

Curriculum and Requirements for Majors and Certificates

Section 2 — Theories of Visual Communication

Select 6 units from the following courses:

ART 188	Design for Desktop Publishing	3
JOUR 121	Multimedia Reporting	3
JOUR 130	Photojournalism	3
or PHOT 130	Photojournalism	(3)
PHOT 100	Introductory Photography	3
PHOT 110	Introduction to Digital Photography	3
SPAN 206	Hispanic Literature in the Media	3

Section 3 — Applied Techniques of Communication

Select 9 units from the following courses:

ART 110	Freehand Drawing	3
ART 116	Beginning Printmaking	3
ART 120	Two-Dimensional Design	3†
ART 130A	Fundamentals of Painting	3
ART 114	Storyboard Animation Principles for Film	3
ART 150	Introduction to Ceramics	3
ART 182A	Lettering and Typography	3
ART 184	Graphic Design I	3
FILM 101	Motion Picture Production	3
FILM 102	Television Production	3
TH 193	Motion Picture Editing	3

TOTAL UNITS VISUAL COMMUNICATION AREA OF EMPHASIS 18

† UC credit limits may apply. Please see list of UC transferable courses in ASSIST (<http://www.assist.org>) or a counselor for explanation.
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MACHINE TOOL TECHNOLOGY COORDINATE METROLOGY

CERTIFICATE OF ACHIEVEMENT		UNITS
MTT 50	CNC Shop Math	3
MTT 56	CNC Shop Inspection	2
MTT 68	Computer-Assisted Inspection Using Verisurf	2
MTT 78	Tool Building Using Verisurf	1.5
MTT 168	Advanced Computer-Assisted Inspection Using Verisurf	2
ENGT 116	Blueprint Reading	2
ENGT 117	Geometrical Dimensioning and Tolerancing	2
NPD 102	Quality Systems for New Product Development	3
		—
		17.5

MACHINE TOOL TECHNOLOGY MACHINIST OPTION

ASSOCIATE OF ARTS DEGREE

The Department aims to provide basic to advanced training in manual or conventional machining, computer numerical programming and operation, advanced multi-axis programming and operation. These form the fundamental skills necessary for the average and expected workload in the machining industry. Enrolled students are strongly positioned for employment in the machining industry throughout the course of the Program.

ENGT 116	Blueprint Reading	2
ENGT 117	Geometrical Dimensioning and Tolerancing	2
ENGT 259	SolidWorks Introduction	4
MTT 52	Setup and Operation of CNC Milling Machines	2.5
MTT 56	CNC Shop Inspection	2
MTT 57	Setup and Operation of CNC Lathes	2.5
MTT 62	Fixture Tooling	2
MTT 68	Computer Assisted Inspection Using Verisurf	2
MTT 94L	Manual Machining Laboratory	1
MTT 100	Machine Tool Introduction	2
		—
Total Units		22

ASSOCIATE OF ARTS DEGREE REQUIREMENTS:

Students must complete the required major courses, the Cerritos College Associate of Arts General Education requirements, and electives as needed. Students must earn a 2.0 grade point average and earn a grade of “C” or higher in major/emphasis courses.

MACHINE TOOL TECHNOLOGY MACHINIST OPTION CERTIFICATE OF ACHIEVEMENT

The Department aims to provide basic to advanced training in manual or conventional machining, computer numerical programming and operation, and advanced multi-axis programming and operation. These form the fundamental skills necessary for the average and expected workload in the machining industry. Enrolled students are strongly positioned for employment in the machining industry throughout the course of the Program.

ENGT 116	Blueprint Reading	2
ENGT 117	Geometrical Dimensioning and Tolerancing	2
ENGT 259	SolidWorks Introduction	4
MTT 52	Setup and Operation of CNC Milling Machines	2.5
MTT 56	CNC Shop Inspection	2
MTT 57	Setup and Operation of CNC Lathes	2.5
MTT 62	Fixture Tooling	2
MTT 68	Computer Assisted Inspection Using Verisurf	2
MTT 94L	Manual Machining Laboratory	1
MTT 100	Machine Tool Introduction	2
		—
Total Units		22

MACHINE TOOL TECHNOLOGY NUMERICAL CONTROL MACHINE OPERATOR OPTION

ASSOCIATE OF ARTS DEGREE

The Department aims to provide basic to advanced training in manual or conventional machining, computer numerical programming and operation, advanced multi-axis programming and operation. These form the fundamental skills necessary for the average and expected workload in the machining industry. Enrolled students are strongly positioned for employment in the machining industry throughout the course of the Program.

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ENGT 116	Blueprint Reading	2
MTT 52	Setup and Operation of CNC Milling Machines	2.5
MTT 56	CNC Shop Inspection	2
MTT 57	Setup and Operation of CNC Lathes	2.5
MTT 62	Fixture Tooling	2
MTT 68	Computer Assisted Inspection Using Verisurf	2
MTT 91L	CNC Mill Machining Laboratory	1
MTT 95L	CNC Lathe Machining Laboratory	1
MTT 100	Machine Tool Introduction	2
MTT 180	Robotics for CNC Machines	3
		—
Total Units		20

ASSOCIATE OF ARTS DEGREE REQUIREMENTS:

Students must complete the required major courses, the Cerritos College Associate of Arts General Education requirements, and electives as needed. Students must earn a 2.0 grade point average and earn a grade of "C" or higher in major/emphasis courses.

See Cerritos College Graduation Requirements.

MACHINE TOOL TECHNOLOGY NUMERICAL CONTROL MACHINE OPERATOR OPTION CERTIFICATE OF ACHIEVEMENT

The Department aims to provide basic to advanced training in manual or conventional machining, computer numerical programming and operation, advanced multi-axis programming and operation. These form the fundamental skills necessary for the average and expected workload in the machining industry. Enrolled students are strongly positioned for employment in the machining industry throughout the course of the Program.

ENGT 116	Blueprint Reading	2
MTT 52	Setup and Operation of CNC Milling Machines	2.5
MTT 56	CNC Shop Inspection	2
MTT 57	Setup and Operation of CNC Lathes	2.5
MTT 62	Fixture Tooling	2
MTT 68	Computer Assisted Inspection Using Verisurf	2
MTT 91L	CNC Mill Machining Laboratory	1
MTT 95L	CNC Lathe Machining Laboratory	1
MTT 100	Machine Tool Introduction	2
MTT 180	Robotics for CNC Machines	3
		—
Total Units		20

MACHINE TOOL TECHNOLOGY TOOL AND DIE MAKER OPTION ASSOCIATE OF ARTS DEGREE

The Department aims to provide basic to advanced training in manual or conventional machining, computer numerical programming and operation, advanced multi-axis programming and operation. These form the fundamental skills necessary for the average and expected workload in the machining industry. Enrolled students are strongly positioned for employment in the machining industry throughout the course of the Program.

ENGT 116	Blueprint Reading	2
ENGT 117	Geometrical Dimensioning and Tolerancing	2
ENGT 258	Tools and Fixtures Applications	2
	Using Solid Modeling	4
ENGT 259	SolidWorks Introduction	4
MTT 56	CNC Shop Inspection	2
MTT 62	Fixture Tooling	2
MTT 68	Computer Assisted Inspection Using Verisurf	2
MTT 94L	Manual Machining Laboratory	1
MTT 100	Machine Tool Introduction	2
NPD 103	Tooling and Materials for	2
	New Product Development	3
		—
Total Units		24

ASSOCIATE OF ARTS DEGREE REQUIREMENTS:

Students must complete the required major courses, the Cerritos College Associate of Arts General Education requirements, and electives as needed. Students must earn a 2.0 grade point average and earn a grade of "C" or higher in major/emphasis courses.

See Cerritos College Graduation Requirements.

MACHINE TOOL TECHNOLOGY TOOL AND DIE MAKER OPTION CERTIFICATE OF ACHIEVEMENT

The Department aims to provide basic to advanced training in manual or conventional machining, computer numerical programming and operation, advanced multi-axis programming and operation. These form the fundamental skills necessary for the average and expected workload in the machining industry. Enrolled students are strongly positioned for employment in the machining industry throughout the course of the Program.

ENGT 116	Blueprint Reading	2
ENGT 117	Geometrical Dimensioning and Tolerancing	2
ENGT 258	Tools and Fixtures Applications	2
	Using Solid Modeling	4
ENGT 259	SolidWorks Introduction	4
MTT 56	CNC Shop Inspection	2
MTT 62	Fixture Tooling	2
MTT 68	Computer Assisted Inspection	2
	Using Verisurf	2
MTT 94L	Manual Machining Laboratory	1
MTT 100	Machine Tool Introduction	2
NPD 103	Tooling and Materials for	2
	New Product Development	3
		—
Total Units		24

**MACHINE TOOL TECHNOLOGY
NUMERICAL CONTROL TOOL
PROGRAMMER OPTION
ASSOCIATE OF ARTS DEGREE**

ENGT 116	Blueprint Reading	2
ENGT 117	Geometrical Dimensioning and Tolerancing	2
MTT 50	CNC Shop Math	3
MTT 51	MasterCam Milling	3.5
MTT 52	Setup and Operation of CNC Milling Machines	2.5
MTT 56	CNC Shop Inspection	2
MTT 57	Setup and Operation of CNC Lathes	2.5
MTT 59	MasterCam Turning	2.5
MTT 91L	CNC Mill Machining Laboratory	1
MTT 95L	CNC Lathe Machining Laboratory	1
MTT 170	Computer Numerical Control Programming	2
MTT 180	Robotics for CNC Machines	3
MTT 278	MasterCam Advanced	3.5
		—
Total Units		30.5

ASSOCIATE OF ARTS DEGREE REQUIREMENTS:

Complete 60 units to include (1) the above requirements for a Certificate of Achievement; (2) two courses from the following: MTT 71, MTT 75, MTT 92L, MTT93 L, and MTT 96 L (3) the Associate of Arts Degree general education requirements; and (4) electives as needed.

RECOMMENDED ELECTIVES: WELD 120, WELD 130

See Cerritos College Graduation Requirements

**MACHINE TOOL TECHNOLOGY
NUMERICAL CONTROL TOOL
PROGRAMMER OPTION
CERTIFICATE OF ACHIEVEMENT**

ENGT 116	Blueprint Reading	2
ENGT 117	Geometrical Dimensioning and Tolerancing	2
MTT 50	CNC Shop Math	3
MTT 51	MasterCam Milling	3.5
MTT 52	Setup and Operation of CNC Milling Machines	2.5
MTT 56	CNC Shop Inspection	2
MTT 57	Setup and Operation of CNC Lathes	2.5
MTT 59	MasterCam Turning	2.5
MTT 91L	CNC Mill Machining Laboratory	1
MTT 95L	CNC Lathe Machining Laboratory	1
MTT 170	Computer Numerical Control Programming	2
MTT 180	Robotics for CNC Machines	3
MTT 278	MasterCam Advanced	3.5
		—
Total Units		30.5

**MASS COMMUNICATIONS
JOURNALISM**

ASSOCIATE IN ARTS DEGREE FOR TRANSFER (AA-T)

REQUIRED CORE (9 Units)		UNITS
JOUR 100	Mass Communications and Society	3
JOUR 101	Beginning Newswriting and Reporting	3
JOUR 107A	College Newspaper	3

LIST A: (Select one) 3 Units

JOUR 121	Multimedia Reporting	3
JOUR 157	Principles of Public Relations	3
or BA 157	Principles of Public Relations	(3)
JOUR 130	Photo Journalism	3
or PHOT 130	Photo Journalism	(3)
JOUR 107B	Intermediate College Newspaper	3

LIST B: (Select two) 6 Units

PHOT 100	Introductory Photography	3
ART 188	Design for Desktop Publishing	3
MATH 112	Elementary Statistics	4
POL 101	American Political Institutions	3
POL 220	Comparative Government	3
ENGL 103	Critical and Argumentative Writing	3
PHIL 106	Introduction to Logic	3
ENGL 101	Critical Thinking through Literature	3
Any CSU Breadth courses from two different Areas with A-D		—

TOTAL UNITS FOR THE MAJOR 18

**ASSOCIATE IN ARTS IN JOURNALISM FOR TRANSFER
REQUIREMENTS**

Complete the following (1) 60 semester or 90 quarter CSU – transferable units (2) The California State University-General Education-Breadth pattern (CSU GE-Breadth); or the Intersegmental General Education Transfer Curriculum (IGETC) pattern (3) A minimum of 18 semester or 27 quarter units in the major or area of emphasis as determined by the community college district (4) Obtainment of a minimum grade point average (GPA) of 2.0 (5) Earn a grade of “C” or better in all courses required for the major or area of emphasis.

NOTE: Students should avoid accumulating additional journalism units as they complete their AA-T degree (which requires 60 unit). Additional units will create graduation problems as the upper division. Many programs require 80 units outside of journalism for the degree and each CSU may require up to 28 upper division units in the major.

JOURNALISM

ASSOCIATE IN ARTS DEGREE

CORE REQUIREMENTS (9 units)		UNITS
JOUR 100	Mass Communication and Society	3
JOUR 101	Beginning Newswriting and Reporting	3
JOUR 121	Multimedia Reporting	3

DEPARTMENT REQUIREMENTS

(6 units, any combinations)

JOUR 106	talonmarks.com	1 (2)
JOUR 107	College Newspaper	3 (6)
JOUR 160	College Magazine Production	1 (2)

Curriculum and Requirements for Majors and Certificates

Additional Requirements (14 units)

ART 188	Design for Digital Publishing	3
ART 194	Multimedia Design	3
ART 196	Web Design with Flash and Dreamweaver	3
CIS 205	Programming HTML for the World Wide Web	1.5
JOUR 111	Introduction to Newsletters	1
JOUR 112	Copy Editing Skills	1
JOUR 121	Multimedia Reporting	3
JOUR 122	Creating Podcasts for Media	1
JOUR 130	Photo Journalism	3
or PHOT 130	Photo Journalism	(3)
JOUR 157	Principles of Public Relations	3
or BA 157	Principles of Public Relations	(3)
JOUR 170	Broadcast News/Webcasting	1
or RTV 170	Broadcast News/Webcasting	(1)
JOUR 298	Directed Studies in Journalism (may be applied twice)	1 (2)
or JOUR 50	Editorial Board	(1)
JOUR 299	Directed Studies in Journalism (must be a media internship)	2
or JOUR 171	Occupational Work Experience in Journalism (must be in media internship)	(1)
PHOT 100	Introductory Photography	3
PHOT 110	Introduction to Digital Photography	3
RTV 175	Sportscasting	1
RTV 176	Talk Radio Broadcasting	1
SPCH 160	Parliamentary Procedure	1
TOTAL ASSOCIATE IN ARTS DEGREE		29

NOTE: Journalism students intending to transfer to a four-year college are referred to the Transfer Journalism Major Requirements of Study 145.

ASSOCIATE IN ARTS DEGREE REQUIREMENTS

Complete a minimum of 60 units to include (1) the above Journalism courses and unit requirements, (2) A.A. Degree General Education Requirements, and (3) electives as needed.

JOURNALISM

CERTIFICATE OF ACHIEVEMENT

CORE REQUIREMENTS (9 units)

JOUR 100	Mass Communications and Society	3	UNITS
JOUR 101	Beginning Newswriting and Reporting	3	
JOUR 121	Multimedia Reporting	3	

DEPARTMENT REQUIREMENTS (Select 6 units)

JOUR 106	talonmarks.com	1
JOUR 107a	College Newspaper	3
JOUR 107b	Intermediate College Newspaper	3
JOUR 160L	College Magazine Production	1
JOUR 298	Directed Studies in Journalism	1

DEPARTMENT ELECTIVES (Select 6 units)

JOUR 107C	Intermediate Advanced College Newspaper	3
JOUR 125	Broadcast News Production and Editing	3
JOUR 130	Photo Journalism	3
or PHOT 130	Photo Journalism	(3)
JOUR 157	Principles of Public Relations	3
or BA 157	Principles of Public Relations	(3)
JOUR 170	Broadcast News/Webcasting	1

JOUR 299	Directed Studies in Journalism (should be internship)	2
RTV 152	Introduction to Broadcasting	3

ADDITIONAL REQUIREMENTS (Select 3 units)

ART 188	Design for Desktop Publishing	3
ART 196	Web Design with Flash and Dreamweaver	3
JOUR 107d	Advanced College newspaper	3
JOUR 111	Introduction to Newsletters	1
JOUR 119	Legal Aspects of Mass Communications	1
or RTV 119	Legal Aspects of Mass Communications	(1)
PHOT100	Introduction to Photography	3
PHOT 110	Introduction to Digital Photography	3
TOTAL		24

PUBLIC RELATIONS

CERTIFICATE OF ACHIEVEMENT

CORE REQUIREMENTS (12 units)

JOUR 100	Mass Communications and Society	3	UNITS
JOUR 101	Beginning Newswriting and Reporting	3	
JOUR 121	Multimedia Reporting	3	
JOUR 157	Principles of Public Relations	3	
or BA 157	Principles of Public Relations	(3)	

DEPARTMENT REQUIREMENTS (21 units, any combination)

ART 188	Design for Desktop Publishing	3
BA 114	Marketing	3
JOUR 106	Talonmarks.com	1
JOUR 107	College Newspaper	3
JOUR 130	Photo Journalism	3
or PHOT 130	Photo Journalism	(3)
JOUR 160	College Magazine Production (requires corequisite)	1
PHOT 100	Introductory Photography	3
PHOT 110	Introduction to Digital Photography	3
RTV 155	Radio Production	3

Additional Requirements (up to 5 units)

ART 194	Multimedia Design	3
ART 196	Web Design with Flash and Dreamweaver	3
JOUR 111	Introduction to Newsletters	1
JOUR 112	Copy Editing Skills	1
JOUR 122	Creating Podcasts for Media	1
JOUR 170	Broadcast News/Webcasting	1
or RTV 170	Broadcast News/Webcasting	(1)
JOUR 298	Directed Studies in Journalism	1
JOUR 299	Directed Studies in Journalism (must be a media internship)	2
or JOUR 171	Occupational Work Experience in Journalism (must be a media internship)	(1)
SPCH 160	Parliamentary Procedure	1

TOTAL CERTIFICATE UNITS	38
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See Cerritos College Graduation Requirements.

MATHEMATICS

ASSOCIATE IN SCIENCE DEGREE FOR TRANSFER

By successfully completing the courses for an Associate in Science in Mathematics for Transfer degree at Cerritos College, students will gain a practical and theoretical understanding for future studies involving mathematics. The role of mathematics is vital and growing, providing methods for finding solutions to problems in a wide range of sciences: social, biological, physical, behavioral, and managerial. More generally, mathematics is necessary for understanding and expressing ideas in science, engineering, and human affairs.

REQUIRED CORE (18 units)		UNITS
MATH 170	Analytic Geometry and Calculus I	4
MATH 190	Analytic Geometry and Calculus II	4
MATH 225	Calculus III	5
MATH 250	Linear Algebra and Differential Equations	5

SELECT ONE (3 – 4 units)

PHYS 201	Engineering Physics	4
CIS 180	Programming in C/C++	3
MATH 112	Elementary Statistics	4

TOTAL MAJOR REQUIREMENTS: 21-22

ADDITIONAL DEGREE COMPLETION REQUIREMENTS:

(1) Completion of 60 semester-units or 90 quarter-units that are eligible for transfer to the California State University, including both of the following:

- The Intersegmental General Education Transfer Curriculum (IGETC) or the California State University General Education – Breadth Requirements.
- A minimum of 18 semester-units or 27 quarter-units in a major or area of emphasis, as determined by the community college district.

(2) Obtainment of a minimum grade point average of 2.0.

(3) Also required is that students must earn a “C” or better in all courses required for the major.

MEDICAL ASSISTANT

Cerritos College offers a Certificate of Achievement or an Associate of Arts in Medical Assisting. The student must achieve a grade of “C” or better in all required medical assisting courses to qualify for the Certificate of Achievement and/or Associate of Arts Degree in Medical Assisting. Twelve units of the Medical Assistant program must have been taken within the last five (5) years. Upon successful completion of program requirements, the student is eligible for a Cerritos College Medical Assistant pin.

1. Medical Assistant Certificate of Achievement
The Medical Assistant Program may be completed in two semesters when started in the fall semester. Both front office (administrative) and back office (clinical) training is available. A clinical lab experience is completed through an internship or occupational work experience.
2. Medical Assistant Associate in Arts Degree
The student must complete the requirements for a Certificate of Achievement in Medical Assisting and A&P 120, electives, and General Education requirements to achieve a minimum of 60 units.

Full-time students can complete this program in two semesters when starting with the fall semester. Discussion with the department chair regarding questions on course selection is encouraged.

Course selection for a full-time student starting in the fall semester is recommended as follows:

FALL: MA 60, MA 63, MA 64, MA 161, HO 53, HO 54, HO 55 (elective from list).

SPRING: MA 66, MA 67, MA 68 or MA 73 or MA 74, PSYC 101 or PSYC 150, or equivalent, and additional electives if needed.

Full-time students starting in the spring semester are advised to consult with the program chairperson regarding course selection(s).

The program is designed to help meet the needs of the part-time student as well. Course selection in numerical order is advised. Again, consult with the program chair regarding specific course selection questions. Some classes are offered in specific semesters and efficient planning is necessary.

PROGRAM REQUIREMENTS

Academic Requirement

The student may obtain a Certificate of Achievement or an Associate in Arts in Medical Assisting. The student must achieve a grade of “C” or better in required medical assisting and General Education course work. (Twelve units of the Medical Assistant program must have been taken within the last five (5) years.) MA 67 and MA 68 have prerequisite courses, which must be completed with a grade of “C” or higher.

Program Progression/Completion

Successful completion of all levels of course work is necessary for completion of and graduation from the program of study. In order to complete the program, the student must maintain a grade of “C” or higher whether enrolled in combined lecture/lab courses, practicums, or clinical experiences. When content is tiered, each level must be completed according to identified criteria.

Upon successful completion of all program requirements, students are eligible to receive either the Certificate and/or Associate in Art degree.

Expenses

- A. See the college catalog for enrollment fees.
- B. The student may expect to spend approximately \$600 for books, equipment (including watch with a second hand), and uniforms. Health screening will be at the student’s expense. This may include but is not limited to immunizations and CPR/First Aid certification completed at private agencies. Students are responsible for their own living accommodations, uniform laundry, and transportation to selected clinics.

Essential requirements for the Medical Assistant Program

Technical Standards/Essential Functions are available for you review on the program’s website. They have been designed to give you more information about the profession and important skills/functions. This information will be helpful to assist you in deciding on your career path.

Health

Employment in this field requires good vision, hearing, and the ability to communicate verbally, nonverbally and through written word. In addition, students must have the ability to comprehend, analyze, and evaluate patients’ charts in order to provide appropriate treatment. Students must be able to record in the patients’ charts and have the manual dexterity to use small instruments to provide patient care. The student must be able to work as a team player and demonstrate efficient customer service skills.

Curriculum and Requirements for Majors and Certificates

Internship and Occupational Work Experience

Health clearance requirements will vary depending on where clinical lab experiences will be completed (MA 68, MA 73, MA 74). To be placed in a health care facility where direct patient contact will occur (MA 68, MA 73, MA 74), the student must present evidence of compliance with facility health standards and current certification in CPR and First Aid training. The health standards will include, but are not limited to, T.B. testing and immunization. The Medical Assistant Program Record of Immunizations, Vaccination, and Test forms (located in HS 106) must be completed before the first class session and prior to placement in the health care facility. Health clearance, CPR and First Aid requirements must be valid for the duration of the clinical affiliation. Student placements are predominately during the day hours.

CRIMINAL BACKGROUND CHECKS

Clearance of a criminal background check may be required prior to internship/work experience placement. Students who do not clear agency requirements are not eligible for clinical placement and will, consequently, be ineligible to continue in the course. If there is any concern regarding clearance of a criminal background check, please contact the Health Occupations Division for additional information.

MEDICAL ASSISTANT

CERTIFICATE OF ACHIEVEMENT		UNITS
HO 53	Electrocardiography	1
HO 54	Medical Laboratory Skills	1
HO 55	Phlebotomy Procedures	1.5
MA 60	Introduction to Medical Assisting	2
MA 63	Health Insurance Coding and Billing	3
MA 64	Medical Office Assisting	3
MA 66	Medications and Specialties	3
MA 67	Medical Office Administration	3
*MA 68	Medical Assisting Internship Experience	4
or *MA 73	Medical Assisting Occupational Work Experience	(3)
or *MA 74	Medical Assisting Occupational Work Experience	(4)
MA 161	Medical Terminology	3

PSYCHOLOGY

PSYC 101	General Introductory Psychology	3
or PSYC 150	Personal and Social Adjustment	(3)

And classes from the list below to complete a minimum of 29 Units

BCOT 114	Introduction to Microsoft Office	3.5
CIS 101	Introduction to Computer Information Systems	3
HO 150	Professional/CPR and First Aid (Fall semester only)	1.5
HO 152	Nutrition	3
SPAN 223	Spanish for Health and Medical Careers (or an equivalent)	3

TOTAL CERTIFICATE REQUIREMENTS (29)31

*Students may select one of these options to complete the medical assisting internship requirement. Only one option can be selected and the course may not be repeated more than one time.

Students not currently employed in a medical office should enroll in MA 68. Students who are currently employed in a medical office up to 19 hours per week should enroll in MA 73. Students who are currently employed in a medical office more than 20 hours per week should enroll in MA 74.

ASSOCIATE IN ARTS DEGREE REQUIREMENTS

For an Associate in Arts Degree a student must meet the requirements for a Certificate of Achievement in Medical Assisting. The student must take A&P 120, electives and General Education requirements to achieve a minimum of 60 units. See Cerritos College Graduation Requirements.

CAREER OPPORTUNITIES: Upon completion of program, employment is available as a medical assistant in a variety of settings: office clinic, hospitals, insurance companies, government agencies, pharmaceutical companies, and educational institutions. Job duties can entail front office (administrative) duties such as receptionist and insurance clerk to back office (clinical) duties such as assisting the provider of care of lab duties.

MENTAL HEALTH WORKER

CERTIFICATE OF ACHIEVEMENT MAJOR REQUIREMENTS

MENTAL HEALTH WORKER CORE COURSES		UNITS
INST 151	Principles of Recovery and Psychosocial Rehabilitation	3
INST 152	Helping Relationships	3
INST 272	Special Populations	3
PSYC 101	General Introductory Psychology	3
PSYC 271	Abnormal Psychology	3
PSYC 273	Mental Health Worker Field Experience	3
TOTAL CERTIFICATE REQUIREMENTS		18

RECOMMENDED COURSES (MUST TAKE 6 UNITS)

PSYC 103	Critical Thinking in Psychology	3
PSYC 150	Personal and Social Adjustment	3
PSYC 210	Elementary Statistics	4
PSYC 220	Research Methods	4
PSYC 241	Introduction to Psychobiology	3
PSYC 245	Drugs and Behavior	3
PSYC 251	Developmental Psychology	3
PSYC 261	Social Psychology	3

ASSOCIATES IN ARTS DEGREE REQUIREMENTS

A minimum of 60 units must be completed to include: the core courses listed above, A.A. Degree general requirements, and at least six units of recommended courses.

NOTE: Although all of these courses are transferable to transfer as a Psychology Major refer to Psychology Transfer Major Requirements.

MICROBIOLOGY

ASSOCIATE OF ARTS DEGREE

REQUIRED COURSES		UNITS
BIOL 200	Principles of Biology	5
BIOL 201	Principles of Biology	5
CHEM 111	General Chemistry	5
CHEM 112	General Chemistry	5
MICR 200	Principles and Applications of Microbiology	5
TOTAL ASSOCIATE OF ARTS DEGREE REQUIREMENTS		25

Curriculum and Requirements for Majors and Certificates

ADDITIONAL DEGREE REQUIREMENTS:

Completion of a minimum of 60 semester units to include (1) the courses listed above, (2) the AA degree general education requirements, and (3) a grade of "C" or better in all courses required by major.

MUSIC

MUSIC

ASSOCIATE IN ARTS DEGREE IN MUSIC FOR TRANSFER (AA-T)

REQUIRED CORE: (16 Units)

	UNITS
MUS 180 Music Theory/Musicianship I	4
MUS 181 Music Theory/Musicianship II	4
MUS 280 Music Theory/Musicianship III	4
MUS 281 Music Theory/Musicianship IV	4

APPLIED MUSIC

(a combination of 4 units from the following courses)
(all courses are repeatable)

MUS 148 Private Study/Technique	(1)
MUS 149 Private Study/Musical Preparation	(1)
MUS 150 Private Study/Performance Practice	(1)
MUS 151 Private Study/Recital Preparation	(1)

ENSEMBLE

(a combination of 4 units from the following courses)
(all courses are repeatable)

MUS 200E Beginning Band	(1)
MUS 201E Concert Band	(1)
MUS 202E Community Symphonic Band	(1)
MUS 203E Community Band	(1)
MUS 204E Orchestra	(1)
MUS 205E Community Orchestra	(1)
MUS 206E Stage Band	(1)
MUS 207E Jazz Ensemble	(1)
MUS 208E Pop/Rock Latin Ensemble	(1)
MUS 209E Pep Band	(1)
MUS 210E String Ensemble	(1)
MUS 216E Piano Ensemble	(1)
MUS 217E Guitar Ensemble	(1)
MUS 218E Community Chorus	(1)
MUS 219E Collegiate Chorale	(1)

TOTAL UNITS FOR THE MAJOR ARTS IN MUSIC 23

ASSOCIATE IN ARTS IN MUSIC FOR TRANSFER REQUIREMENTS

Complete the following (1) 60 semester or 90 quarter CSU – transferable units (2) The California State University-General Education-Breadth pattern (CSU GE-Breadth); or the Intersegmental General Education Transfer Curriculum (IGETC) pattern (3) A minimum of 18 semester or 27 quarter units in the major or area of emphasis as determined by the community college district (4) Obtainment of a minimum grade point average (GPA) of 2.0 (5) Earn a grade of "C" or better in all courses required for the major or area of emphasis.

MUSIC – GENERAL

ASSOCIATE IN ARTS DEGREE REQUIREMENTS

Theory, private study/recital, and performance classes are required each semester of full-time program (4 semesters). Placement in the appropriate level of theory and private study is made by the Music Department.

REQUIRED CORE MUSIC COURSES

	UNITS
MUS 100 Music Appreciation	3
MUS 180 Music Theory/Musicianship I	4
or MUS 106 Music Theory/Musicianship I	(5)
MUS 181 Music Theory/Musicianship II	4
or MUS 107 Music Theory/Musicianship II	(5)
MUS 112 Elementary Piano I	2
MUS 113 Elementary Piano II	2
MUS 114 Intermediate Piano I	2
MUS 115 Intermediate Piano II	2
MUS 148 Private Study/Technique	1
MUS 149 Private Study/Musical Preparation	1
MUS 150 Private Study/Performance Practice	1
MUS 151 Private Study/Recital Preparation	1
MUS 280 Music Theory/Musicianship III	4
or MUS 108 Music Theory/Musicianship III	(5)
MUS 281 Music Theory/Musicianship IV	3
or MUS 109 Music Theory/Musicianship IV	(5)
Corequisite: Music Ensemble Course	4
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TOTAL UNITS	34-39

REQUIRED DEPARTMENT MUSIC COURSES (SELECT 3 UNITS)

MUS 101 Introduction to World Music	3
MUS 102 Latino Music	3
MUS 103 Jazz in America	3
MUS 104 American Popular Music	3
MUS 104B History of Rock Music	3

Any course not used as the required Department course may be used as an elective.

ELECTIVE MUSIC COURSES (SELECT 8 UNITS)

MUS 105 Music Fundamentals	3
MUS 110 Music Technology Fundamentals	3
MUS 116 Voice I	2
MUS 117 Voice II	2
MUS 118 Voice III	2
MUS 119 Voice IV	2
MUS 120 Elementary Guitar I	2
MUS 121 Elementary Guitar II	2
MUS 122 Intermediate Guitar I	2
MUS 123 Intermediate Guitar II	2
MUS 200E Beginning Band	1
or MUS 124A Beginning Band	(2.5)
MUS 201E Concert Band	1
or MUS 124 Concert Band	(2.5)
MUS 202E Community Symphonic Band	1
or MUS 125 Community Symphonic Band	(2.5)
MUS 203E Community Band	1
or MUS 125A Community Band	(2.5)
MUS 204E Orchestra	1
or MUS 127 Orchestra	(2.5)

Curriculum and Requirements for Majors and Certificates

MUSIC ENSEMBLE

MUS 205E	Community Orchestra	1
or MUS 128	Community Orchestra	(2.5)
MUS 206E	Stage Band	1
or MUS 133	Stage Band	(2.5)
MUS 207E	Jazz Ensemble	1
or MUS 134	Jazz Ensemble	(2.5)
MUS 208E	Pop/Rock Latin Ensemble	1
or MUS 141	Pop/Rock Ensemble	(2.5)
MUS 209E	Pep Band	1
or MUS 126	Pep Band	(2.5)
MUS 210E	String Ensemble	1
or MUS 136	String Ensemble	(1.5)
MUS 211E	Woodwind Ensemble	1
or MUS 129	Woodwind Ensemble	(1.5)
MUS 213E	Percussion Ensemble	1
or MUS 131	Percussion Ensemble	(1.5)
MUS 216E	Piano Ensemble	1
or MUS 154	Piano Ensemble	(1.5)
MUS 217E	Guitar Ensemble	1
or MUS 132	Guitar Ensemble	(2.5)
MUS 218E	Community Chorus	1
or MUS 138	Community Chorus	(2.5)
MUS 219E	Collegiate Chorale	1
or MUS 138A	Collegiate Chorale	(2.5)
TOTAL MAJOR REQUIREMENTS		45-50

ASSOCIATE IN ARTS IN GENERAL MUSIC DEGREE REQUIREMENTS

1. Completion of 45-50 units in the major
2. The Cerritos College Associate in Arts General Education Requirements
3. Obtainment of a minimum grade point average of 2.0.
4. Students must also earn a C or better in all courses required for the major.

COMMERCIAL MUSIC

ASSOCIATE IN ARTS DEGREE

REQUIRED CORE

MUS 104B	History of Rock Music	3
MUS 110	Music Technology Fundamentals	3
MUS 112	Elementary Piano I	2
MUS 135	This Business of Music	3
MUS 144A	Electronic Synthesizer I	2
MUS 144B	Electronic Music Production	2
MUS 146A	Recording Techniques	2
MUS 180	Music Theory/Musicianship I	4
MUS 181	Music Theory/Musicianship II	4
	*Music Electives	6
TOTAL UNITS		31

*Music Electives: MUS 100, 101, 102, 103, 104, 104B, 105, 108, 109, 114, 115, 118, 119, 140, 142, 201E, 202E, 203E, 204E, 205E, 206E, 207E, 208E, 209E, 210E, 211E, 212E, 213E, 216E, 217E, 218E, or 219E.

ASSOCIATE IN ARTS DEGREE REQUIREMENTS:

Meet the requirements for an Associate in Arts in Music: Commercial Music by:

1. Completion of 60 semester units that are eligible for transfer to the California State University, including both of the following:
 - a. Cerritos College General Education Breadth Requirements (Plan A), or The California State University General Education-

Breadth Requirements (Plan B), or the Intersegmental General Education Transfer Curriculum (IGETC) (Plan C).

- b. Obtainment of a minimum grade point average of 2.0.
2. Also required is that students must earn a "C" or better in all courses required for the major.

RECOMMENDATIONS:

- 1) Students should strongly consider taking MUS 105, Music Fundamentals, as part of their General Education requirements

COMMERCIAL MUSIC PRODUCTION

CERTIFICATE OF ACHIEVEMENT

REQUIRED COURSES:

	UNITS	
MUS 110	Music Technology Fundamentals	3
MUS 112	Elementary Piano I	2
MUS 113	Elementary Piano II	2
MUS 135	This Business of Music	3
MUS 144A	Synthesizer Techniques	2
MUS 144B	Electronic Music Production	2
MUS 146A	Recording Techniques	2
MUS 146B	Mixing Techniques	2.5
MUS 155	Music Entrepreneurship	3
MUS 156	Contemporary Music Notation	2.5
MUS 171	Occupational Work Experience in Music	1
MUS 180	Music Theory/Musicianship I	4
MUS 181	Music Theory/Musicianship II	4
MUS 244A	Audio for Film, TV, and Games	2.5
MUS 245A	Music for Film, TV, and Games	2.5

TOTAL UNITS 38

NATURAL SCIENCES – GENERAL

ASSOCIATE IN ARTS DEGREE

In order to qualify for an A.A. Degree in Natural Sciences - General, the following requirements must be met:

1. Completion of the AA degree general education and proficiency requirements;
2. Completion of a minimum of 60 degree-applicable units;
3. Choose at least 4 units from section A, at least 4 units from section B, and at least 3 units from section C;
4. Completion of another 7 units of science-related coursework from any section below, for a combined total of at least 18 units of science-related coursework.

A. Courses in the Physical Sciences

(Choose at least 4 units)

	UNITS	
ASTR 102	Introductory Astronomy: Stars and the Universe	3
ASTR 103	Introductory Astronomy: The Solar System	3
ASTR 104	Life in the Universe	3
ASTR 105L	Observational Astronomy	1
ASTR 106	History of Astronomy	3
CHEM 100	Introductory Chemistry	4
CHEM 105	Chemistry for Elementary School Teachers	1.5
CHEM 110	Elementary Chemistry	4
CHEM 111	General Chemistry	5
CHEM 112	General Chemistry	5
CHEM 211	Organic Chemistry	5

Curriculum and Requirements for Majors and Certificates

CHEM 212	Organic Chemistry	5	MATH 140	Trigonometry	3
ESCI 101	Physical Ecology	3	MATH 155	Precalculus	5
ESCI 102	Physical Ecology Field Laboratory	1	MATH 170	Analytic Geometry and Calculus I	4
ESCI 104	Oceanography	3	MATH 190	Analytic Geometry and Calculus II	4
ESCI 104L	Oceanography Laboratory	1	MATH 220	Analytic Geometry and Calculus III	4
ESCI 106	Weather and Climate	3	MATH 240	Calculus and Differential Equations	4
ESCI 110	Introduction to Earth Science	4	MATH 250	Linear Algebra and Differential Equations	5
GEOG 101	Physical Geography	3	PSYC 210	Elementary Statistics	4
GEOG 101L	Physical Geography Laboratory	1			—
GEOG 103	Environmental Geography	3		TOTAL ASSOCIATE OF ARTS DEGREE REQUIREMENTS	18
GEOG 140	California Geography	3			
GEOG 160	Field Studies in Geography	2		See Cerritos College Graduation Requirements.	
GEOL 100	Natural History of Southern California	1			
GEOL 101	Physical Geology	4			
GEOL 102	Physical Geology Lecture	3			
GEOL 102L	Physical Geology Laboratory	1			
GEOL 105L	Field Methods of the Earth Sciences	1			
GEOL 120	Natural History of Owens Valley and the Sierra Nevada Mountains	1			
GEOL 201	Earth History	4			
GEOL 204	Geology of the Western National Parks and Monuments	3			
GEOL 207	Paleontology, Life of the Past	4			
GEOL 208	The Age of the Dinosaurs	3			
GEOL 209	Natural Disasters	3			
PHYS 100	Elementary Physics	4			
PHYS 101	General Physics	4			
PHYS 102	General Physics	4			
PHYS 201	Engineering Physics	4			
PHYS 202	Engineering Physics	4			
PHYS 203	Engineering Physics	4			
PS 100	Physical Science of Modern Technology	3			
PS 112	Physical Science for Elementary School Teachers	3			

B. Courses In The Biological Sciences

(Choose at least 4 units)

		UNITS
A&P 120	Introduction to Human Anatomy and Physiology	4
A&P 150	Introduction to Human Anatomy	4
A&P 151	Introduction to Human Physiology	4
A&P 200	Human Anatomy	5
A&P 201	Human Physiology	5
ANTH 115	Physical Anthropology	3
ANTH 115L	Introduction to Physical Anthropology Lab	1
BIOL 115	Marine Biology	3
BIOL 120	Introduction to Biological Science	4
BIOL 200	Principles of Biology	5
BIOL 201	Principles of Biology	5
BIOL 202	Molecular Biology/Genetics	4
BOT 120	Introduction to Plant Science	4
MICR 200	Principles and Applications of Microbiology	5
PSYC 241	Introduction to Psychobiology	3
ZOOL 120	Introduction to Animal Biology	4

C. Courses In Mathematics

(Choose at least 3 units)

		UNITS
MATH 105	Activity-Based Probability and Statistics for Elementary and Middle School Teachers	3
MATH 110A	Mathematics for Elementary Teachers	3
MATH 110B	Mathematics for Elementary Teachers	3
MATH 112	Elementary Statistics	4
MATH 114	College Algebra	4
MATH 115	Finite Mathematics	4
MATH 116	Calculus for Managerial, Biological, and Social Sciences	4

PROGRAM REQUIREMENTS

NPD 100	Product Development in a Global Economy	3
NPD 101	Innovation Using Rapid Prototyping	3
NPD 103	Advanced Tooling and Materials for New Product Development	3
NPD 105	Mechatronics Integration in New Product Development	3
AUTO 100 or AB 51	Automotive Maintenance and Operation	4
NPD 108	Non-Structural Repair	(4.5)
	Human Man Interfaces in New Product Development	2
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18 (18.5)

ASSOCIATE IN SCIENCE DEGREE REQUIREMENTS

Completion of a minimum of 60 semester units to include (1) the courses listed above, (2) the associate in science degree general education requirements, and (3) a grade of "C" or better in all courses required by major.

CAREER OPPORTUNITIES: Design Modeler, Automotive Stylist, Fabrication Craftsman