on file. Enrollment will be based on a first-come, first-served basis. Only one class is in session at a time.

#### Requirements for Application and Prerequisites

Requirements:

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

Prerequisites:

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](http://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.

	<b>Units</b>	
<b>First Summer Session</b>		
SONO-40	Basic Ultrasound Physics.....	1.5
SONO-41	Introduction to Sonography.....	1.5
<b>First Semester (Fall)</b>		
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

**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.

	<b>Units</b>
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
	47.5

**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, which requires a grade of "C" or better in Area A and Area B-4;

OR

The Intersegmental General Education Transfer Curriculum (IGETC)

pattern, which requires a minimum grade of "C" in each IGETC course.

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 course work required for this AA degree, all local course and competency requirements shall be considered satisfied with completion of the above.

**Notes:**

Students earning this degree with a minimum grade point average of 2.4 in transfer courses will be guaranteed admission to CSU Bakersfield, CSU Fresno, or CSU 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. (12/06)

**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:**

- 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.
- 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.
- 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:

	<b>Units</b>
Art History	(Choice of ART-01, 02, 06)..... 6
ART-12A	Sculpture ..... 3
ART-15	Fundamentals of Design in Art ..... 3
ART-24A	Drawing I ..... 3
ART-26A	Figure Drawing I ..... 3
ART-25A	Acrylic Painting I..... 3
or	
ART-28A	Oil Painting I..... 3

Plus nine units from the following courses:

ART-17ABC	Ceramics ..... 3-9
ART-20 A-D	Printmaking I-IV..... 3-9
ART-28 A-C	Oil Painting I-III..... 3
ART-29 A-D	Watercolor Painting I-IV ..... 3
ART-41 A-C	Graphic Design I-III ..... 3
PHOT-10A	Basic Photography ..... 3
	30

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## 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:

	<b>Units</b>
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.