

# Diesel Technology

	Units
<b>Certificate of Performance:</b>	
Diesel Fuel Injection Systems	7
Steering, Suspension, & Drivelines	7
Truck & Equipment Electrical Systems	8
Truck Air Brake Systems	7
Truck Drive Axles	7
Truck Transmissions & Clutches	13
<b>Certificate of Achievement:</b>	
Diesel Equipment Repair Technology (Evening Program)	32
Engine Overhaul, Caterpillar	18
Engine Overhaul, Cummins	18
Engine Overhaul, Detroit Diesel	18
Engine Repair, Caterpillar	19
Engine Repair, Cummins	19
Engine Repair, Detroit Diesel	19
Heavy Duty Transportation Technology— (HDDT) (Day Program)	47
Heavy Equipment Technology (HET)—(Day Program)	44
San Diego City Civil Service Equipment Mechanic Apprenticeship	42
<b>Associate in Science Degree:</b>	
Heavy Duty Transportation Technology— (HDDT) (Day Program)	47*
Heavy Equipment Technology (HET)—(Day Program)	44*
San Diego City Civil Service Equipment Mechanic Apprenticeship	42*
*and electives as needed to meet minimum of 60 units required for the degree.	

## Description

The diesel technology program provides the student with an opportunity to master the skills and knowledge required for success in servicing and maintaining diesel powered highway trucks, off-road heavy equipment, stationary engines, and marine

craft. The two-year curriculum has three tracts which lead to a Certificate of Achievement, and three tracts which lead to an Associate in Science degree. In addition, the diesel program offers the Certificate of Performance in ten specialty areas. These certificates can be applied toward the Certificate of Achievement or the Associate in Science degree.

## Program Learning Outcomes

The program is designed to prepare students for entry level employment as service technicians in the diesel powered equipment industry. Shop work is conducted in a manner consistent with industry standards regarding safety and hazardous material handling, shop organization and operation, use of hand and power tools, use of shop equipment, and the use of shop supplies and hardware. Hands-on experience is stressed, however, this is enriched with in-depth classroom instruction concerning theory of operation, service procedures, special tools, and troubleshooting. All classes emphasize critical thinking.

## Student Learning Outcomes

Students who complete the Diesel Technology Program will be able to:

- Accurately diagnose and repair heavy duty vehicle systems and components using a variety of tools, equipment, and instruments;
- Identify workplace health and safety compliance using regulations published by the Occupational Safety and Health Administration, and the Environmental Protection Agency;
- Research heavy duty vehicle repair data, instructions, and specifications using printed material as well as computer data base systems.

Students will be assessed through a combination of performance evaluations, written assignments, and written tests and quizzes.

Faculty	Office	Telephone
Gene Choe	C-122	619-388-7526
Dan Willkie	C-122	619-388-7527

## Career Options

Employment may be found as a heavy-duty truck technician, heavy-equipment technician, power generation technician, and marine engine technician. Diesel technicians are employed by truck dealerships, heavy equipment dealerships, engine companies, equipment rental companies, trucking companies, truck leasing companies, bus companies, railroad companies, and independent engine and component rebuilding companies. Diesel technicians find

employment in local, state, and national government agencies, boatyards and shipyards, construction, mining, agriculture, power generation, oil fields, off-shore drilling, and stand-by emergency power.

### Academic Programs

The certificates of performance, certificates of achievement, and associate degrees require completion of the courses listed below.

#### Certificate of Performance: Diesel Fuel Injection Systems\*

Courses:	Units
DIES 100, Introduction to Diesel Technology.....	2
DIES 137, Diesel Fuel Injection Systems.....	2
DIES 144, Electronics for Diesel Technology.....	3
<b>Total Units = 7</b>	

#### Certificate of Performance: Steering, Suspension, and Drivelines\*

Courses:	Units
DIES 100, Introduction to Diesel Technology.....	2
DIES 105, Measuring Tools & Applied Mathematics ...	2
DIES 180, Steering, Suspension & Driveline Systems .....	3
<b>Total Units = 7</b>	

#### Certificate of Performance: Truck & Equipment Electrical Systems\*

Courses:	Units
DIES 100, Introduction to Diesel Technology.....	2
DIES 138, Electrical Systems .....	3
DIES 144, Electronics for Diesel Technology.....	3
<b>Total Units = 8</b>	

#### Certificate of Performance: Truck Air Brake Systems\*

Courses:	Units
DIES 100, Introduction to Diesel Technology.....	2
DIES 105, Measuring Tools & Applied Mathematics ...	2
DIES 155, Air Brake Systems.....	3
<b>Total Units = 7</b>	

#### Certificate of Performance: Truck Drive Axles\*

Courses:	Units
DIES 100, Introduction to Diesel Technology .....	2
DIES 105, Measuring Tools & Applied Mathematics...	2
DIES 170, Truck Drive Axles and Specifications.....	3
<b>Total Units = 7</b>	

#### Certificate of Performance: Truck Transmissions and Clutches\*

Courses:	Units
DIES 100, Introduction to Diesel Technology .....	2
DIES 105, Measuring Tools & Applied Mathematics...	2
DIES 160, H.D. Transmissions .....	3
DIES 165, Truck Automatic Transmissions.....	3
DIES 175, Truck Chassis R&R.....	3
<b>Total Units = 13</b>	

\*These are departmental awards in recognition of information on the transcript and does not imply that a graduation requirement has been met.

#### Certificate of Achievement: Diesel Technology

##### Diesel Equipment Repair Technology (Evening Program)

Courses Required for the Major:	Units
DIES 100, Introduction to Diesel Technology .....	2
DIES 105, Measuring Tools & Applied Mathematics...	2
DIES 135, Applied Failure Analysis.....	3
DIES 137, Diesel Fuel Injection Systems.....	2
DIES 138, Electrical Systems.....	3
DIES 144, Electronics for Diesel Technology .....	3
DIES 155, Air Brake Systems .....	3
DIES 160, H.D. Transmissions .....	3
DIES 170, Truck Drive Axles and Specifications.....	3

##### Select two courses from:

DIES 125, Diesel Engines I	
DIES 126, Diesel Engines II	
DIES 128, Diesel Engines III.....	8
<b>Total Units = 32</b>	

#### Certificate of Achievement: Diesel Technology

##### Engine Overhaul, Caterpillar

Courses Required for the Major:	Units
DIES 100, Introduction to Diesel Technology .....	2
DIES 105, Measuring Tools & Applied Mathematics...	2
DIES 122, Diesel Engines B.....	7
DIES 123, Diesel Engines C .....	2

DIES 135, Applied Failure Analysis .....	3
DIES 137, Diesel Fuel Injection Systems .....	2
<b>Total Units = 18</b>	

**Certificate of Achievement:  
Diesel Technology**

**Engine Overhaul, Cummins**

<b>Courses Required for the Major:</b>	<b>Units</b>
DIES 100, Introduction to Diesel Technology .....	2
DIES 105, Measuring Tools & Applied Mathematics ...	2
DIES 123, Diesel Engines C .....	2
DIES 124, Diesel Engines D .....	7
DIES 135, Applied Failure Analysis .....	3
DIES 137, Diesel Fuel Injection Systems .....	2
<b>Total Units = 18</b>	

**Certificate of Achievement:  
Diesel Technology**

**Engine Overhaul, Detroit Diesel**

<b>Courses Required for the Major:</b>	<b>Units</b>
DIES 100, Introduction to Diesel Technology .....	2
DIES 105, Measuring Tools & Applied Mathematics ...	2
DIES 121, Diesel Engines A .....	7
DIES 123, Diesel Engines C .....	2
DIES 135, Applied Failure Analysis .....	3
DIES 137, Diesel Fuel Injection Systems .....	2
<b>Total Units = 18</b>	

**Certificate of Achievement:  
Diesel Technology**

**Engine Repair, Caterpillar**

<b>Courses Required for the Major:</b>	<b>Units</b>
DIES 100, Introduction to Diesel Technology .....	2
DIES 105, Measuring Tools & Applied Mathematics ...	2
DIES 126, Diesel Engines II .....	4
DIES 135, Applied Failure Analysis .....	3
DIES 137, Diesel Fuel Injection Systems .....	2
DIES 138, Electrical Systems .....	3
DIES 144, Electronics for Diesel Technology .....	3
<b>Total Units = 19</b>	

**Certificate of Achievement:  
Diesel Technology**

**Engine Repair, Cummins**

<b>Courses Required for the Major:</b>	<b>Units</b>
DIES 100, Introduction to Diesel Technology .....	2

DIES 105, Measuring Tools & Applied Mathematics...	2
DIES 128, Diesel Engines III .....	4
DIES 135, Applied Failure Analysis .....	3
DIES 137, Diesel Fuel Injection Systems .....	2
DIES 138, Electrical Systems .....	3
DIES 144, Electronics for Diesel Technology .....	3
<b>Total Units = 19</b>	

**Certificate of Achievement:  
Diesel Technology**

**Engine Repair, Detroit Diesel**

<b>Courses Required for the Major:</b>	<b>Units</b>
DIES 100, Introduction to Diesel Technology .....	2
DIES 105, Measuring Tools & Applied Mathematics ...	2
DIES 125, Diesel Engines I .....	4
DIES 135, Applied Failure Analysis .....	3
DIES 137, Diesel Fuel Injection Systems .....	2
DIES 138, Electrical Systems .....	3
DIES 144, Electronics for Diesel Technology .....	3
<b>Total Units = 19</b>	

**Certificate of Achievement:  
Diesel Technology**

**Heavy Duty Transportation Technology  
(HDTT) (Day Program)**

<b>Courses Required for the Major:</b>	<b>Units</b>
DIES 100, Introduction to Diesel Technology .....	2
DIES 105, Measuring Tools & Applied Mathematics ...	2
DIES 123, Diesel Engines C .....	2
DIES 138, Electrical Systems .....	3
DIES 144, Electronics for Diesel Technology .....	3
DIES 155, Air Brake Systems .....	3
DIES 160, H.D. Transmissions <b>and</b>	
DIES 175, Truck Chassis R&R <b>or</b>	
DIES 185, Power Trains A (HDT) .....	6
DIES 165, Truck Automatic Transmissions <b>and</b>	
DIES 200 Mobile Hydraulic Systems <b>or</b>	
DIES 190, Power Trains B (HDT) .....	6
DIES 170, Truck Drive Axles and Specifications .....	3
DIES 180, Steering, Suspension and Driveline Systems .....	3
<b>Select two courses from:</b>	
DIES 121, Diesel Engines A	
DIES 122, Diesel Engines B	
DIES 124, Diesel Engines D .....	14
<b>Total Units = 47</b>	

Note: Students may take DIES 185 (6 units) in place of DIES 160 & 175; and students may take DIES 190 (6 units) in place of DIES 165 & 200.

## Certificate of Achievement: Diesel Technology

### Heavy Equipment Technology (HET) (Day Program)

Courses Required for the Major:	Units
DIES 100, Introduction to Diesel Technology.....	2
DIES 105, Measuring Tools & Applied Mathematics ...	2
DIES 123, Diesel Engines C.....	2
DIES 138, Electrical Systems .....	3
DIES 144, Electronics for Diesel Technology.....	3
DIES 160, H.D. Transmissions <b>and</b>	
DIES 240, Equipment Chassis R&R <b>or</b>	
DIES 235, Power Trains C (HET).....	6
DIES 200 Mobile Hydraulic Systems <b>and</b>	
DIES 230, Heavy Equipment Transmissions <b>or</b>	
DIES 245, Power Trains D (HET) .....	6
DIES 210, Breaks, Final Drives and Steering	
Systems .....	3
DIES 220, Undercarriage .....	3
<b>Select two courses from:</b>	
DIES 121, Diesel Engines A	
DIES 122, Diesel Engines B	
DIES 124, Diesel Engines D.....	14
<b>Total Units = 44</b>	

Note: Students may take DIES 235 (6 units) in place of DIES 160 & 240; and students may take DIES 245 (6 units) in place of DIES 200 & 230.

## Associate in Science Degree: Diesel Technology

### Heavy Duty Transportation Technology (HDTT) (Day Program)

Courses Required for the Major:	Units
DIES 100, Introduction to Diesel Technology.....	2
DIES 105, Measuring Tools & Applied Mathematics ...	2
DIES 123, Diesel Engines C.....	2
DIES 138, Electrical Systems .....	3
DIES 144, Electronics for Diesel Technology.....	3
DIES 155, Air Brake Systems.....	3
DIES 160, H.D. Transmissions <b>and</b>	
DIES 175, Truck Chassis R&R <b>or</b>	
DIES 185, Power Trains A (HDT).....	6
DIES 165, Truck Automatic Transmissions <b>and</b>	
DIES 200 Mobile Hydraulic Systems <b>or</b>	
DIES 190, Power Trains B (HDT) .....	6
DIES 170, Truck Drive Axles and Specifications .....	3
DIES 180, Steering, Suspension and Driveline	
Systems .....	3

**Select two courses from:**

DIES 121, Diesel Engines A	
DIES 122, Diesel Engines B	
DIES 124, Diesel Engines D .....	14
<b>Total Units = 47</b>	

Note: Students may take DIES 185 (6 units) in place of DIES 160 & 175; and students may take DIES 190 (6 units) in place of DIES 165 and 200.

For graduation requirements see **Associate Degree Requirements** on page 67.

Electives as needed to meet minimum of 60 units required for the degree:

**Recommended Electives:** Diesel Technology 90, 121, 122, 125, 126, 128, 135, 137, 137A, 160, 165, 175, 185, 190, 200, 210, 220, 230, 235, 240, 245, 270; Computer Business Technology 103.

## Associate in Science Degree: Diesel Technology

### Heavy Equipment Technology (HET) (Day Program)

Courses Required for the Major:	Units
DIES 100, Introduction to Diesel Technology .....	2
DIES 105, Measuring Tools & Applied Mathematics...2	2
DIES 123, Diesel Engines C .....	2
DIES 138, Electrical Systems.....	3
DIES 144, Electronics for Diesel Technology .....	3
DIES 160, H.D. Transmissions <b>and</b>	
DIES 240, Equipment Chassis R&R <b>or</b>	
DIES 235, Power Trains C (HET) .....	6
DIES 200 Mobile Hydraulic Systems <b>and</b>	
DIES 230, Heavy Equipment Transmissions <b>or</b>	
DIES 245, Power Trains D (HET).....	6
DIES 210, Breaks, Final Drives and Steering	
Systems.....	3
DIES 220, Undercarriage.....	3
<b>Select two courses from:</b>	
DIES 121, Diesel Engines A	
DIES 122, Diesel Engines B	
DIES 124, Diesel Engines D .....	14
<b>Total Units = 44</b>	

**Select two courses from:**

DIES 121, Diesel Engines A	
DIES 122, Diesel Engines B	
DIES 124, Diesel Engines D .....	14
<b>Total Units = 44</b>	

Note: Students may take DIES 235 (6 units) in place of DIES 160 & 240; and students may take DIES 245 (6 units) in place of DIES 200 and 230.

For graduation requirements see **Associate Degree Requirements** on page 67.

Electives as needed to meet minimum of 60 units required for the degree:

**Recommended Electives:** Diesel Technology 90, 121, 122, 125, 126, 128, 135, 137, 137A, 155, 160, 165, 170, 175, 180, 185, 190, 200, 210, 220, 230, 235, 240, 245, 270; Computer Business Technology 103.

## San Diego City Civil Service Equipment Mechanic Apprenticeship

A four-year apprenticeship program in equipment mechanic trades at the City of San Diego. Applications accepted at the City Administration Building, Community Concourse, 202 C Street, San Diego, CA 92101.

### Certificate of Achievement: San Diego City Civil Service Equipment Mechanic Apprenticeship

Courses Required for the Major:	Units
AUTO 078, Suspension and Steering Systems .....	4
AUTO 054, Engine and Related Systems .....	3
DIES 100, Introduction to Diesel Tech.....	2
DIES 135, Applied Failure Analysis .....	3
DIES 137, Diesel Fuel Injection Systems.....	2
DIES 138, Electrical Systems .....	3
DIES 155, Air Brake Systems.....	3
DIES 160, H.D. Transmission.....	3
DIES 170, Truck Drive Axles and Specifications.....	3
SDCS 349I, Equipment Mechanic Apprentice Work Experience.....	16
<b>Total Units =</b>	<b>42</b>

### Associate in Science Degree: San Diego City Civil Service Equipment Mechanic Apprenticeship

Courses Required for the Major:	Units
AUTO 078, Suspension and Steering Systems .....	4
AUTO 054, Engine and Related Systems .....	3
DIES 100, Introduction to Diesel Tech.....	2
DIES 135, Applied Failure Analysis .....	3
DIES 137, Diesel Fuel Injection Systems.....	2
DIES 138, Electrical Systems .....	3
DIES 155, Air Brake Systems.....	3
DIES 160, H.D. Transmission.....	3
DIES 170, Truck Drive Axles and Specifications.....	3
SDCS 349I, Equipment Mechanic Apprentice Work Experience.....	16
<b>Total Units =</b>	<b>42</b>

Additional general education and graduation requirements for the associate degree are listed in the

Academic Requirements section of catalog. **The associate degree requires a minimum of 60 units.**

**Recommended Electives:** Diesel Technology 105, 144; Automotive Technology 64, 76, 195.

## Earth Science

See "Physical Science" on page 177.

# Elementary Education

	Units
<b>Associate in Arts Degree:</b>	
Elementary Education	18*
*and electives as needed to meet minimum 60 units required for the degree.	

### Description

The Elementary Education program is designed to prepare students to transfer to a four-year university in an elementary education preparation program such as Liberal Studies. Students usually complete this major with the ultimate goal of earning a Multiple Subject Teaching Credential. Coursework in this program is interdisciplinary in nature, reflecting the variety of subject area knowledge necessary to teach at the elementary level.

### Program Learning Outcomes

The Elementary Education program is designed to prepare students to transfer to a four-year university in an elementary teacher education preparation program.

### Student Learning Outcomes

Students who complete the Elementary Education Program will be able to:

- Demonstrate the knowledge of learning theory with students from diverse backgrounds by planning small group sessions with students in a classroom environment.
- Demonstrate a critical understanding of the current issues and challenges facing educators as

they work in a diverse social and cultural setting with children and families.

Students will be assessed through a combination of performance evaluations, written assignments, and written tests and quizzes.

Faculty	Office	Telephone
Carol Murphy	I-102B	619-388-7691

### Career Options

Careers related to this discipline require education beyond the associate degree level. A bachelor's degree in Liberal Studies or a related major is common preparation for a post-baccalaureate Multiple Subject Teaching Credential program.

### Transfer Information

Common university majors related to the field of Education include: Liberal Studies, Human Development, Interdisciplinary Studies, Teacher Preparation.

### Course Requirements for Transfer Students

Students who plan to transfer to a four-year college or university in this discipline should consult with a counselor or visit the Transfer Center to determine the appropriate major preparation courses for their specific transfer institution and major. Transfer students may also earn an Associate in Arts degree with an area of emphasis in Elementary Education. This degree is designed to accommodate the differing requirements of a wide variety of transfer institutions and major options in order to provide the most efficient path to transfer. More information on transfer programs and procedures is available in the Transfer Guide section of the catalog.

### Associate in Arts Degree: Elementary Education

The Associate in Arts degree with an area of emphasis in Elementary Education is intended for students who plan to complete a bachelor's degree at a transfer institution in preparation for a California Multiple Subject Teaching Credential. Most students pursue this credential with the goal of becoming an elementary school or special education teacher. Common university majors in this field include: Liberal Studies, Human Development, Interdisciplinary Studies, and Teacher Preparation.

This degree is designed to accommodate the differing requirements of a wide variety of transfer institutions and major options. Because admission and major

preparation requirements vary at each transfer institution, courses used to complete this degree should be selected with the assistance of a Miramar College counselor.

### Courses Required for the Major: Units

MATH 210A, Concepts of Elementary School Mathematics I ..... 3

Complete at least one course from the following:

CHIL 101, Human Growth and Development

EDUC 200, Teaching as a Profession

EDUC 203, Service Learning for Prospective Teachers

PHYE 240, Physical Education in the Elementary Schools

MATH 210B, Concepts of Elementary School Mathematics II

MATH 212, Children's Mathematical Thinking ..... 1-13

**Complete at least one course and the remainder of units needed to meet the minimum of 18 from the following:**

ANTH 103, Introduction to Physical Anthropology

ARAB 101, First Course in Arabic

ARAB 102, Second Course in Arabic

ARTF 100, Art Orientation

ARTF 110, Art History

ARTF 111, Art History

ARTF 155A, Freehand Drawing I

ASTR 101, Descriptive Astronomy

ASTR 111, Astronomy Laboratory

BIOL 107, General Biology-Lecture and Laboratory

BIOL 230, Human Anatomy

BIOL 235, Human Physiology

BLAS 140A, History of the U.S., Black Perspectives

BLAS 140B, History of the U.S., Black Perspectives

CHIL 141, The Child, Family and Community

ENGL 101, Reading and Composition

ENGL 105, Composition and Literature

ENGL 205, Critical Thinking and Intermediate Composition

ENGL 208, Introduction to Literature

ENGL 209, Literary Approaches to Film

ENGL 210, American Literature I

ENGL 211, American Literature II

ENGL 215, English Literature I: 800-1799

ENGL 216, English Literature II: 1800-Present

ENGL 220, Masterpieces of World Literature I: 1500 BCE-1600 CE

ENGL 221, Masterpieces of World Literature II: 1600-Present

ENGL 230, Asian American Literature

ENGL 237, Women in Literature

ENGL 249, Introduction to Creative Writing

GEOG 102, Cultural Geography

GEOG 104, World Regional Geography

GEOL 100, General Geology  
 GEOL 101, General Geology Laboratory  
 GEOL 104, Earth Science  
 HEAL 190, Health Education for Teachers  
 HIST 100, World History I  
 HIST 101, World History II  
 HIST 109, History of the United States I  
 HIST 110, History of the United States II  
 HIST 141, Women in United States History I  
 HIST 142, Women in United States History II  
 HIST 150, Native Americans in United States History  
 HIST 151, Native Americans in United States History  
 HUMA 101, Introduction to the Humanities  
 HUMA 102, Introduction to the Humanities II  
 JOUR 202, Introduction to Mass Communication  
 LIBS 101, Information Literacy and Research Skills  
 MATH 150, Calculus with Analytical Geometry I  
 MUSI 100, Introduction to Music  
 MUSI 110, Music for Elementary School Teachers  
 PHIL 100, Logic and Critical Thinking  
 PHIL 102A, Introduction to Philosophy: Reality and Knowledge  
 PHIL 102B, Introduction to Philosophy: Values  
 PHIL 205, Critical Thinking and Writing in Philosophy  
 PHYN 100, Survey of Physical Science  
 PHYN 101, Survey of Physical Science Laboratory  
 PHYN 120, Physical Oceanography  
 POLI 102, The American Political System  
 POLI 103, Comparative Politics  
 PSYC 101, General Psychology  
 PSYC 230, Psychology of Lifespan Development  
 SOCO 101, Principles of Sociology  
 SPAN 101, First Course in Spanish  
 SPAN 102, Second Course in Spanish  
 SPAN 201, Third Course in Spanish  
 SPAN 202, Fourth Course in Spanish  
 SPAN 215, Spanish for Spanish Speakers I  
 SPAN 216, Spanish for Spanish Speakers II  
 SPEE 103, Oral Communication  
 SPEE 135, Interpersonal Communication  
 SPEE 160, Argumentation  
 TAGA 101, First Course in Tagalog  
 TAGA 102, Second Course in Tagalog  
 TAGA 201, Third Course in Tagalog ..... 2-14

**Total Units = 18**

**General Education:** In addition to the courses listed above, students must complete one of the general education options listed on page 67:

- The IGETC pattern (page 89) is accepted by all CSU campuses and most UC campuses and majors. It is also accepted by some private/independent or out of state universities.
- The CSU GE pattern (page 97) is accepted by all CSU campuses and some private/independent or out of state universities. It is not accepted by the UC system.
- The San Diego Community College District General Education pattern (page 71) may be appropriate for students transferring to a private/independent or out of state university or to a high-unit major. Students selecting this option should meet with a counselor to determine the appropriate General Education courses for their individual transfer goals.

It is strongly recommended that students consult with a counselor to determine which general education option is most appropriate for their individual educational goals.

Electives as needed to meet minimum of 60 units required for the degree.

### **Transfer Information**

Students planning to transfer to a four-year college or university should complete courses required for the university major and the general education pattern required by that transfer institution. See catalog TRANSFER INFORMATION section. Additional courses may be required to meet university lower-division requirements. **Course requirements at the transfer institution are subject to change and may be verified by a counselor or by consulting the current university catalog. Many Baccalaureate in Arts degrees require a third semester competency in a foreign language. Consult the current catalog of the transfer institution and consult with a counselor.**

## **Engineering**

(See "Associate in Science Degree: Pre-Engineering Studies" on page 180.)

# English

	Units
<b>Certificate of Performance:</b>	
Advanced ESOL	15
<b>Associate in Arts Degree:</b>	
English	18*
English/Literature Studies	18*
*and electives as needed to meet minimum of 60 units required for the degree	

## Description

The English program provides a breadth of coursework that includes the study of the language and investigation of great works of literature, as well as the development of reading and writing expertise. It is devoted to advancing critical thinking and academic skills in the areas of reading, writing, and English for Speakers of Other Languages (ESOL). In reading, classes focus on vocabulary expansion, comprehension, and methods for long term learning. Writing classes cover grammar, composition, creative writing and research. ESOL classes cover academic English, including four levels of instruction in reading, writing, grammar, speaking, and listening. The English program also offers literature classes in British and American Literature, literature and film, women in literature, and world literature.

## Program Learning Outcomes

The English program serves four areas of study. First, it is designed to prepare students for advanced work in the major, as well as transfer to four-year institutions. For this goal, courses cover the freshmen, and sophomore requirements for English majors, many of the GE requirements, including critical thinking, and preparation for English competency tests. Second, the program supports majors across the entire college curriculum where English is recognized as key to student success and students are advised to have successfully completed English prior to beginning studies in those areas. Third, the program provides the necessary courses for the Associate of Arts Degree.

And fourth, the ESOL program provides training in English language development through the academic study of grammar, writing, listening and speaking, reading, and critical thinking, culminating in the award of an advanced ESOL Certificate of Performance.

## Student Learning Outcomes

Students who complete the English Program will be able to:

- Demonstrate the ability to comprehend information from a variety of texts.
- Integrate logical support, including informed opinion and fact, as well as personal interpretations, to develop complex ideas and opinions
- Organize thoughts and ideas effectively and express them clearly in writing.
- Apply appropriate writing strategies, standard grammar, and conventional academic documentation to writings of various types and purposes.

Students will be assessed through a combination of performance evaluations, written assignments, and written tests and quizzes.

Faculty	Office	Telephone
Allen Andersen	C-202E	619-388-7535
Adrian Arancibia	B-301A	619-388-7421
Clara Blenis	C-202C	619-388-7533
Sheryl Gobble	B-301D	619-388-7428
Rich Halliday	B-403H	619-388-7517
Carmen Jay	C-202B	619-388-7532
Linda Lee	C-202O	619-388-7512
Lisa Munoz	B-302C	619-388-7360
Cheryl Reed	C-202F	619-388-7536
Mark Manasse	B-302C	619-388-7237

## Career Options

English serves as essential preparation for individuals preparing for careers in teaching, law, medicine, and business. For teachers, English provides training in the very skills—reading, writing and thinking—that every student must use at any level and in every field. For law and medicine, English provides solid preparation for the professional tasks of reading comprehension, recognition and recall of ideas and details, and analysis of cases. For those who seek a career in business, English provides the thinking, writing, and analytical skills private industry is seeking and that small business success depends on. In addition, the field of English serves the “service professions” in

government, health, and social work, as well as any field requiring the use of written communications and technical manuals. Lastly, English prepares students for such “words delivery” professions as journalism, writing, publishing, translating, media and broadcasting, theater, and librarianship.

### Academic Programs

The associate degree in English requires completion of the courses listed for the degree. Additional general education and graduation requirements for the associate degree are listed in the catalog. The associate degree requires a minimum of 60 units.

### Transfer Information

**Common university majors related to the field of English include:** Creative Writing, English, Language Studies, Linguistics, Literature.

### Course Requirements for Transfer Students

Students who plan to transfer to a four-year college or university in this discipline should consult with a counselor or visit the Transfer Center to determine the appropriate major preparation courses for their specific transfer institution and major. Transfer students may also earn an Associate in Arts degree with an emphasis in English/Literature Studies (see below). This degree is designed to accommodate the differing requirements of a wide variety of transfer institutions and major options in order to provide the most efficient path to transfer. More information on transfer programs and procedures is available in the Transfer Guide section of the catalog.

### Certificate of Performance: Advanced ESOL\*

The English for Speakers of Other Languages Program consists of four levels: L19 is a combined skills class in a lecture/lab format. The L20 and L30 levels are composed of three courses. The grammar-writing component is a six-unit course and the reading and listening/speaking components are three units each. Level 40 is a single course in reading and writing. Students who successfully work through the program and complete ESOL 40 can read and write at an advanced ESOL level.

Students must complete 15 units in ESOL with a grade of “C” or better. ESOL 40 (6 units) is required with at least 9 additional units in ESOL from level 30 courses. Students must complete ESOL 40 with a grade of “C” or better complete at least 9 units from ESOL 30, 31, or 32.

Courses:	Units
ESOL 040, Reading & Writing for Non-Native Speakers of English III .....	6
<b>Select nine-units from:</b>	
ESOL 030, Writing for Non-native Speakers of English II .....	6
ESOL 031, Reading for Non-native Speakers of English II <b>or</b>	
ESOL 032, Listening and Speaking for Non-Native Speakers of English II .....	3
<b>Total Units = 15</b>	

\*This is a department award in recognition of information on the transcript and does not imply that a graduation requirement has been met.

### Associate in Arts Degree: English

This degree is not intended for transfer.

Courses Required for the Major:	Units
ENGL 101, Reading and Composition <b>or</b>	
ENGL 105, Composition and Literature .....	3
*ENGL 205, Critical Thinking and Intermediate Composition .....	3
ENGL 215, English Literature I: 800-1799 .....	3
ENGL 216, English Literature II: 1800-Present.....	3
<b>**Select three units from:</b>	
ENGL 208, Introduction to Literature	
ENGL 220 Masterpieces of World Literature I: 1500 BCE - 1600 CE	
ENGL 221 Masterpieces of World Literature II: 1600-Present .....	3
<b>**Select three units from:</b>	
ENGL 210, American Literature I	
ENGL 211, American Literature II	
ENGL 245, Writing Creative Nonfiction	
ENGL 247, Writing Seminar - Poetry	
ENGL 249, Introduction to Creative Writing	
ENGL 254, Intermediate Fiction Writing .....	3
<b>Total Units = 18</b>	

\*Meets SDSU/CSU critical thinking requirement.

\*\*Recommended series for UC transfer.

Not all courses are offered at each campus.

For graduation requirements see **Associate Degree Requirements** on page 67.

Electives as needed to meet minimum of 60 units required for the degree:

**Recommended Electives:** English 202, 209, 238, 240, 245, 247, 249, 253, 254; Humanities 101,102,201,202; Journalism 200,210A/B/C/D.

Courses designed to support this and other majors:  
ESOL 19, 20, 21, 22, 30, 31, 32, 40.

**Note: Some courses are not currently offered at Miramar, but are offered at City and/or Mesa Colleges. Please see a counselor.**

## Associate in Arts Degree: English/Literature Studies

**This degree is intended for transfer.**

The Associate in Arts degree with an area of emphasis in English/Literature Studies is intended for students who plan to complete a bachelor's degree at a transfer institution in an English- or literature-related major. Common university majors in this field include: Creative Writing, English, Language Studies, Linguistics, and Literature.

This degree is designed to accommodate the differing requirements of a wide variety of transfer institutions and major options. Because admission and major preparation requirements vary at each transfer institution, courses used to complete this degree should be selected with the assistance of a Miramar College counselor.

<b>Courses Required for the Major:</b>	<b>Units</b>
ENGL 101, Reading and Composition <b>or</b>	
ENGL 105, Composition and Literature.....	3
ENGL 205, Critical Thinking and Intermediate Composition.....	3

**Select twelve units from the following:**

BLAS 140A, History of the U.S., Black Perspectives  
CHIL 101, Human Growth and Development  
ENGL 208, Introduction to Literature  
ENGL 210, American Literature I  
ENGL 211, American Literature II  
ENGL 215, English Literature I: 800-1799  
ENGL 216, English Literature II: 1800-Present  
ENGL 220, Masterpieces of World Literature I: 1500  
BCE-1600 CE  
ENGL 221, Masterpieces of World Literature II: 1600-  
Present  
ENGL 230, Asian American Literature  
ENGL 237, Women in Literature  
ENGL 249, Introduction to Creative Writing  
HIST 109, History of the United States I  
HIST 141, Women in the United States History I  
HUMA 201, Mythology

JOUR 202, Introduction to Mass Communication  
POLI 102, The American Political System  
PSYC 101, General Psychology  
SPEE 103, Oral Communication.....12

**Total Units = 18**

**General Education:** In addition to the courses listed above, students must complete one of the general education options listed on page 67:

- The IGETC pattern (page 89) is accepted by all CSU campuses and most UC campuses and majors. It is also accepted by some private/independent or out of state universities.
- The CSU GE pattern (page 97) is accepted by all CSU campuses and some private/independent or out of state universities. It is not accepted by the UC system.
- The San Diego Community College District General Education pattern (page 71) may be appropriate for students transferring to a private/independent or out of state university or to a high-unit major. Students selecting this option should meet with a counselor to determine the appropriate General Education courses for their individual transfer goals.

It is strongly recommended that students consult with a counselor to determine which general education option is most appropriate for their individual educational goals.

**Electives as needed to meet minimum of 60 units required for the degree.**

### **Transfer Information**

Students planning to transfer to a four-year college or university should complete courses required for the university major and the general education pattern required by that transfer institution. See catalog TRANSFER INFORMATION section. Additional courses may be required to meet university lower-division requirements. **Course requirements at the transfer institution are subject to change and may be verified by a counselor or by consulting the current university catalog. Many Baccalaureate in Arts degrees require a third semester competency in a foreign language. Consult the current catalog of the transfer institution and consult with a counselor.**

# Exercise Science

	Units
<b>Certificate of Achievement:</b> Fitness Specialist	18
<b>Associate in Science Degree:</b> Health and Physical Education Studies	18*
*and electives as needed to meet minimum 60 units required for the degree.	

## Description

Physical Education is a discipline focusing on the relationship between physical activity and physical, mental, emotional, and social health. Physical activity courses teach movement skills, enhance fitness, and engender a lifestyle consistent with optimal wellness.

## Program Learning Outcomes

The Department of Physical Education offers an ever-increasing variety of activity courses. Boasting facilities that include a 32-acre complex of fields for softball, soccer, sand volleyball, and tennis, the Department also offers classes in a state of the art three pool aquatic complex. The recent curricular addition of lower division theory courses now allows students to pursue the Transfer Studies degree in Physical Education.

## Student Learning Outcomes

Students who complete the Physical Education Program will be able to:

- Explain the five domains of health and how they impact quality of life
- Design, develop and implement an effective personalized fitness program

Students will be assessed through a combination of performance evaluations, written assignments, and written tests and quizzes.

Faculty	Office	Telephone
Sean Bowers	Fieldhouse	619-388-7232
Nicolas Gehler	Fieldhouse	619-388-7715

Kevin Petti	S5-101A	619-388-7491
Rod Porter	Fitness Center	619-388-7442

## Career Options

Most Physical Education career options require baccalaureate degrees and some may require graduate degrees. Some of the exciting fields open to physical educators include: athletic trainer, fitness specialist, physical therapist, health/fitness club manager, physical education instructor, coach, athletic administrator, recreation director, resort activities director, and sports journalist.

## Transfer Information

**Common university majors related to the field of Physical Education include:** Exercise Science, Health Administration, Health Education, Health Sciences, Kinesiology, Physical Education, Pre-Physical Therapy, Recreation.

## Course Requirements for Transfer Students

Students who plan to transfer to a four-year college or university in this discipline should consult with a counselor or visit the Transfer Center to determine the appropriate major preparation courses for their specific transfer institution and major. Transfer students may also earn an Associate in Science degree with an area of emphasis in Health and Physical Education Studies (see below). This degree is designed to accommodate the differing requirements of a wide variety of transfer institutions and major options in order to provide the most efficient path to transfer. More information on transfer programs and procedures is available in the Transfer Guide section of the catalog

## Associate in Science Degree: Health and Physical Education Studies

The Associate in Science degree with an area of emphasis in Health and Physical Education Studies is intended for students who plan to complete a bachelor's degree at a transfer institution in a health- or exercise science-related major. Common university majors in this field include: Exercise Science, Health Sciences/Public Health, Kinesiology, Nutrition and Food Science, Occupational Health, Physical Education, Pre-Physical Therapy.

This degree is designed to accommodate the differing requirements of a wide variety of transfer institutions and major options. Because admission and major preparation requirements vary at each transfer institution, courses used to complete this degree

should be selected with the assistance of a Miramar College counselor.

**Courses Required for the Major: Units**

**Select at least two courses from the following:**

HEAL 101, Health and Lifestyle  
 HEAL 131, First Aid  
 NUTR 150, Nutrition  
 NUTR 170, Nutrition and Fitness  
 PHYE 164, Water Safety Instructor  
 PHYE 241, Introduction to Exercise Science/Physical Education  
 PHYE 242, Care and Prevention of Injuries..... 4-19

**Select at least one course from the following:**

BIOL 107, General Biology-Lecture and Laboratory or  
 BIOL 210A, Introduction to the Biological Sciences I  
 BIOL 230, Human Anatomy  
 BIOL 235, Human Physiology ..... 4-12

**Select at least one course and the remainder of units needed to meet the minimum of 18 from the following:**

BIOL 130, Human Heredity  
 BIOL 135, Biology of Human Nutrition  
 BIOL 160, Elements of Human Anatomy and Physiology  
 BIOL 205, General Microbiology  
 BIOL 210B, Introduction to the Biological Sciences II  
 CHEM 100, Fundamentals of Chemistry  
 CHEM 100L, Fundamentals of Chemistry Laboratory  
 CHEM 130, Introduction to Organic and Biological Chemistry  
 CHEM 130L, Introduction to Organic and Biological Chemistry Laboratory  
 CHEM 200, General Chemistry I Lecture  
 CHEM 200L, General Chemistry I Laboratory  
 CHEM 201, General Chemistry II Lecture  
 CHEM 201L, General Chemistry II Laboratory  
 HEAL 101, Health and Lifestyle  
 HEAL 131, First Aid  
 MATH 116, College and Matrix Algebra  
 MATH 119, Elementary Statistics  
 MATH 121, Basic Techniques of Applied Calculus I  
 MATH 141, Precalculus  
 MATH 150, Calculus with Analytic Geometry I  
 PHYE 103, Aerobic Dance  
 PHYE 106, Aquatic Fitness  
 PHYE 112, Basketball  
 PHYE 115, Bowling  
 PHYE 120, Fencing  
 PHYE 123, Fitness Activities  
 PHYE 126, Golf  
 PHYE 132, Individual Conditioning

PHYE 135, Jazz Dance  
 PHYE 139, Lifeguard Training-Advanced Swimming  
 PHYE 140, Modern Dance  
 PHYE 141, Over-the-Line  
 PHYE 149, Soccer  
 PHYE 151, Softball  
 PHYE 154, Fitness Walking  
 PHYE 155, Swimming  
 PHYE 156, Water Exercise  
 PHYE 159, Tennis  
 PHYE 161, Volleyball  
 PHYE 163, Water Polo  
 PHYE 166, Weight Training  
 PHYE 204, Intercollegiate Basketball I  
 PHYE 205, Intercollegiate Basketball II  
 PHYE 214, Intercollegiate Soccer I  
 PHYE 215, Intercollegiate Soccer II  
 PHYE 216, Intercollegiate Softball I  
 PHYE 218, Intercollegiate Swimming  
 PHYE 219, Intercollegiate Swimming II  
 PHYE 220, Intercollegiate Tennis I  
 PHYE 221, Intercollegiate Tennis II  
 PHYE 224, Intercollegiate Volleyball I  
 PHYE 225, Intercollegiate Volleyball II  
 PHYE 226, Intercollegiate Water Polo I  
 PHYE 227, Intercollegiate Water Polo II  
 PHYE 232, Martial Arts  
 PHYE 233, Kickboxing  
 PHYE 240, Physical Education in the Elementary Schools  
 PHYS 125, General Physics  
 PSYC 101, General Psychology  
 PSYC 258, Behavioral Science Statistics  
 PSYC 260, Introduction to Physiological Psychology  
 SOCO 101, Principles of Sociology..... 0.5-10

**Total Units = 18**

**General Education:** In addition to the courses listed above, students must complete one of the general education options listed on page 67:

- The IGETC pattern (page 89) is accepted by all CSU campuses and most UC campuses and majors. It is also accepted by some private/independent or out of state universities.
- The CSU GE pattern (page 97) is accepted by all CSU campuses and some private/independent or out of state universities. It is not accepted by the UC system.
- The San Diego Community College District General Education pattern (page 71) may be appropriate for students transferring to a private/independent or out of state university or to a high-unit major. Students selecting this

option should meet with a counselor to determine the appropriate General Education courses for their individual transfer goals.

It is strongly recommended that students consult with a counselor to determine which general education option is most appropriate for their individual educational goals.

Electives as needed to meet minimum of 60 units required for the degree.

**Transfer Information**

Students planning to transfer to a four-year college or university should complete courses required for the university major and the general education pattern required by that transfer institution. See catalog TRANSFER INFORMATION section. Additional courses may be required to meet university lower-division requirements. **Course requirements at the transfer institution are subject to change and may be verified by a counselor or by consulting the current university catalog. Many Baccalaureate in Arts degrees require a third semester competency in a foreign language. Consult the current catalog of the transfer institution and consult with a counselor.**

**Fitness Specialist**

**Description**

Students in this program will be trained as group exercise leaders and personal trainers. Students will learn the principles of exercise and physical conditioning, techniques of leading individual and group exercise classes, appropriate methods for establishing healthy behavior and designing personalized exercise prescriptions. Students will be able to develop safe and effective exercise plans for a variety of clients.

The Fitness Specialist certificate program trains students for positions, entry-level or higher, in the growing fitness industry. Program graduates will be qualified to be exercise testing technicians, fitness instructors, strength training instructors, aerobic instructors, and personal fitness trainers.

This program prepares candidates for National Academy of Sports Medicine (NASM), American Council on Exercise (ACE), Aerobics and Fitness Association of America (AFAA), and the National Strength & Conditioning Association Certified Personal Trainer (NSCA-CPT) certification exams.

**Certificate of Achievement: Fitness Specialist**

<b>Courses Required for the Major:</b>	<b>Units</b>
PHYE 242, Care and Prevention of Injuries .....	2
PHYE 280, Applied Exercise Physiology .....	2
PHYE 281, Applied Kinesiology.....	2
PHYE 282, Techniques of Weight Training .....	2
PHYE 283, Exercise and Fitness Assessment .....	2
PHYE 284, Fitness and Sports Nutrition .....	2
PHYE 285, Exercise for Special Populations.....	2
PHYE 286, Techniques of Exercise Leadership.....	2
PHYE 287, Fitness Specialist Internship .....	2
<b>Total Units = 18</b>	

**Filipino**

See "World Language Studies" on page 185.

**Fire Protection Technology**

**Fire - Emergency Medical -Lifeguards**

	<b>Units</b>
<b>Certificate of Achievement:</b>	
Fire Prevention	30.5
Fire Protection	32.5
Fire Technology	33.5
Open Water Lifeguard Professional	30.5-32.5
<b>Associate in Science Degree:</b>	
Fire Prevention	30.5*
Fire Protection	32.5*
Fire Technology	33.5*
Open Water Lifeguard Professional	24.5-26.5*
Occupational/Technical Studies	18*
(see page 167)	
*and electives as needed to meet minimum of 60 units required for the degree.	

**Description**

The Fire Protection Technology department offers programs in a wide range of subject areas related to careers in the fields associated with the technology of

fire protection, rescue, and public safety employment. This program provides theory and training necessary for successful performance in a variety of settings and positions. Emphasis is placed on modern methods of fire prevention, fire suppression, fire service management, and public safety. Public and private fire protection systems, life safety of fire service personnel and civilians, protection of property through the application of code enforcement, and the increasing problems of hazardous materials, emergency medical services, rescue, urban interface, and arson are studied.

### Program Learning Outcomes

Program options in the Fire Protection Technology department include Certificates of Achievement and Associate Degrees in Fire Protection, Fire Prevention, and Open Water Lifeguard Professional. The students are required to complete 33.5 units of fire protection technology courses for the Associate Degree. Fire Protection Technology 100A, 101, 102, 103, 104, 105, 107, 109, 110 and EMGM 105 are core courses for the certificate or degree program. It is highly recommended that pre-employment students concentrate on taking 100 level courses. Students planning to complete the California State Board of Fire Services Certification for Fire Officer should take the following courses: Fire Protection Technology 200A, 200B, 200C, 201, 202A, 202B, 203A, 204A, 204B, 381F and EMGM 105.

### Student Learning Outcomes

Students who complete the Fire Protection Technology Program will be able to:

- Identify minimum qualifications and entry-level skills for fire fighter hiring. The student will be able to describe the following elements: application process; written exam process; physical agility exam, oral interview, chief's interview; background investigation; and fire fighter probationary process. Students will identify fire service history, culture and diversity.
- Demonstrate the ability to analyze, appraise and evaluate fire and emergency incidents and identify components of emergency management and fire fighter safety including: Size-up, report on conditions, Incident Command System; RECEO; 10 Standard Firefighting Orders; 18 Situations that Shout "Watch Out"; and common factors associated with injuries and line of duty deaths.
- Identify and comprehend laws, regulations, codes and standards that influence fire department operations, and identify regulatory and advisory

organizations that create and mandate them, especially in the areas of fire prevention, building codes and ordinances, and firefighter health and safety.

- Analyze the causes of fire, determine extinguishing agents and methods, differentiate the stages of the fire and fire development, and compare methods of heat transfer.
- Calculate flow requirements for fire apparatus, diagram a pump and plumbing schematic for fire apparatus, and apply mathematic formulae to hydraulics problems.
- Identify and describe the apparatus used in the fire service, and the equipment and maintenance of fire apparatus and equipment.
- Identify and describe common types of building construction and conditions associated with structural collapse and firefighter safety.
- Differentiate between fire detection and fire suppression systems. Student will design and diagram a wet and dry fire protection system, and identify alarm system components and their operations.

Students will be assessed through a combination of performance evaluations, written assignments, and written tests and quizzes.

Faculty	Office	Telephone
Darren Hall	479-4	(619) 221-2145
Mary Kjartanson	479-3	(619) 221-2144
Dennis Sheean	480	(619) 221-2143
John Salinsky	479-5	(619) 221-2147
Marty Walsh	479-2	(619) 221-2146

### Career Options

A number of career options are accessible in the Fire Protection Technology and Public Safety fields. These employment positions are primarily in the public sector. However, the private sector provides employment opportunities that include but are not limited to: Fire insurance inspectors and investigators, Fire protection systems installers, Emergency medical services providers, Hazardous materials mitigation, Lifeguarding, and Fire protection engineering. Requirements may change with each series of Academy Classes. Details are available in the Fire Technology Department office.

### Academic Programs

Fire Protection Technology, Certificates of Achievement and Associate Degrees require

completion of courses listed after each option. Additional general education and graduation requirements for the associate degree are listed in the catalog.

### San Diego Fire Department Training Academy

The San Diego City Fire Department trains firefighter recruits in a 14 week, 9 unit, Fire Academy (FIPT 381) that is operated in conjunction with Miramar College. In each Fire Academy, usually 4 to 6 recruits are chosen by a lottery system from a pool of qualified applicants. These "Open Enrollee" students earn no salary while in the Academy. To be eligible for the Open Enrollee lottery, applicants must be on the current San Diego Fire Department's eligibility list.

Requirements may change with each series of Academy Classes. Details are available in the Fire Technology Department office.

### Transfer Information

#### Course Requirements for Transfer Students

Students who plan to transfer to a four-year college or university in this discipline should consult with a counselor or visit the Transfer Center to determine the appropriate major preparation courses for their specific transfer institution and major. Transfer students may also earn an Associate in Science degree with an area of emphasis in Occupational/Technical Studies (see page 167). This degree is designed to accommodate the differing requirements of a wide variety of transfer institutions and major options in order to provide the most efficient path to transfer. More information on transfer programs and procedures is available in the Transfer Guide section of the catalog.

### Certificate of Achievement: Fire Protection Technology

#### Fire Prevention

<b>Courses Required for the Major:</b>	<b>Units</b>
ENGL 101, Reading and Composition .....	3
FIPT 101, Fire Protection Organization .....	3
FIPT 102, Fire Prevention Technology .....	3
FIPT 103, Fire Protection Equipment and Systems.....	3
FIPT 104, Building Construction for Fire Protection .....	3
FIPT 105, Fire Behavior and Combustion .....	3
FIPT 202A, Fire Prevention IA .....	2

FIPT 202B, Fire Prevention IB .....	2
FIPT 202C, Fire Prevention IC .....	2
FIPT 203A, Fire Investigation IA .....	2
FIPT 205, Public Education I .....	2
ADJU 356A, 832 PC Laws of Arrest .....	2.5
<b>Total Units = 30.5</b>	

### Certificate of Achievement: Fire Protection Technology

#### Fire Protection

<b>Courses Required for the Major:</b>	<b>Units</b>
FIPT 200A, Fire Command IA .....	2
FIPT 200B, Fire Command IB .....	2
FIPT 200C, Fire Command 1C .....	1.5
FIPT 201, Fire Management I.....	2
FIPT 202A, Fire Prevention IA .....	2
FIPT 202B, Fire Prevention IB .....	2
FIPT 203A, Fire Investigation IA .....	2
FIPT 206A, Instructor Training 1A: Psychomotor Lesson Delivery .....	2
FIPT 206B, Instructor Training 1B: Cognitive Lesson Delivery .....	2
FIPT 381F, Basic Fire Fighter 1 Academy .....	9
EMGM 105, Emergency Medical Technician - National Registry <b>or</b>	
FIPT 130, Emergency Medical Technician-State Fire Marshal .....	6
<b>Total Units = 32.5</b>	

### Certificate of Achievement: Fire Protection Technology

#### Fire Technology

<b>Courses Required for the Major:</b>	<b>Units</b>
FIPT 100A, Introduction to Fire Suppression and Maintenance Manipulative Tasks (Beginning) .....	3.5
FIPT 101, Fire Protection Organization.....	3
FIPT 102, Fire Prevention Technology .....	3
FIPT 103, Fire Protection Equipment and Systems .....	3
FIPT 104, Building Construction for Fire Protection .....	3
FIPT 105, Fire Behavior and Combustion .....	3
FIPT 107, Fire Fighting Tactics and Strategy .....	3
FIPT 109, Fire Service Hydraulics .....	3
FIPT 110, Wildland Fire Control .....	3
EMGM 105, Emergency Medical Technician - National Registry <b>or</b>	
FIPT 130, Emergency Medical Technician-State Fire Marshal .....	6
<b>Total Units =33.5</b>	

## Certificate of Achievement: Fire Protection Technology

### Open Water Lifeguard Professional

Courses Required for the Major:	Units
FIPT 115, Low Angle Rescue .....	0.5
FIPT 121, Vertical Rescue .....	1
EMGM 105, Emergency Medical Technician- National Registry .....	6
FIPT 160, Introduction to Open Water Lifeguarding .....	3
FIPT 161, Inflatable Rescue Boat Operations.....	1.5
FIPT 163, Personal Watercraft Operations .....	1
FIPT 206A, Instructor Training 1A: Psychomotor Lesson Delivery .....	2
FIPT 206B, Instructor Training 1B: Cognitive Lesson Delivery .....	2
FIPT 243, Rescue Systems I.....	1.5
FIPT 308A, Confined Space Operations.....	1
FIPT 311M, Swiftwater Rescue Technician I .....	1
ADJU 102, Criminal Law I.....	3
ADJU 167, Report Writing .....	3
ADJU 361, Current Issues for Advanced Officers .....	0.5-2.5
ADJU 356A, 832 PC Laws of Arrest .....	2.5
ADJU 356B, 832 PC Firearms .....	1
<b>Total Units = 30.5-32.5</b>	

## Associate in Science Degree: Fire Protection Technology

### Fire Prevention

Courses Required for the Major:	Units
ENGL 101, Reading and Composition.....	3
FIPT 101, Fire Protection Organization .....	3
FIPT 102, Fire Prevention Technology .....	3
FIPT 103, Fire Protection Equipment and Systems .....	3
FIPT 104, Building Construction for Fire Protection .....	3
FIPT 105, Fire Behavior and Combustion .....	3
FIPT 202A, Fire Prevention IA .....	2
FIPT 202B, Fire Prevention IB .....	2
FIPT 202C, Fire Prevention IC .....	2
FIPT 203A, Fire Investigation IA .....	2
FIPT 205, Public Education I .....	2
ADJU 356A, 832 PC Laws of Arrest .....	2.5
<b>Total Units =30.5</b>	

## Associate in Science Degree: Fire Protection Technology

### Fire Protection

Courses Required for the Major:	Units
FIPT 200A, Fire Command IA .....	2
FIPT 200B, Fire Command IB .....	2
FIPT 200C, Fire Command 1C .....	1.5
FIPT 201, Fire Management I.....	2
FIPT 202A, Fire Prevention IA .....	2
FIPT 202B, Fire Prevention IB .....	2
FIPT 203A, Fire Investigation IA .....	2
FIPT 206A, Instructor Training 1A: Psychomotor Lesson Delivery .....	2
FIPT 206B, Instructor Training 1B: Cognitive Lesson Delivery .....	2
FIPT 381F, Basic Fire Fighter 1 Academy .....	9
EMGM 105, Emergency Medical Technician - National Registry <b>or</b>	
FIPT 130, Emergency Medical Technician-State Fire Marshal .....	6
<b>Total Units = 32.5</b>	

## Associate in Science Degree: Fire Protection Technology

### Fire Technology

Courses Required for the Major:	Units
FIPT 100A, Introduction to Fire Suppression and Maintenance Manipulative Tasks (Beginning) ..	3.5
FIPT 101, Fire Protection Organization.....	3
FIPT 102, Fire Prevention Technology .....	3
FIPT 103, Fire Protection Equipment and Systems ....	3
FIPT 104, Building Construction for Fire Protection ..	3
FIPT 105, Fire Behavior and Combustion .....	3
FIPT 107, Fire Fighting Tactics and Strategy .....	3
FIPT 109, Fire Service Hydraulics .....	3
FIPT 110, Wildland Fire Control .....	3
EMGM 105, Emergency Medical Technician - National Registry <b>or</b>	
FIPT 130, Emergency Medical Technician-State Fire Marshal .....	6
<b>Total Units = 33.5</b>	

## Associate in Science Degree: Fire Protection Technology

### Open Water Lifeguard Professional

Courses Required for the Major:	Units
FIPT 115, Low Angle Rescue.....	0.5
FIPT 121, Vertical Rescue.....	1

EMGM 105, Emergency Medical Technician-National Registry .....	6
FIPT 160, Introduction to Open Water Lifeguarding ..	3
FIPT 206A, Instructor Training 1A: Psychomotor Lesson Delivery .....	2
FIPT 206B, Instructor Training 1B: Cognitive Lesson Delivery .....	2
FIPT 311M, Swiftwater Rescue Technician I .....	1
ADJU 102, Criminal Law I .....	3
ADJU 167, Report Writing .....	3
ADJU 356A, 832 PC Laws of Arrest .....	2.5
ADJU 361, Current Issues for Advanced Officers .....	0.5-2.5
<b>Total Units = 24.5-26.5</b>	

## Geology

See "Physical Science" on page 177.

## Geography

See "Social and Behavioral Sciences" on page 183.

## History

See "Social and Behavioral Sciences" on page 183.

# Humanities

<b>Associate in Arts Degree:</b>	<b>Units</b>
Humanities Studies	18*
*and electives as needed to meet minimum 60 units required for the degree.	

### Description

The study of humanities offers students a broad, interdisciplinary understanding of humankind's cultural heritage. This study includes: history, literature, philosophy, religion, and the arts. The goal of this major is to provide an interdisciplinary understanding of ideas and forms of expression that

exert a major influence on civilization. The humanities provide a broadly-based education for many careers.

### Program Learning Outcomes

The curriculum is intended to prepare students for advanced degrees at a baccalaureate institution. In addition it may also meet requirements for general education at both the two and four-year colleges and universities.

### Student Learning Outcomes

Students who complete the Humanities Program will be able to:

- Analyze the impact cultures and subcultures have on societal expectations and behaviors.
- Distinguish the uniqueness of a variety of cultures to develop an appreciation for these differences.
- Analyze historical occurrences and their impact on societal expectations and behaviors.

Students will be assessed through a combination of performance evaluations, written assignments, and written tests and quizzes.

<b>Faculty</b>	<b>Office</b>	<b>Telephone</b>
Paula Carrier	B-4031	619-388-7518

### Career Options

Most careers related to this discipline require education beyond the associate degree level. Humanities degrees are for students who wish to base their careers on broad knowledge of American and world cultures. This major is applicable to posts in government, business, education, and the arts. Additional specialized training can lead to careers in foreign career service, museum work or teaching.

### Transfer Information

**Common university majors related to the field of Humanities include:** Art History, Classics, Creative Writing, English, Film Studies, Geography, Humanities, Interdisciplinary Studies, Liberal Studies, Religious Studies.

### Course Requirements for Transfer Students

Students who plan to transfer to a four-year college or university in this discipline should consult with a counselor or visit the Transfer Center to determine the appropriate major preparation courses for their specific transfer institution and major. Transfer students may also earn an Associate in Arts degree with an area of emphasis in Humanities Studies (see below). This degree is designed to accommodate the

differing requirements of a wide variety of transfer institutions and major options in order to provide the most efficient path to transfer. More information on transfer programs and procedures is available in the Transfer Guide section of the catalog.

### Associate in Arts Degree: Humanities Studies

The Associate in Arts degree with an area of emphasis in Humanities Studies is intended for students who plan to complete a bachelor's degree at a transfer institution in a humanities-related major. Common university majors in this field include: American Studies, Classics, Ethics, Humanities, Philosophy, and Religious Studies.

This degree is designed to accommodate the differing requirements of a wide variety of transfer institutions and major options. Because admission and major preparation requirements vary at each transfer institution, courses used to complete this degree should be selected with the assistance of a Miramar College counselor.

Courses Required for the Major:	Units
PHIL 205, Critical Thinking and Writing in Philosophy <b>or</b>	
PHIL 100 Logic and Critical Thinking .....	3

#### Select at least 15 units from the following:

ANTH 103, Introduction to Cultural Anthropology
ARTF 113, African, Oceanic, and Native American Art
ARTF 125, History of Art: Far Eastern Art
BLAS 140A, History of the U.S., Black Perspectives
BLAS 140B, History of the U.S., Black Perspectives
ENGL 208, Introduction to Literature
ENGL 210, American Literature I
ENGL 211, American Literature II
ENGL 220, Masterpieces of World Literature I: 1500 BCE-1600 CE
ENGL 221, Masterpieces of World Literature II: 1600-Present
HIST 100, World History I
HIST 101, World History II
HIST 105, Introduction to Western Civilization
HIST 109, History of the United States I
HIST 110, History of the United States II
HIST 141, Women in the United States History I
HIST 142, Women in the United States History II
HUMA 101, Introduction to the Humanities
HUMA 102, Introduction to the Humanities II
HUMA 201, Mythology
MUSI 100, Introduction to Music
MUSI 109, World Music

PHIL 100, Logic and Critical Thinking
PHIL 101, Symbolic Logic
PHIL 102A, Introduction to Philosophy: Reality and Knowledge
PHIL 102B, Introduction to Philosophy: Values
PHIL 205 Critical Thinking and Writing in Philosophy
POLI 102, The American Political System .....

**Total Units = 18**

**General Education:** In addition to the courses listed above, students must complete one of the general education options listed on page 67:

- The IGETC pattern (page 89) is accepted by all CSU campuses and most UC campuses and majors. It is also accepted by some private/independent or out of state universities.
- The CSU GE pattern (page 97) is accepted by all CSU campuses and some private/independent or out of state universities. It is not accepted by the UC system.
- The San Diego Community College District General Education pattern (page 71) may be appropriate for students transferring to a private/independent or out of state university or to a high-unit major. Students selecting this option should meet with a counselor to determine the appropriate General Education courses for their individual transfer goals.

It is strongly recommended that students consult with a counselor to determine which general education option is most appropriate for their individual educational goals.

Electives as needed to meet minimum of 60 units required for the degree.

### Transfer Information

Students planning to transfer to a four-year college or university should complete courses required for the university major and the general education pattern required by that transfer institution. See catalog TRANSFER INFORMATION section. Additional courses may be required to meet university lower-division requirements. **Course requirements at the transfer institution are subject to change and may be verified by a counselor or by consulting the current university catalog. Many Baccalaureate in Arts degrees require a third semester competency in a foreign language. Consult the current catalog of the transfer institution and consult with a counselor.**

## Human Development

See "Child Development" on page 135.

# Interdisciplinary Studies

	<b>Units</b>
<b>Certificate of Performance</b>	
Honors Global Competencies Certificate	15-17
<b>Certificate of Achievement:</b>	
CSU General Education-Breadth	39-40
Intersegmental General Education Transfer (IGETC)	37-40
<b>Associate in Science Degree:</b>	
Occupational/Technical Studies	18*
Selected Studies	18*
*and electives as needed to meet minimum 60 units required for the degree.	

**Description**

Interdisciplinary Studies is a general term referring to instructional programs that incorporate coursework from a variety of different subject areas. The Interdisciplinary Studies program includes certificates designed to provide a broad exposure to a variety of subject areas.

**Program Learning Outcomes**

The Interdisciplinary Studies program is designed to prepare students to transfer to a four-year university and/or to gain a broad exposure to a variety of subject areas.

**Student Learning Outcomes**

Students who complete a certificate or degree in the Interdisciplinary Studies Program will be able to:

- Organize thoughts and ideas effectively and express them clearly and correctly in writing
- Read, analyze, discuss, and evaluate written works and sources
- Express and manipulate quantitative information in verbal, numeric, graphic, and symbolic form

- Interpret natural phenomena through the application of scientific principles
- Examine the relationships between science and other human activities
- Evaluate the ways people act and have acted in response to their societies and social subgroups
- Demonstrate an awareness of cultural activities and artistic expressions
- Apply language toward logical thought, clear and precise expression, and critical evaluation of communication.

Upon successful completion of a degree in the Interdisciplinary Studies program, students can also:

- Demonstrate critical inquiry, analysis, thinking, writing, and quantitative skills across two or more related interdisciplinary subject areas.

## General Education Certificates

The Certificate of Achievement in CSU General Education - Breadth and the Certificate of Achievement in Intersegmental General Education Transfer (IGETC) are designed for students who intend to complete university general education requirements prior to transfer to a California State University (CSU) or University of California (UC) campus.

General education (GE) is a set of courses from a variety of different subject areas that every student must complete in order to earn a degree, regardless of major. The goal is to provide a well-rounded or "liberal" education and to develop the knowledge, skills, and attitudes that together help make up an educated person. The completion of GE prior to transfer is not required for admission to most universities. However, it is usually in the students' best interest to complete an appropriate transfer GE pattern at the community college. This is because GE requirements that are not fulfilled prior to transfer must be completed later at the university, which often extends the time and expense of a university education.

**Certificate of Achievement:  
CSU General Education - Breadth**

The student will select courses that fulfill the CSU GE certification pattern detailed on page 93 of this catalog. CSU GE is accepted by all CSU campuses and

some private / independent or out of state universities. CSU GE is not accepted by the UC system.

**Total units = 39-40**

### **Certificate of Achievement: Intersegmental General Education Transfer (IGETC)**

The student will select courses that fulfill the IGETC certification pattern detailed on page 84 of this catalog. IGETC is accepted by all CSU campuses and most UC campuses and majors. It is also accepted by some private / independent or out of state universities.

**Total units = 37-40**

#### **Transfer Information**

Students planning to transfer to a four-year college or university should complete courses required for the university major and the general education pattern required by that transfer institution. Additional courses may be required to meet university lower-division requirements. **Course requirements at the transfer institution are subject to change and may be verified by a counselor or by consulting the current university catalog. Many Baccalaureate in Arts degrees require third semester competency in a foreign language. Consult the current catalog of the transfer institution and consult with a counselor.**

## **Honors Global Competencies Certificate**

#### **Description**

The Honors Global Competencies Certificate provides an interdisciplinary and systemic approach in order to prepare students for the highly diverse, technologically-rich, and multilingual global society in which we live. The Certificate offers students the opportunity to gain a global perspective through completion of coursework in intercultural competencies, communication skills, technology skills, and coping skills. This certificate helps students to transfer to four-year institutions in concert with the Honors designation. It prepares students for study and work in the world as a whole in professional fields such as international studies, intercultural studies, language studies, international business, international law, political science, comparative literature, environmental studies, history, technology, social sciences, humanities, teaching, and more.

#### **Program Emphasis**

The Honors Global Competencies certificate has an international emphasis.

#### **Career Options**

The Honors Global Competencies certificate might lead to careers in the following areas: International relations, international business, politics, international law, technology professions, teaching, translating, travel and tourism, and intercultural communications, among others.

### **Certificate of Performance: Honors Global Competencies Certificate\***

The Honors Global Competencies Certificate offers you the opportunity to gain a global perspective through completion of coursework in intercultural competencies, communication skills, technology skills, and coping skills.

#### **Courses Required for the Major** **Units**

ENGL 205, Critical Thinking and Intermediate Composition .....	3
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#### **Select 3-5 units from the following introductory or higher level foreign languages:**

ARAB 101, First Course in Arabic .....	5
FREN 101, First Course in French .....	5
GERM 101, First Course in German .....	5
ITAL 101, First Course in Italian .....	5
JAPN 101, First Course in Japanese .....	5
RUSS 101, First Course in Russian.....	5
SPAN 101, First Course in Spanish.....	5
TAGA 101, First Course in Tagalog .....	5
VIET 101, First Course in Vietnamese .....	5

#### **Select 6 units from the following:**

ANTH 102, Introduction to Physical Anthropology .....	3
ANTH 103, Introduction to Cultural Anthropology .....	3
ARTF 110, Art History: Prehistoric to Gothic .....	3
ARTF 111, Art History: Renaissance to Modern.....	3
BIOL 101, Issues in Environmental Biology.....	4
ECON 120, Principles of Economics I.....	3
ENGL 101, Reading and Composition .....	3
ENGL 105, Composition and Literature .....	3
ENGL 220, Masterpieces of World Literature I: 1500 BCE - 1600 CE.....	3
ENGL 221, Masterpieces of World Literature II: 1600 - Present .....	3
HUMA 101, Introduction to the Humanities I.....	3
HUMA 102, Introduction to the Humanities II.....	3
HIST 100, World History I.....	3
HIST 101, World History II.....	3

MUSI 101, Music History I: Middle Ages to Mid 18th Century .....	3
MUSI 102, Music History II: Mid 18th - Early 20th Century .....	3
MUSI 109, World Music.....	3
SPEE 180, Intercultural Communication .....	3
PHIL 106, Asian Philosophy.....	3
PHIL 125, Philosophy of Women.....	3
POLI 101, Introduction to Political Science .....	3
POLI 103, Comparative Politics.....	3
POLI 140, Contemporary International Politics .....	3

**Select 3 units from the following:**

CHIL 101, Human Growth and Development .....	3
CISC 181, Principles of Information Systems .....	4
GEOG 102, Cultural Geography.....	3
HEAL 101, Health and Life-Style.....	3
PSYC 101, General Psychology .....	3

**Total Units = 15 - 17**

This certificate will be offered through the Honors Programs at City, Mesa, and Miramar Colleges. All coursework except for foreign language must be done as an honors class or as an honors contract.

\*This is a department award in recognition of information on the transcript and does not imply that a graduation requirement has been met.

**Associate in Science Degree: Occupational/Technical Studies**

The Associate in Science degree with an area of emphasis in Occupational/Technical Studies is intended for students who plan to complete a bachelor's degree at a transfer institution in an occupational- or technical-related major. Common university majors in this field include: Aviation and Aerospace Engineering, Aviation Management, Criminal Justice / Justice Studies, Fire Protection Administration, Industrial Technology, Manufacturing Technology, and Vocational Education.

This degree is designed to accommodate the differing requirements of a wide variety of transfer institutions and major options. Because admission and major preparation requirements vary at each transfer institution, courses used to complete this degree should be selected with the assistance of a Miramar College counselor.

**Courses Required for the Major: Select at least one course from the following occupational courses:**

- ACCT 120, Federal Income Tax
- ACCT 150, Computer Accounting Applications
- ADJU 101, Introduction to Administration of Justice

- ADJU 101A, Introduction to Administration of Justice I
- ADJU 101B, Introduction to Administration of Justice II
- ADJU 101C, Introduction to Administration of Justice III
- ADJU 102, Criminal Law I
- ADJU 106, Diversity and Community Relations
- ADJU 140, Patrol Procedures
- ADJU 160, Criminal Law II
- ADJU 161, Juvenile Procedures
- ADJU 162, Criminal Investigation
- ADJU 167, Report Writing
- ADJU 201, California Criminal Procedure
- ADJU 210, Rules of Evidence
- BANK 102, Mortgage Brokerage and Banking
- BANK 104, Principles of Loan Processing
- BANK 106, Loan Underwriting
- BANK 108, Principles of Loan Closing
- BUSE 101, Business Mathematics
- BUSE 150, Human Relations in Business
- HEAL 131, First Aid
- LEGL 100A, Introduction to Paralegalism
- LEGL 100B, Legal Procedures
- LEGL 105, Legal Research
- LEGL 110, Legal Writing and Communications
- LEGL 115, Civil Litigation I
- LEGL 120, Civil Litigation II-Torts
- LEGL 180, Contract Law
- MILS 101, Introduction to Military Science
- MILS 110, Leadership Theory and Practice
- MILS 120, Military Justice, Ethics, and the Law of Armed Conflict
- MILS 201, Applied Military Leadership
- PERG 130, Career-Life Planning
- PHYE 139, Lifeguard Training-Advanced Swimming
- PHYE 164, Water Safety Instructor
- REAL 101, Real Estate Principles
- REAL 105, Legal Aspects of Real Estate I
- REAL 110, Principles of Real Estate Appraisal I
- REAL 115, Real Estate Finance I
- REAL 120, Real Estate Practice
- REAL 125, Real Estate Economics
- REAL 130, Real Property Management
- REAL 140, Real Estate Appraisal II .....1-17

**Select at least one course and the remainder of units needed to meet the minimum of 18 from the following technical courses:**

- AVIA 101, Private Pilot Ground School
- AVIA 105, Introduction to Aviation and Aerospace
- AVIA 125, Aviation and Airport Management
- AVIA 128, Group Dynamics, Teams Under Stress
- AVIA 133, Human Factors in Aviation
- AVIA 151, Helicopter Pilot Ground School
- AVIA 228, Group Dynamics II
- AVIM 101G, General Aviation Technology Theory I

AVIM 101H, General Aviation Technology Theory II  
 AVIM 102G, General Aviation Maintenance Technology Practices I  
 AVIM 102H, General Aviation Maintenance Technology Practices II  
 AVIM 103B, Aircraft Welding and Sheetmetal Structures  
 AVIM 103D, Aircraft Landing Gear Systems  
 AVIM 104B, Applied Aircraft Welding and Sheetmetal Structures  
 AVIM 104D, Applied Aircraft Landing Gear Systems  
 AVIM 105A, Aircraft Cabin Atmosphere Control  
 AVIM 106A, Aircraft Cabin Atmosphere Control  
 AVIM 107B, Turbine Engines  
 AVIM 108B, Turbine Engines Laboratory  
 AVIM 109A, Airframe Electrical Systems  
 AVIM 109B, Powerplant Ignition Systems  
 AVIM 109D, Aircraft Fire Protection and Digital Logic  
 AVIM 110A, Airframe Electrical Systems Laboratory  
 AVIM 111C, Reciprocating Engines I  
 AVIM 111D, Reciprocating Engines II  
 AVIM 112C, Applied Reciprocating Engines I  
 AVIM 112D, Applied Reciprocating Engines II  
 AVIM 120, Basic D.C. Electronics Theory  
 AVIM 121A, Applied Basic D.C. Electronics  
 AVIM 249, Induction and Fuel Metering  
 BIOL 131, Introduction to Biotechnology  
 BIOL 132, Applied Biotechnology I  
 BIOL 133, Applied Biotechnology II  
 BIOL 134, Introduction to the Biotechnology Lab  
 CBTE 101, Keyboarding for Computers  
 CBTE 114, Introduction to Microsoft Windows  
 CBTE 120, Beginning Microsoft Word  
 CBTE 122, Intermediate Microsoft Word  
 CBTE 126, Document Processing  
 CBTE 127, Introduction to PowerPoint  
 CBTE 140, Microsoft Excel  
 CBTE 153, Database Development with Access  
 CBTE 162, Web Page Creation  
 CBTE 164, Introduction to Microsoft Outlook  
 CBTE 165, Webpage Creation with Dreamweaver  
 CBTE 170, Desktop Publishing  
 CBTE 173, Introduction to E-Commerce  
 CBTE 180, Microsoft Office  
 EMGM 105, Emergency Medical Technician-National Registry  
 EMGM 106, Emergency Medical Technician-Defibrillation/Combitude  
 FIPT 100A, Introduction to Fire Suppression and Maintenance Manipulative Tasks (Beginning)  
 FIPT 101, Fire Protection Organization  
 FIPT 102, Fire Prevention Technology  
 FIPT 103, Fire Protection Equipment and Systems  
 FIPT 104, Building Construction for Fire Protection

FIPT 105, Fire Behavior and Combustion  
 FIPT 106, Truck Company Operations  
 FIPT 107, Fire Fighting Tactics and Strategy  
 FIPT 109, Fire Service Hydraulics  
 FIPT 110, Wildland Fire Control  
 FIPT 114A, Shipboard Fire Control  
 FIPT 119, Aircraft Fire Control  
 FIPT 160, Introduction to Open Water Lifeguarding ..... 0.5-17

**Total Units = 18**

**General Education:** In addition to the courses listed above, students must complete one of the general education options listed on page 67:

- The IGETC pattern (page 89) is accepted by all CSU campuses and most UC campuses and majors. It is also accepted by some private/independent or out of state universities.
- The CSU GE pattern (page 97) is accepted by all CSU campuses and some private/independent or out of state universities. It is not accepted by the UC system.
- The San Diego Community College District General Education pattern (page 71) may be appropriate for students transferring to a private/independent or out of state university or to a high-unit major. Students selecting this option should meet with a counselor to determine the appropriate General Education courses for their individual transfer goals.

It is strongly recommended that students consult with a counselor to determine which general education option is most appropriate for their individual educational goals.

Electives as needed to meet minimum of 60 units required for the degree.

### **Associate in Arts Degree: Selected Studies**

Designed for students who are interested in a program of studies that will allow them to attain educational or career goals that are not satisfied by associate degrees offered in Degree Curricula and Certificate Programs listed in this catalog.

#### **Courses Required for the Major:**

The student must earn a minimum of 18 required semester units in a single discipline or related disciplines. The approved course of study represents a cohesive and rigorous program of instruction related to a specific goal not met by other Programs of Instruction as found in this catalog. The student and a

counselor will develop a Selected Studies program to be submitted to an academic standards committee for review and approval. The student is encouraged to meet with the counselor early in his or her educational career to review the student's statement of justification for the Associate in Arts Degree: Selected Studies and to develop an education plan.

Only one course from the approved pattern for the Selected Studies major may be used to satisfy SDCCD general education requirements. Students must fulfill additional requirements for the Associate Degree as listed in this catalog.

For graduation requirements see **Associate Degree Requirements** on page 66. Electives as needed to meet minimum of 60 units required for the degree: **Recommended Electives:** Electives are particularly important in this program. They may be used by the student to strengthen the major, explore new fields of interest, and satisfy graduation requirements at a four-year institution.

The student who plans carefully may fulfill the requirements for the A.A. Degree and also complete most lower division requirements at the four-year institution of his/her choice in the major area and in general education. See generalized guide for transfer students located in this catalog.

### Transfer Information

Students planning to transfer to a four-year college or university should complete courses required for the university major and the general education pattern required by that transfer institution. See catalog TRANSFER INFORMATION section. Additional courses may be required to meet university lower-division requirements. **Course requirements at the transfer institution are subject to change and may be verified by a counselor or by consulting the current university catalog. Many Baccalaureate in Arts degrees require a third semester competency in a foreign language. Consult the current catalog of the transfer institution and consult with a counselor.**

### Legal Assistant

See "Paralegal" on page 175.

# Mathematics

	Units
<b>Associate in Arts Degree:</b>	
Mathematics Studies	18*
*and electives as needed to meet minimum 60 units required for the degree.	

### Description

Mathematics is the study of numbers, structures, and associated relationships using rigorously defined literal, numerical and operational symbols. Given certain conditions about systems of numbers or other objects, mathematicians derive conclusions based on logical arguments. Basic mathematical skills enable a person to solve numerical problems encountered in daily life, and more advanced skills have numerous applications in the physical, social and life sciences.

### Program Learning Outcomes

The mathematics curriculum includes courses that range from basic skills through differential equations. The basic skills and associate degree level courses provide students with the mathematical preparation necessary for study in other disciplines, as well as for degree and transfer requirements. Successful completion of this curriculum a mathematics degree will develop competence in mathematics through differential and integral calculus, providing an adequate background for employment in many technological and scientific areas as well as providing a firm foundation for students planning advanced study in mathematics, engineering, or physical sciences.

### Student Learning Outcomes

Students who complete the Mathematics Program will be able to:

- Demonstrate ability to apply mathematical skills to achieve academic and professional goals
- Demonstrate an ability to apply critical thinking in problem solving

- Demonstrate sufficient mathematical knowledge for further academic study in mathematics or related disciplines
- Demonstrate ability to analyze and solve mathematical problems in everyday life

Students will be assessed through a combination of performance evaluations, written assignments, and written tests and quizzes.

Faculty	Office	Telephone
Francois Bereaud	I-102E2	619-388-7503
Tim Hempleman	I-102A	619-388-7688
Yolanda James	I-104B	619-388-7690
Carol Murphy	I-102B	619-388-7681
Crystal Rust	B-403B	619-388-7349
Wayne Sherman	I-102A	619-388-7689
Harvey Wilensky	B-403A	619-388-7510

**Career Options**

Most of these occupations require education beyond the associate degree, and some may require a graduate degree. The following list is not intended as a comprehensive list of career options in mathematics: actuary, appraiser, assessor, auditor, biometrician, budget analyst, controller, computer analyst, computer programmer, demographer, econometrician, engineering analyst, epidemiologist, financial analyst, investment analyst, management scientist, operations researcher, research mathematician, statistician, surveyor, systems analyst, teacher, technical writer, and urban planner.

**Transfer Information**

**Common university majors related to the field of Mathematics include:** Applied Mathematics, Cognitive Science, Mathematics, Statistics.

**Course Requirements for Transfer Students**

Students who plan to transfer to a four-year college or university in this discipline should consult with a counselor or visit the Transfer Center to determine the appropriate major preparation courses for their specific transfer institution and major. Transfer students may also earn an Associate in Arts degree with an area of emphasis in Mathematics Studies (see below). This degree is designed to accommodate the differing requirements of a wide variety of transfer institutions and major options in order to provide the most efficient path to transfer. More information on transfer programs and procedures is available in the Transfer Guide section of the catalog.

**Associate in Arts Degree: Mathematics Studies**

The Associate in Arts degree with an area of emphasis in Mathematics Studies is intended for students who plan to complete a bachelor's degree at a transfer institution in a mathematics-related major. Common university majors in this field include: Applied Mathematics, Cognitive Science, Computer Science, Information Systems, Mathematics, Mathematics Education, and Statistics.

This degree is designed to accommodate the differing requirements of a wide variety of transfer institutions and major options. Because admission and major preparation requirements vary at each transfer institution, courses used to complete this degree should be selected with the assistance of a Miramar College counselor.

Courses Required for the Major:	Units
MATH 150, Calculus with Analytic Geometry I.....	5
MATH 151, Calculus with Analytic Geometry II.....	4
MATH 252, Calculus with Analytic Geometry III.....	4

**Select at least five units from the following:**

- ACCT 116A, Financial Accounting
- ACCT 116B, Managerial Accounting
- BIOL 210A, Introduction to the Biological Sciences I
- BIOL 210B, Introduction to the Biological Sciences II
- CHEM 200, General Chemistry I Lecture
- CHEM 200L, General Chemistry I Laboratory
- CISC 181, Principles of Information Systems
- CISC 186, Visual Basic Programming
- CISC 189A, Introduction to Programming I
- CISC 189B, Introduction to Programming II
- CISC 190, Java Programming
- CISC 192, C/C++ Programming
- CISC 205, Object Oriented Programming Using C++
- CISC 210, System Analysis and Design
- ECON 120, Principles of Economics I
- ECON 121, Principles of Economics II
- GEOL 100, General Geology
- GEOL 101, General Geology Laboratory
- MATH 119, Elementary Statistics
- MATH 245, Discrete Mathematics
- MATH 254, Introduction to Linear Algebra
- MATH 255, Differential Equations
- PHIL 100, Logic and Critical Thinking
- PHIL 101, Symbolic Logic
- PHYN 100, Survey of Physical Science
- PHYS 195, Mechanics
- PHYS 196, Electricity and Magnetism
- PHYS 197, Waves, Optics, and Modern Physics
- PSYC 101, General Psychology

PSYC 258, Behavioral Science Statistics  
 SOCO 101, Principles of Sociology .....5  
**Total Units = 18**

**General Education:** In addition to the courses listed above, students must complete one of the general education options listed on page 67:

- The IGETC pattern (page 89) is accepted by all CSU campuses and most UC campuses and majors. It is also accepted by some private/independent or out of state universities.
- The CSU GE pattern (page 97) is accepted by all CSU campuses and some private/independent or out of state universities. It is not accepted by the UC system.
- The San Diego Community College District General Education pattern (page 71) may be appropriate for students transferring to a private/independent or out of state university or to a high-unit major. Students selecting this option should meet with a counselor to determine the appropriate General Education courses for their individual transfer goals.

It is strongly recommended that students consult with a counselor to determine which general education option is most appropriate for their individual educational goals.

Electives as needed to meet minimum of 60 units required for the degree.

**Transfer Information**

Students planning to transfer to a four-year college or university should complete courses required for the university major and the general education pattern required by that transfer institution. See catalog TRANSFER INFORMATION section. Additional courses may be required to meet university lower-division requirements. **Course requirements at the transfer institution are subject to change and may be verified by a counselor or by consulting the current university catalog. Many Baccalaureate in Arts degrees require a third semester competency in a foreign language. Consult the current catalog of the transfer institution and consult with a counselor.**

# Military Studies

	Units
<b>Certificate of Achievement:</b>	
Military Leadership	18
<b>Associate in Science Degree:</b>	
Military Leadership	18*
Occupational/Technical Studies (see page 167)	18*
*and electives as needed to meet minimum of 60 units required for the degree.	

**Description**

The Military Leadership program provides a broad, interdisciplinary foundation in leadership and management skills with a focus on application to the U.S. military (Army, Navy, Air Force, and Marine Corps). It is intended primarily for students seeking leadership skills applicable at the Senior Noncommissioned Officer (E-6 to E-9), Warrant Officer (W-1 to W-5), or Company Grade / Junior Officer (O-1 to O-3) levels. The program may also be useful preparation for students seeking supervisory or management positions in public service, security, aviation, or maritime career fields, or for those seeking a commission through the Reserve Officer Training Corps or other university-affiliated commissioning program. All of the courses in the major are transferable to the California State University (CSU) system, and some fulfill lower division university transfer or graduation requirements.

**Program Learning Outcomes**

The Military Leadership program provides a broad, interdisciplinary foundation in leadership and management skills with a focus on application to the U.S. military. Students gain knowledge and skills in the following areas:

- The structure, organization, and practices of the U.S. military
- Leadership theory and application
- Military law and ethics

- Analytical reading, research, and writing
- The U.S. Constitution, political system, and governmental institutions

In addition, students complete a course relevant to the application of leadership principles (such as team dynamics, supervision, or management) and a “capstone” educational experience.

**Student Learning Outcomes**

Students who complete the Military Studies Program will be able to:

- Apply principles of leadership, ethics, and law to common decisions made by military leaders.
- Assess the effectiveness of leadership traits, skills, styles, and processes that have been applied to real-world leadership situations.
- Analyze the structure, role, and function of the U.S. military in relation to the U.S. Constitution and other components of the U.S. government.
- Read, analyze, discuss, evaluate, and write critically about topics related to military leadership

**Career Options**

The Associate in Science Degree in Military Leadership provides knowledge and skills applicable to careers in the U.S. military at the Senior Noncommissioned Officer (E-6 to E-9), Warrant Officer (W-1 to W-5), and Company Grade / Junior Officer (O-1 to O-3) levels. It may also be useful preparation for students seeking leadership positions in public service, security, aviation, or maritime career fields.

**Course Requirements for Transfer Students**

Students who plan to transfer to a four-year college or university in this discipline should consult with a counselor or visit the Transfer Center to determine the appropriate major preparation courses for their specific transfer institution and major. Transfer students may also earn an Associate in Science degree with an area of emphasis in Occupational/Technical Studies (see page 167). This degree is designed to accommodate the differing requirements of a wide variety of transfer institutions and major options in order to provide the most efficient path to transfer. More information on transfer programs and procedures is available in the Transfer Guide section of the catalog.

**Certificate of Achievement: Military Leadership**

<b>Courses Required for the Major:</b>	<b>Units</b>
MILS 101, Introduction to Military Science.....	2
MILS 110, Leadership Theory and Practice .....	3
MILS 120, Military Justice, Ethics, and the Law of Armed Conflict .....	3
MILS 201, Applied Military Leadership.....	2
ENGL 101, Reading and Composition .....	3
POLI 102, The American Political System .....	3
<b>Select Three Units From:</b>	
AVIA 125, Aviation and Airport Management .....	3
AVIA 128, Group Dynamics for High Risk Teams .....	3
AVIA 228, Group Dynamics II .....	3
BUSE 201, Business Organization and Management .....	3
MILS 270, Work Experience in Military Leadership .....	1-4
SUPR 101, Introduction to Supervision .....	3
SUPR 115, Management and Organization for Supervisors .....	3
<b>Total Units = 19</b>	
SUPR 101 and SUPR 115 are offered at San Diego City College.	

**Associate in Science Degree: Military Leadership**

The Associate in Science in Military Leadership provides a broad, interdisciplinary foundation in leadership and management skills with a focus on application to the U.S. military (Army, Navy, Air Force, and Marine Corps). It is intended primarily for students seeking leadership skills applicable at the Senior Noncommissioned Officer (E-6 to E-9), Warrant Officer (W-1 to W-5), or Company Grade / Junior Officer (O-1 to O-3) levels. The program may also be useful preparation for students seeking supervisory or management positions in public service, security, aviation, or maritime career fields, or for those seeking a commission through the Reserve Officer Training Corps or other university-affiliated commissioning program. All of the courses in the major are transferable to the California State University (CSU) system, and some fulfill lower division university transfer or graduation requirements.

<b>Courses Required for the Major:</b>	<b>Units</b>
MILS 101, Introduction to Military Science.....	2
MILS 110, Leadership Theory and Practice .....	3
MILS 120, Military Justice, Ethics, and the Law of Armed Conflict .....	3
MILS 201, Applied Military Leadership.....	2
ENGL 101, Reading and Composition <b>or</b>	

BUSE 119 Business Communications .....3  
 POLI 102, The American Political System.....3

**Select Three Units From: Units**  
 AVIA 125, Aviation and Airport Management .....3  
 AVIA 128, Group Dynamics for High Risk Teams .....3  
 AVIA 228, Group Dynamics II .....3  
 BUSE 201, Business Organization and Management .....3  
 MILS 270, Work Experience in Military Leadership .....1-4  
 SUPR 101, Introduction to Supervision .....3  
 SUPR 115, Management and Organization for Supervisors .....3

**Recommended Communication And Analytical Thinking General Education Course: Units**  
 CISC 181, Principles of Information Systems **or**  
 SPEE 103, Oral Communication **or**  
 SPEE 135, Interpersonal Communication.....3-4

**Recommended Natural Sciences General Education Course: Units**  
 GEOG 101, Physical Geography **or**  
 PHYN 120, Physical Oceanography.....3

**Recommended Humanities General Education Course: Units**  
 ARAB 101, First Course in Arabic **or**  
 HUMA 106, World Religions **or**  
 SPAN 101, First Course in Spanish **or**  
 SPAN 215, Spanish for Spanish Speakers I **or**  
 TAGA 101, First Course in Tagalog.....3-5

**Recommended Social And Behavioral Sciences General Education Course: Units**  
 BLAS 140A, History of the U.S., Black Perspectives **or**  
 CHIC 141A, United States History from a Chicano Perspective **or**  
 HIST 109, History of the United States I **or**  
 HIST 115A, History of the Americas I **or**  
 HIST 141, Women in United States History I **or**  
 HIST 150, Native Americans in United States History .....3

**Total Units = 19**

For graduation requirements see **Associate Degree Requirements** on page 67.

Electives as needed to meet minimum of 60 units required for the degree.

**Recommended Electives:** Geography 102, 104; History 130; Political Science 140; Sociology 223; Speech 180.

# Music

	Units
<b>Certificate of Performance:</b>	
Music Production and Engineering	15
<b>Associate in Arts Degree:</b>	
Music Studies	18*
*and electives as needed to meet minimum 60 units required for the degree.	

**Description**

The academic program in Music Production and Engineering has been designed to provide students with the basic skills for engineering, recording, mixing and producing music for various music and audio industry recording fields. The program also provides students with skills in basic musicianship, theory, ear training and music business.

**Program Learning Outcomes**

While the music curriculum is small, it offers course work that meets the humanities requirement for general education for both the associate degree and baccalaureate degrees. In addition, students can pursue the development of skills in basic musicianship and electronic music.

**Student Learning Outcomes**

Students who complete the Music Program will be able to:

- Conduct an in depth analysis of contemporary music identifying genres from different periods as well as an analysis of music from historical and theoretical perspectives.
- Summarize societal issues associated with the production, dissemination, celebration and consumption of Music.
- Describe the relationship between technology using the technological tools applicable as it relates to music.

Students will be assessed through a combination of performance evaluations, written assignments, and written tests and quizzes.

<b>Faculty</b>	<b>Office</b>	<b>Telephone</b>
Channing Booth	B-403B	619-388-7511
Mark Hertica	B-302-B2	619-388-7531

**Program Emphasis**

The Music Production and Engineering Program prepares students for work in the music and audio recording and production industries. This program enables students to earn an Associate Degree and have the qualified skills necessary to find employment upon completion.

**Career Options**

Examples of entry level employment options after successful completion of the program include: recording, mixing, composition, and/or production of music for music CDs, film, video, music videos, jingles, radio, television and multimedia projects. Other career options include audio visual technician, home theater audio consultant, designer and/or installer. This program also serves as a base for further education leading to careers such as digital audio technician, recording studio engineer, producer, sound re-enforcement engineer, synthesizer programmer, and retail music equipment sales.

**Transfer Information**

**Common university majors related to the field of Music include:** Creative Studies, Music, Music Business, Music Education, Music Performance, Musical Theater.

**Course Requirements for Transfer Students**

Students who plan to transfer to a four-year college or university in this discipline should consult with a counselor or visit the Transfer Center to determine the appropriate major preparation courses for their specific transfer institution and major. Transfer students may also earn an Associate in Arts degree with an area of emphasis in Music Studies (see below). This degree is designed to accommodate the differing requirements of a wide variety of transfer institutions and major options in order to provide the most efficient path to transfer. More information on transfer programs and procedures is available in the Transfer Guide section of the catalog.

**Certificate of Performance:**

**Music Production and Engineering\***

The Certificate of Performance in Music Production and Engineering prepares students with a solid foundation in digital recording, mixing and mastering musical projects using state-of-the-art software and plug-ins. Students produce musical projects using Musical Instrument Digital Interface (MIDI) sequencing, as well as music for multimedia projects, film and video.

<b>Courses:</b>	<b>Units</b>
MUSI 190, The Electronic Music Studio.....	3
MUSI 201, Recording Arts .....	3
MUSI 202, Computer Music .....	3
MUSI 205A, Projects in Electronic Music .....	3
MUSI 205B, Projects in Electronic Music .....	3
<b>Total Units = 15</b>	

\*This is a department award in recognition of information on the transcript and does not imply that a graduation requirement has been met.

The Certificate of Performance in Music Production and Engineering includes only the core technology courses excluding the fundamental music skills courses and general education courses of the higher level programs.

**Associate in Arts Degree: Music Studies**

The Associate in Arts degree with an area of emphasis in Music Studies is intended for students who plan to complete a bachelor's degree at a transfer institution in music-related major. Common university majors in this field include: Creative Arts, Music, Music Business, Music Education, and Music Performance.

This degree is designed to accommodate the differing requirements of a wide variety of transfer institutions and major options. Because admission and major preparation requirements vary at each transfer institution, courses used to complete this degree should be selected with the assistance of a Miramar College counselor.

<b>Courses Required for the Major:</b>	<b>Units</b>
MUSI 100, Introduction to Music.....	3

**Select at least 15 units, including at least two MUSI courses, from the following:**

- BUSE 140, Business Law and the Legal Environment
- ENGL 105, Composition and Literature
- ENGL 205, Critical Thinking and Intermediate Composition
- MUSI 108, The Business of Music

MUSI 109, World Music  
 MUSI 110, Music for Elementary School Teachers  
 MUSI 111, Jazz-History and Development  
 MUSI 120, Beginning Voice Class  
 MUSI 150A, Basic Musicianship  
 MUSI 158A, Music Theory I  
 MUSI 190, The Electronic Music Studio  
 MUSI 201, Recording Arts  
 MUSI 202, Computer Music  
 MUSI 252, Concert Jazz Band  
 MUSI 268A, Beginning Ear Training Laboratory I  
 PSYC 101, General Psychology ..... 15

**Total Units = 18**

**General Education:** In addition to the courses listed above, students must complete one of the general education options listed on page 67:

- The IGETC pattern (page 89) is accepted by all CSU campuses and most UC campuses and majors. It is also accepted by some private/independent or out of state universities.
- The CSU GE pattern (page 97) is accepted by all CSU campuses and some private/independent or out of state universities. It is not accepted by the UC system.
- The San Diego Community College District General Education pattern (page 71) may be appropriate for students transferring to a private/independent or out of state university or to a high-unit major. Students selecting this option should meet with a counselor to determine the appropriate General Education courses for their individual transfer goals.

It is strongly recommended that students consult with a counselor to determine which general education option is most appropriate for their individual educational goals.

Electives as needed to meet minimum of 60 units required for the degree.

### **Transfer Information**

Students planning to transfer to a four-year college or university should complete courses required for the university major and the general education pattern required by that transfer institution. See catalog TRANSFER INFORMATION section. Additional courses may be required to meet university lower-division requirements. **Course requirements at the transfer institution are subject to change and may be verified by a counselor or by consulting the current university catalog. Many Baccalaureate in Arts degrees require**

**a third semester competency in a foreign language. Consult the current catalog of the transfer institution and consult with a counselor.**

## **Occupational/Technical Studies**

See "Interdisciplinary Studies" on page 165.

# **Paralegal**

## **Legal Assistant**

	<b>Units</b>
<b>Certificate of Achievement:</b>	
Paralegal	30-36
<b>Associate in Science Degree:</b>	
Paralegal	30-36*
Occupational/Technical Studies (see page 167)	18*
*and electives as needed to meet minimum of 60 units required for the degree.	

### **Description**

Approved by the American Bar Association (ABA), the Paralegal program provides professional training with an emphasis on occupational competency. "A legal assistant or paralegal is a person, qualified by education, training or work experience who is employed or retained by a lawyer, law office, corporation, governmental agency or other entity and who performs specifically delegated substantive legal work for which a lawyer is responsible." Paralegals adhere to recognized ethical standards and rules of professional responsibility.

### **Program Emphasis**

The Paralegal program offers both an Associate in Science degree and a Certificate of Achievement in compliance with the American Bar Association (ABA).

## Objectives of Program

To provide students with a post-secondary level of education which will prepare them for transfer to a 4 year university to continue their studies [and]

To provide practical training to students to be employed or retained as a paralegal professional by an attorney, law office, governmental agency, or other entity in the private or public sectors throughout the various jurisdictions in the United States [or] perform the duties of a paralegal.

## Student Learning Outcomes

Students who complete the Paralegal Program will be able to:

- Recognize ethical issues that arise in a legal work environment and apply rules of professional conduct to resolve them;
- Perform the duties of an entry level paralegal in a law firm or other legal work setting.
- Demonstrate written skills that paralegals use on the job;
- Apply basic principles of legal analysis;
- Use computers and other technology for document production, law office management, and trial preparation;
- Perform legal research using both printed and electronic sources.

Students will be assessed through a combination of performance evaluations, written assignments, and written tests and quizzes.

## Program Director

The Program Director's office is located in A224. Any questions regarding program contact Program Director:

P. Darrel Harrison 619-388 7892  
dharriso@sdccd.edu

## Course Requirements for Transfer Students

Students who plan to transfer to a four-year college or university in this discipline should consult with a counselor or visit the Transfer Center to determine the appropriate major preparation courses for their specific transfer institution and major. Transfer students may also earn an Associate in Science degree with an area of emphasis in Occupational/Technical Studies (see page 167). This degree is designed to accommodate the differing requirements of a wide variety of transfer institutions and major options in

order to provide the most efficient path to transfer. More information on transfer programs and procedures is available in the Transfer Guide section of the catalog.

## Residency Requirements

The Paralegal Program has been extremely cautious in its acceptance of transfer specialty credit from other institutions. All students must complete 18 units of paralegal major on Miramar's campus. Accredited institutions that are ABA approved may transfer up to 12 credits toward their major. Legal courses taken more than 5 years ago may not meet the current curriculum requirements and/or the current laws and procedures and thus may not be accepted as credit towards the major.

## Legal Assistant Core Curriculum

Courses Required for the Major:	Units
LEGL 100A, Introduction to Paralegalism.....	1
LEGL 100B, Legal Procedures.....	2
LEGL 105, Legal Research.....	3
LEGL 110, Legal Writing & Communications .....	3
LEGL 115, Civil Litigation I.....	3
LEGL 120, Civil Litigation II-Torts .....	3
LEGL 180, Contract Law .....	3
<b>Total Units = 18</b>	

## Associate in Science Degree: Paralegal

Courses Required for the Major:	Units
Core Curriculum .....	18

### Legal Specialty elective courses approved for the Major: *Select twelve units from the following legal specialty courses:*

LEGL 140, Law Office Management	
LEGL 145, Federal Court Practices and Procedures	
LEGL 150, Criminal Litigation and Procedure	
LEGL 155, Employment Law	
LEGL 160, Bankruptcy Law	
LEGL 165, Family Law	
LEGL 170, Corporate Law	
LEGL 175, Estates, Trusts, and Wills	
LEGL 200, Elder Law	
LEGL 210, Immigration Law	
LEGL 296, Individualized Instruction in Legal Assistant.....	12

### Law Related courses which may be substituted for Legal Specialty elective courses: *Limited to six units.*

ADJU 102, Criminal Law I

ADJU 160, Criminal Law II  
 ADJU 230, Constitutional Law I  
 BUSE 140, Business Law and the Legal Environment  
 REAL 105, Legal Aspects of Real Estate I  
 LABR 112\*, California Workers Compensation  
 CBTE 221, Legal Office Procedures I  
 CBTE 222, Legal Office Procedures II  
 ACCT 116A, Financial Accounting  
 ACCT 120, Federal Income Tax

**Total Units = 30**

Other law-related classes may be accepted or substituted by petition or course substitution.

\*Offered at City College only.

For graduation requirements see **Associate Degree Requirements** on page 67.

### **Certificate of Achievement: Paralegal**

This option is available only to students entering the program who have completed all general education core requirements through coursework received by either an Associates in Arts degree or a Bachelor's degree. The Certificate of Achievement as a Paralegal requires completion of the (18 units) required core courses, (12 units) legal specialty elective courses or (up to 6 units) approved law related courses totaling 30 units.

## **Physical Education**

See "Exercise Science" on page 157.

# Physical Science

### **Associate in Science Degree:**

	<b>Units</b>
Earth Science Studies	18*
Physics Studies	19*
Pre-Engineering Studies	18*

\*and electives as needed to meet minimum 60 units required for the degree.

### **Description**

Physical Science is the study of the physical environment, material things, matter, and energy. Students learn the principles that form the foundations of non-living systems and gain an understanding and appreciation of the methodologies of science as investigative tools.

### **Program Learning Outcomes**

The Physical Science program is designed to prepare students to transfer to a four-year university in a physical science-related discipline.

### **Student Learning Outcomes**

Students who complete the Physical Science Program will be able to:

- Identify connections between scientific theory and observations
- Solve problems related to concepts in the physical sciences
- Visualize important features of a given physical phenomenon
- Interpret scientific results collected by others and/or assess the validity of results collected in a physical science laboratory

Students will be assessed through a combination of performance evaluations, written assignments, and written tests and quizzes.

Faculty	Office	Telephone
Regina Bochicchio	S5-101D	619-388-7496 gbochicc@sdccd.edu
Sadayoshi Okumoto	S5-101H	619-388-7540 sokumoto@sdccd.edu

### Career Options

Careers related to this discipline typically require education beyond the associate degree level.

### Transfer Information

#### Common university majors related to the field of

**Physical Science include:** Astronomy, Astrophysics, Biophysics, Chemical Physics, Earth Sciences, Engineering Physics, Environmental Sciences, Geographic Information Science, Geology, Hydrologic Sciences, Meteorology, Natural Sciences, Oceanography, Physical Geography, Physical Sciences, Physics.

### Course Requirements for Transfer Students

Students who plan to transfer to a four-year college or university in this discipline should consult with a counselor or visit the Transfer Center to determine the appropriate major preparation courses for their specific transfer institution and major. Transfer students may also earn an Associate in Science degree with an area of emphasis in Earth Science Studies or Physics Studies (see below). These degrees are designed to accommodate the differing requirements of a wide variety of transfer institutions and major options in order to provide the most efficient path to transfer. More information on transfer programs and procedures is available in the Transfer Guide section of the catalog.

### Associate in Science Degree: Earth Science Studies

The Associate in Science degree with an area of emphasis in Earth Science Studies is intended for students who plan to complete a bachelor's degree at a transfer institution in a physical or earth science-related major. Common university majors in this field include: Earth Sciences, Environmental Sciences, Geographic Information Science, Geology, Hydrologic Sciences, Meteorology, Natural Sciences, Oceanography, Physical Geography, and Physical Sciences.

This degree is designed to accommodate the differing requirements of a wide variety of transfer institutions and major options. Because admission and major preparation requirements vary at each transfer

institution, courses used to complete this degree should be selected with the assistance of a Miramar College counselor.

Courses Required for the Major:	Units
CHEM 200, General Chemistry I Lecture.....	3
CHEM 200L, General Chemistry I Laboratory.....	2
PHYS 125, General Physics <b>or</b>	
PHYS 195, Mechanics.....	5

#### Select at least eight units from the following:

ASTR 101, Descriptive Astronomy	
ASTR 111, Astronomy Laboratory	
BIOL 107, General Biology-Lecture and Laboratory	
BIOL 210A, Introduction to the Biological Sciences I	
BIOL 210B, Introduction to the Biological Sciences II	
BIOL 215, Introduction to Zoology	
BIOL 250, Introduction to Botany	
CHEM 201, General Chemistry II Lecture	
CHEM 201L, General Chemistry II Laboratory	
CHEM 231, Organic Chemistry I Lecture	
CHEM 231L, Organic Chemistry I Laboratory	
CISC 186, Visual Basic Programming	
CISC 189A, Introduction to Programming I	
CISC 189B, Introduction to Programming II	
CISC 190, Java Programming	
ECON 121, Principles of Economics II	
GEOG 101, Physical Geography	
GEOG 101L, Physical Geography Laboratory	
GEOG 102, Cultural Geography	
GEOL 100, General Geology	
GEOL 101, General Geology Laboratory	
GEOL 104, Earth Science	
MATH 116, College and Matrix Algebra	
MATH 119, Elementary Statistics	
MATH 121, Basic Techniques of Applied Calculus I	
MATH 122, Basic Techniques of Applied Calculus II	
MATH 141, Precalculus	
MATH 150, Calculus with Analytic Geometry I	
MATH 151, Calculus with Analytic Geometry II	
PHYN 100, Survey of Physical Science	
PHYN 101, Survey of Physical Science Laboratory	
PHYN 120, Physical Oceanography	
PHYS 126, General Physics II	
PHYS 196, Electricity and Magnetism	
PHYS 197, Waves, Optics, and Modern Physics	
PSYC 258, Behavioral Science Statistics	
SPEE 103, Oral Communication .....	8

**Total Units = 18**

**General Education:** In addition to the courses listed above, students must complete one of the general education options listed on page 67:

- The IGETC pattern (page 89) is accepted by all CSU campuses and most UC campuses and majors. It is

also accepted by some private/independent or out of state universities.

- The CSU GE pattern (page 97) is accepted by all CSU campuses and some private/independent or out of state universities. It is not accepted by the UC system.
- The San Diego Community College District General Education pattern (page 71) may be appropriate for students transferring to a private/independent or out of state university or to a high-unit major. Students selecting this option should meet with a counselor to determine the appropriate General Education courses for their individual transfer goals.

It is strongly recommended that students consult with a counselor to determine which general education option is most appropriate for their individual educational goals.

**Electives as needed to meet minimum of 60 units required for the degree.**

### **Transfer Information**

Students planning to transfer to a four-year college or university should complete courses required for the university major and the general education pattern required by that transfer institution. See catalog TRANSFER INFORMATION section. Additional courses may be required to meet university lower-division requirements. **Course requirements at the transfer institution are subject to change and may be verified by a counselor or by consulting the current university catalog. Many Baccalaureate in Arts degrees require a third semester competency in a foreign language. Consult the current catalog of the transfer institution and consult with a counselor.**

### **Associate in Science Degree: Physics Studies**

The Associate in Science degree with an area of emphasis in Physics Studies is intended for students who plan to complete a bachelor's degree at a transfer institution in a physics-related major. Common university majors in this field include: Astronomy, Astrophysics, Biophysics, Chemical Physics, Engineering Physics, and Physics.

This degree is designed to accommodate the differing requirements of a wide variety of transfer institutions and major options. Because admission and major preparation requirements vary at each transfer institution, additional elective courses used to

complete this degree should be selected with the assistance of a Miramar College counselor.

<b>Courses Required for the Major:</b>	<b>Units</b>
MATH 150, Calculus with Analytic Geometry I.....	5
MATH 151, Calculus with Analytic Geometry II.....	4
PHYS 195, Mechanics.....	5
PHYS 196, Electricity and Magnetism.....	5
<b>Total Units = 19</b>	

**General Education:** In addition to the courses listed above, students must complete one of the general education options listed on page 67:

- The IGETC pattern (page 89) is accepted by all CSU campuses and most UC campuses and majors. It is also accepted by some private/independent or out of state universities.
- The CSU GE pattern (page 97) is accepted by all CSU campuses and some private/independent or out of state universities. It is not accepted by the UC system.
- The San Diego Community College District General Education pattern (page 71) may be appropriate for students transferring to a private/independent or out of state university or to a high-unit major. Students selecting this option should meet with a counselor to determine the appropriate General Education courses for their individual transfer goals.

It is strongly recommended that students consult with a counselor to determine which general education option is most appropriate for their individual educational goals.

**Electives as needed to meet minimum of 60 units required for the degree.**

### **Transfer Information**

Students planning to transfer to a four-year college or university should complete courses required for the university major and the general education pattern required by that transfer institution. See catalog TRANSFER INFORMATION section. Additional courses may be required to meet university lower-division requirements. **Course requirements at the transfer institution are subject to change and may be verified by a counselor or by consulting the current university catalog. Many Baccalaureate in Arts degrees require a third semester competency in a foreign language. Consult the current catalog of the transfer institution and consult with a counselor.**

## Associate in Science Degree: Pre-Engineering Studies

The Associate in Science degree with an area of emphasis in Pre-Engineering Studies is intended for students who plan to complete a bachelor's degree at a transfer institution in an engineering-related major.

Common university majors in this field include: Aerospace Engineering, Civil Engineering, Computer Engineering, Construction Engineering, Electrical Engineering, Engineering, Engineering Physics, Engineering Technology, Environmental Engineering, Industrial Engineering / Technology, Manufacturing Engineering, Materials Science, Mechanical Engineering, Nuclear Engineering, and Structural Engineering.

This degree is designed to accommodate the differing requirements of a wide variety of transfer institutions and major options. Because admission and major preparation requirements vary at each transfer institution, courses used to complete this degree should be selected with the assistance of a Miramar College counselor.

Courses Required for the Major:	Units
CHEM 200, General Chemistry I Lecture .....	3
MATH 150, Calculus with Analytic Geometry I.....	5

### Select ten units from the following:

ACCT 116A, Financial Accounting  
 BIOL 205, General Microbiology  
 BIOL 210A, Introduction to the Biological Sciences I  
 BIOL 210B, Introduction to the Biological Sciences II  
 BIOL 215, Introduction to Zoology  
 BIOL 250, Introduction to Botany  
 BUSE 140, Business Law and the Legal Environment  
 CHEM 130, Introduction to Organic and Biological Chemistry  
 CHEM 200L, General Chemistry I Laboratory  
 CHEM 201, General Chemistry II Lecture  
 CHEM 201L, General Chemistry II Laboratory  
 CISC 189A, Introduction to Programming I  
 CISC 189B, Introduction to Programming II  
 CISC 190, Java Programming  
 CISC 192, C/C++ Programming  
 ECON 121, Principles to Economics II  
 GEOL 100, General Geology  
 GEOL 101, General Geology Laboratory  
 MATH 119, Elementary Statistics  
 MATH 151, Calculus with Analytic Geometry II  
 MATH 245, Discrete Mathematics  
 MATH 252, Calculus with Analytic Geometry III  
 MATH 254, Introduction to Linear Algebra  
 MATH 255, Differential Equations  
 PHYS 125, General Physics

PHYS 126, General Physics II  
 PHYS 195, Mechanics  
 PHYS 196, Electricity and Magnetism  
 PHYS 197, Waves, Optics, and Modern Physics  
 PSYC 258, Behavioral Science Statistics .....10

**Total Units = 18**

**General Education:** In addition to the courses listed above, students must complete one of the general education options listed on page 67:

- The IGETC pattern (page 89) is accepted by all CSU campuses and most UC campuses and majors. It is also accepted by some private/independent or out of state universities.
- The CSU GE pattern (page 97) is accepted by all CSU campuses and some private/independent or out of state universities. It is not accepted by the UC system.
- The San Diego Community College District General Education pattern (page 71) may be appropriate for students transferring to a private/independent or out of state university or to a high-unit major. Students selecting this option should meet with a counselor to determine the appropriate General Education courses for their individual transfer goals.

It is strongly recommended that students consult with a counselor to determine which general education option is most appropriate for their individual educational goals.

**Electives as needed to meet minimum of 60 units required for the degree.**

### Transfer Information

Students planning to transfer to a four-year college or university should complete courses required for the university major and the general education pattern required by that transfer institution. See catalog TRANSFER INFORMATION section. Additional courses may be required to meet university lower-division requirements. **Course requirements at the transfer institution are subject to change and may be verified by a counselor or by consulting the current university catalog. Many Baccalaureate in Arts degrees require a third semester competency in a foreign language. Consult the current catalog of the transfer institution and consult with a counselor.**

## Political Science

See "Social and Behavioral Sciences" on page 183.

# Psychology

## Associate in Arts Degree:

Psychology

Units

18\*

\*and electives as needed to meet minimum 60 units required for the degree.

## Description

Psychology is a behavioral science that emphasizes the understanding of behavior (feelings, actions, and thoughts) of individuals. It should be noted that psychology typically focuses on the study of humans though psychologists have interests in other species. Psychology as a science is most closely related to the biological sciences, although its application often involves persons and cultural/philosophical beliefs or values. Students who major in psychology are expected to be able to think critically and scientifically about behavior, and be able to apply the principles of psychology to the understanding of behavior.

## Program Learning Outcomes

The psychology program has two primary goals. The first is to provide the basic courses that are foundations for further understanding of other courses in psychology and related fields as well as preparation for transfer to other institutions for further study. The second goal is to provide courses that may include additional information regarding psychology that are of general interest to the community and college students or are applications of psychological principles.

## Student Learning Outcomes

Students who complete the Psychology Program will be able to:

- Recognize and discuss the major concepts, theoretical perspectives, empirical findings, and historical trends in psychology
- Use skeptical inquiry and critical thinking in applying basic research methods, including research design, data analysis, and interpretation

to understand the behavior of individuals, social and organizational environments.

- Accept ambiguity, weigh evidence and value the diversity of human behavior, the influence of culture, ethnicity, economics and discrimination influencing affect, behavior and cognition, and act ethically.
- Show insight to one's own behavior and that of others, including the ability to work effectively in groups

Students will be assessed through a combination of performance evaluations, written assignments, and written tests and quizzes.

Faculty	Office	Telephone/EMail
Kenneth M. McPherson	B-403G	619-388-7516 kmcpher@sdccd.edu
Mary Lee Strobbe	F-401	619-388-7463 mstrobbe@sdccd.edu

## Career Options

Most career options directly related to psychology require graduate level degrees. However, there are several applied and paraprofessional occupations that may not require education beyond the associate degree. The following is a sample of the many career options available with additional preparation in this major beyond the associate degree: advertising researcher, school counselor, drug abuse counselor, employment counselor, manager, marriage and family counselor, mental health worker, personnel analyst, probation officer, police officer, psychometrist, and research. An undergraduate degree in psychology may be an important asset to majors in other fields.

## Transfer Information

### Course Requirements for Transfer Students

Students who plan to transfer to a four-year college or university in this discipline should consult with a counselor or visit the Transfer Center to determine the appropriate major preparation courses for their specific transfer institution and major. Transfer students may also earn an Associate in Arts degree with an area of emphasis in Psychology (see below). This degree is designed to accommodate the differing requirements of a wide variety of transfer institutions and major options in order to provide the most efficient path to transfer. More information on transfer programs and procedures is available in the Transfer Guide section of the catalog.

## Associate in Arts Degree: Psychology

The Associate in Arts degree with an area of emphasis in Psychology is intended for students who plan to complete a bachelor's degree at a transfer institution in a psychology-related major. Common university majors in this field include: Behavioral Science, Cognitive Science, Social Work, Psychobiology, and Psychology.

This degree is designed to accommodate the differing requirements of a wide variety of transfer institutions and major options. Because admission and major preparation requirements vary at each transfer institution, courses used to complete this degree should be selected with the assistance of a Miramar College counselor.

Courses Required for the Major:	Units
PSYC 101, General Psychology .....	3
MATH 119, Elementary Statistics <b>or</b>	
PSYC 258, Behavioral Science and Statistics.....	3

### Select twelve units from the following:

ASTR 101, Descriptive Astronomy
BIOL 107, General Biology-Lecture and Laboratory
BIOL 130, Human Heredity
BIOL 210A, Introduction to the Biological Sciences I
BIOL 210B, Introduction to the Biological Sciences II
BIOL 230, Human Anatomy
CHEM 100, Fundamentals of Chemistry
CHEM 100L, Fundamentals of Chemistry Laboratory
CHEM 130, Introduction to Organic and Biological Chemistry
CHEM 130L, Introduction to Organic and Biological Chemistry Laboratory
CHEM 152, Introduction to General Chemistry
CHEM 152L, Introduction to General Chemistry Laboratory
CISC 190, Java Programming
CISC 192, C/C++ Programming
ECON 120, Principles of Economics I
MATH 121, Basic Techniques of Applied Calculus I
MATH 122, Basic Techniques of Applied Calculus II
MATH 141, Precalculus
MATH 150, Calculus with Analytic Geometry I
MATH 151, Calculus with Analytic Geometry II
MATH 252, Calculus with Analytic Geometry III
PHIL 100, Logic and Critical Thinking
PHIL 101, Symbolic Logic
PHYS 125, General Physics
PHYS 126, General Physics II
PHYS 195, Mechanics
PHYS 196, Electricity and Magnetism
PHYS 197, Waves, Optics, and Modern Physics

PSYC 121, Introduction to Child Psychology
PSYC 123, Adolescent Psychology
PSYC 133, Psychology of Women
PSYC 135, Marriage and Family Relations
PSYC 137, Human Sexual Behavior
PSYC 155, Introduction to Personality
PSYC 166, Introduction to Social Psychology
PSYC 211, Learning
PSYC 230, Psychology of Lifespan Development
PSYC 245, Abnormal Psychology
PSYC 255, Introduction to Psychological Research
PSYC 260, Introduction to Physiological Psychology
SOCO 101, Principles of Sociology.....

**Total Units = 18**

**General Education:** In addition to the courses listed above, students must complete one of the general education options listed on page 67:

- The IGETC pattern (page 89) is accepted by all CSU campuses and most UC campuses and majors. It is also accepted by some private/independent or out of state universities.
- The CSU GE pattern (page 97) is accepted by all CSU campuses and some private/independent or out of state universities. It is not accepted by the UC system.
- The San Diego Community College District General Education pattern (page 71) may be appropriate for students transferring to a private/independent or out of state university or to a high-unit major. Students selecting this option should meet with a counselor to determine the appropriate General Education courses for their individual transfer goals.

It is strongly recommended that students consult with a counselor to determine which general education option is most appropriate for their individual educational goals.

**Electives as needed to meet minimum of 60 units required for the degree.**

### Transfer Information

Students planning to transfer to a four-year college or university should complete courses required for the university major and the general education pattern required by that transfer institution. See catalog TRANSFER INFORMATION section. Additional courses may be required to meet university lower-division requirements. **Course requirements at the transfer institution are subject to change and may be verified by a counselor or by consulting the current university catalog. Many Baccalaureate in Arts degrees require**

**a third semester competency in a foreign language. Consult the current catalog of the transfer institution and consult with a counselor.**

## Selected Studies

See "Interdisciplinary Studies" on page 165.

# Social and Behavioral Sciences

	Units
<b>Associate in Arts Degree:</b>	
Social and Behavioral Sciences	18*
*and electives as needed to meet minimum 60 units required for the degree.	

### Description

Social Science is a multidisciplinary field that encompasses the study of human behavior in social settings. Students in these disciplines examine and analyze human societies; the institutions, organizations, and groups that comprise them; and the ways in which individuals and groups relate to one another. Students also develop an appreciation of the various approaches and methodologies used to study human social behavior. Social Science incorporates a variety of subject areas such as Anthropology, Ethnic Studies, Geography, History, Political Science, and Sociology.

### Program Learning Outcomes

The Social and Behavioral Sciences program is designed to prepare students to transfer to a four-year university in a social science-related discipline.

### Student Learning Outcomes

Students who complete the Social and Behavioral Sciences Program will be able to:

- Interpret and discuss classic and contemporary theories of society, groups, and individuals as they relate to the social and behavioral sciences.

- Apply critical thinking skills in discussing the interrelationship of anthropology, psychology, political science, economics, history, sociology and geography and the processes that influence one another.
- Interpret contemporary social and behavioral science problems and issues by applying the scientific method.
- Value the diversity of individuals and the role of cultural, ethnic, racial, and economic factors in explaining the attitudes and behaviors of individuals and groups within a society.

Students will be assessed through a combination of performance evaluations, written assignments, and written tests and quizzes.

Faculty	Office	Telephone
Marilyn Espitia	B302-D1	619-388-7504
Parvine Ghaffari	B-302E	619-388-7507
Laura Gonzalez	B-301-A2	619-388-7534
Daniel Igou	B-302-A2	619-388-7646
Kenneth M. McPherson	B-4036	619-388-7516 kmcpher@sdccd.edu
Corrie D. Ort	B302B	619-388-7501
Angela Romero	B-301B	619-388-7413
Thomas Schilz	B-302A	619-388-7500
Mary L. Strobbe	F-401	619-388-7463 mstrobbe@sdccd.edu

### Career Options

Careers related to this field typically require education beyond the associate degree level.

### Transfer Information

**Common university majors related to the field of Social Science include:** Anthropology, Archeology, Community Studies, Criminal Justice / Justice Studies, Developmental Studies, Ethnic Studies, Global Studies, Geography, Gerontology, History, International Relations, Law, Peace and Conflict Studies, Policy Analysis, Political Science, Public Administration, Social Ecology, Social Science, Sociology, Urban Studies, and Women's Studies.

### Course Requirements for Transfer Students

Students who plan to transfer to a four-year college or university in this field should consult with a counselor or visit the Transfer Center to determine the appropriate major preparation courses for their specific transfer institution and major. Transfer students may also earn an Associate in Arts degree

with an area of emphasis in Social and Behavioral Sciences (see below). This degree is designed to accommodate the differing requirements of a wide variety of transfer institutions and major options in order to provide the most efficient path to transfer. More information on transfer programs and procedures is available in the Transfer Guide section of the catalog.

### **Associate in Arts Degree: Social and Behavioral Sciences**

The Associate in Arts degree with an area of emphasis in Social and Behavioral Sciences is intended for students who plan to complete a bachelor's degree at a transfer institution in a social science-related major. Common university majors in this field include: Anthropology, Archeology, Community Studies, Criminal Justice / Justice Studies, Developmental Studies, Ethnic Studies, Global Studies, Geography, Gerontology, History, International Relations, Law, Peace and Conflict Studies, Policy Analysis, Political Science, Public Administration, Social Ecology, Social Science, Sociology, Urban Studies, and Women's Studies.

This degree is designed to accommodate the differing requirements of a wide variety of transfer institutions and major options. Because admission and major preparation requirements vary at each transfer institution, courses used to complete this degree should be selected with the assistance of a Miramar College counselor.

#### **Courses Required for the Major:                      Units** **Select at least 12 units from the following social and behavioral sciences core courses:**

ADJU 101, Introduction to Administration of Justice  
ADJU 102, Criminal Law I  
ADJU 106 Diversity and Community Relations  
ADJU 162, Criminal Investigation  
ADJU 193 Concepts of Criminal Law  
ADJU 210, Rules of Evidence  
ADJU 230 Constitutional Law I  
ADJU 386 Leadership Theory and Practice  
ANTH 102, Introduction to Physical Anthropology  
ANTH 103, Introduction to Cultural Anthropology  
ANTH 104, Laboratory in Anthropology  
ANTH 107, Introduction to Archaeology  
BLAS 140A, History of the U.S., Black Perspectives  
BLAS 140B, History of the U.S., Black Perspectives  
ECON 120, Principles of Economics I  
ECON 121, Principles of Economics II  
FILI 100, Filipino American Experience  
GEOG 101, Physical Geography

GEOG 101L, Physical Geography Laboratory  
GEOG 102, Cultural Geography  
GEOG 104, World Regional Geography  
HIST 100, World History I  
HIST 101, World History II  
HIST 105, Introduction to Western Civilization I  
HIST 106, Introduction to Western Civilization II  
HIST 109, History of the United States I  
HIST 110, History of the United States II  
HIST 120, Introduction to Asian Civilization  
HIST 121, Asian Civilization in Modern Times  
HIST 141, Women in United States History I  
HIST 142, Women in United States History II  
HIST 150, Native Americans in United States History  
HIST 151, Native Americans in United States History  
MILS 110 Leadership Theory and Practice  
POLI 101, Introduction to Political Science  
POLI 102, The American Political System  
POLI 103, Comparative Politics  
POLI 140, Contemporary International Politics  
PSYC 101, General Psychology  
PSYC 133, Psychology of Women  
PSYC 135, Marriage and Family Relations  
PSYC 166, Introduction to Social Psychology  
PSYC 255, Introduction to Psychological Research  
PSYC 258, Behavioral Science Statistics  
SOCO 101, Principle of Sociology  
SOCO 110, Contemporary Social Problems  
SOCO 201, Advanced Principles of Sociology  
SOCO 223, Globalization and Social Change..... 12-17  
**Select at least one course and the remainder of units needed to meet the minimum of 18 from the following:**

ACCT 116A, Financial Accounting  
BIOL 107, General Biology-Lecture and Laboratory  
BUSE 140, Business Law and the Legal Environment  
CBTE 120, Beginning Microsoft Word  
CBTE 127, Introduction to PowerPoint  
CBTE 140, Microsoft Excel  
CBTE 151, Introduction to Microsoft Access  
CBTE 161, Learning the Internet  
CBTE 162, Web Page Creation  
CHEM 100, Fundamentals of Chemistry  
CHEM 100L, Fundamentals of Chemistry Laboratory  
CISC 181, Principles of Information Systems  
CISC 186, Visual Basic Programming  
CISC 189A, Introduction to Programming I  
CISC 189B, Introduction to Programming II  
CISC 190, Java Programming  
ENGL 105, Composition and Literature  
ENGL 205, Critical Thinking and Intermediate Composition  
ENGL 237, Women in Literature  
HUMA 106, World Religions

LIBS 101, Information Literacy and Research Skills  
 MATH 119, Elementary Statistics  
 MATH 121, Basic Techniques of Applied Calculus I  
 MATH 150, Calculus with Analytic Geometry I  
 PHIL 100, Logic and Critical Thinking  
 PHIL 101, Symbolic Logic  
 PHIL 102B, Introduction to Philosophy: Values  
 PHIL 205, Critical Thinking and Writing in Philosophy  
 PHYN 100, Survey of Physical Science .....1-6

**Total Units = 18**

**General Education:** In addition to the courses listed above, students must complete one of the general education options listed on page 67:

- The IGETC pattern (page 89) is accepted by all CSU campuses and most UC campuses and majors. It is also accepted by some private/independent or out of state universities.
- The CSU GE pattern (page 97) is accepted by all CSU campuses and some private/independent or out of state universities. It is not accepted by the UC system.
- The San Diego Community College District General Education pattern (page 71) may be appropriate for students transferring to a private/independent or out of state university or to a high-unit major. Students selecting this option should meet with a counselor to determine the appropriate General Education courses for their individual transfer goals.

It is strongly recommended that students consult with a counselor to determine which general education option is most appropriate for their individual educational goals.

**Electives as needed to meet minimum of 60 units required for the degree.**

### **Transfer Information**

Students planning to transfer to a four-year college or university should complete courses required for the university major and the general education pattern required by that transfer institution. See catalog TRANSFER INFORMATION section. Additional courses may be required to meet university lower-division requirements. **Course requirements at the transfer institution are subject to change and may be verified by a counselor or by consulting the current university catalog. Many Baccalaureate in Arts degrees require a third semester competency in a foreign language. Consult the current catalog of the transfer institution and consult with a counselor.**

## **Sociology**

See "Social and Behavioral Sciences" on page 183.

## **Spanish**

See "World Language Studies" on page 185.

## **Speech Communications**

See "Communication Studies" on page 140.

## **Tagalog**

See "World Language Studies" on page 185.

# **World Language Studies**

	<b>Units</b>
<b>Associate in Arts Degree:</b>	
World Language Studies	18*
*and electives as needed to meet minimum 60 units required for the degree.	

### **Description**

The study of world languages builds communication skills, provides exposure to the richness of cultural variety; meets baccalaureate degree language requirements; broadens career opportunities enriches global travel; provides personal enrichment, and prepares students for upper division work in a baccalaureate institution.

### **Program Learning Outcomes**

Students develop skills of understanding, speaking, reading, and writing. They also become acquainted with the culture, literature, history and current events of foreign countries. The curriculum focuses on preparing students for transfer to baccalaureate institutions and for proficiency in several world languages in a variety of settings.

### **Student Learning Outcomes**

Students who complete the World Language Studies Program will be able to:

- Demonstrate increased comprehension of the target language
- Utilize skills developed in class to produce the target language
- Demonstrate increased appreciation of the target language culture

Students will be assessed through a combination of performance evaluations, written assignments, and written tests and quizzes.

Faculty	Office	Telephone
April Koch	C-202G	619-388-7537
Virginia Naters	C-202H	619-388-7538

### Career Options

Many students pursue an associate degree in world languages to add language skills in their field of work. Degrees beyond the associate level lead to careers such as: working in local and state agencies, multinational companies, international marketing and consulting firms, international banking, advertising, journalism, media and entertainment, travel and tourism, hotel and restaurant industries, and health care.

### Transfer Information

**Common university majors related to the field of world languages include:** Comparative Literature, Foreign Languages (all), Regional Studies (all), World Languages, and World Literature.

### Course Requirements for Transfer Students

Students who plan to transfer to a four-year college or university in this discipline should consult with a counselor or visit the Transfer Center to determine the appropriate major preparation courses for their specific transfer institution and major. Transfer students may also earn an Associate in Arts degree with an area of emphasis in World Language Studies (see below). This degree is designed to accommodate the differing requirements of a wide variety of transfer institutions and major options in order to provide the most efficient path to transfer. More information on transfer programs and procedures is available in the Transfer Guide section of the catalog.

### Associate in Arts Degree: World Language Studies

The Associate in Arts degree with an area of emphasis in World Language Studies is intended for students who plan to complete a bachelor's degree at a transfer institution in a world language-related major.

Common university majors in this field include: Comparative Literature, Foreign Languages (all), Regional Studies (all), World Languages, and World Literature.

This degree is designed to accommodate the differing requirements of a wide variety of transfer institutions and major options. Because admission and major preparation requirements vary at each transfer institution, courses used to complete this degree should be selected with the assistance of a Miramar College counselor.

### Courses Required for the Major: Units

#### Select one language course sequence:

ARAB 101, First Course in Arabic **and**  
ARAB 102, Second Course in Arabic

**or**

SPAN 101, First Course in Spanish **and**  
SPAN 102, Second Course in Spanish **and**  
SPAN 201, Third Course in Spanish **and**  
SPAN 202, Fourth Course in Spanish

**or**

SPAN 101, First Course in Spanish **and**  
SPAN 102, Second Course in Spanish **and**  
SPAN 215, Spanish for Spanish Speakers I **and**  
SPAN 216, Spanish for Spanish Speakers II

**or**

TAGA 101, First Course in Tagalog **and**  
TAGA 102, Second Course in Tagalog **and**  
TAGA 201, Third Course in Tagalog ..... 10-20\*

#### Select the remainder of units needed to meet the minimum of 18 from the following:

ANTH 103, Introduction to Cultural Anthropology

ECON 120, Principles of Economics I

ECON 121, Principles of Economics II

ENGL 208, Introduction to Literature

ENGL 220, Masterpiece of Literature I: 1500 BCE-1600 CE

ENGL 221, Masterpiece of Literature II: 1600 BCE-Present

ENGL 230, Asian American Literature

FILI 100, Filipino American Experience

GEOG 102, Cultural Geography

HIST 100, World History I

HIST 101, World History II

HIST 105, Introduction to Western Civilization I

HIST 106, Introduction to Western Civilization II

HIST 120, Introduction to Asian Civilization

HIST 121, Asian Civilization in Modern Times

POLI 101, Introduction to Political Science

POLI 103, Comparative Politics

SPAN 210, Conversation and Composition Spanish I

SPAN 211, Conversation and Composition	
Spanish II.....	0-8
<b>Total Units = 18</b>	

\*NOTE: Students who place out of one or more language courses through prerequisite challenge exams or other methods that do not bear college-level credit must fulfill the remainder of the 18 units required for the major through coursework taken from the list of restricted electives.

**General Education:** In addition to the courses listed above, students must complete one of the general education options listed on page 67:

- The IGETC pattern (page 89) is accepted by all CSU campuses and most UC campuses and majors. It is also accepted by some private/independent or out of state universities.
- The CSU GE pattern (page 97) is accepted by all CSU campuses and some private/independent or out of state universities. It is not accepted by the UC system.
- The San Diego Community College District General Education pattern (page 71) may be appropriate for students transferring to a private/independent or out of state university or to a high-unit major. Students selecting this

option should meet with a counselor to determine the appropriate General Education courses for their individual transfer goals.

It is strongly recommended that students consult with a counselor to determine which general education option is most appropriate for their individual educational goals.

**Electives as needed to meet minimum of 60 units required for the degree.**

### ***Transfer Information***

Students planning to transfer to a four-year college or university should complete courses required for the university major and the general education pattern required by that transfer institution. See catalog TRANSFER INFORMATION section. Additional courses may be required to meet university lower-division requirements. ***Course requirements at the transfer institution are subject to change and may be verified by a counselor or by consulting the current university catalog. Many Baccalaureate in Arts degrees require a third semester competency in a foreign language. Consult the current catalog of the transfer institution and consult with a counselor.***

