



Dr. Genie Gertz, Dean of Deaf Studies, cuts the ribbon to officially open the new Evelyn Henderson Deaf Studies Lab in Fall 2010.

## CHAPTER 7 CURRICULUM GUIDES

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### ASSOCIATE DEGREES AND CERTIFICATES OF ACHIEVEMENT

Ohlone offers associate degrees that are designed for students intending to transfer; with a general focus for students whose immediate educational goal may be to complete an associate degree or to transfer; and with an occupational focus for students interested in preparing for employment in certain fields, although these degrees may also be used by students intending to transfer. These associate degrees combine the focus of an emphasis or major within a discipline and the breadth of general education. Certificates of Achievement do not include the breadth of general education but allow a student to focus primarily on their chosen occupational program. Associate degrees require a minimum of 60 semester units whereas Certificates of Achievement are 18 semester units or more.

Both associate degrees and Certificates of Achievement are approved by Ohlone's Curriculum Committee, the Ohlone Community College District Board of Trustees, and the Chancellor's Office of the California Community Colleges. Accordingly, associate degrees and Certificates of Achievement may appear on a student's transcript.

### ACCOUNTING

Associate in Arts in Accounting  
and  
Certificate of Achievement in Accounting

This curriculum is designed to prepare students for entry level positions in business, industry, or government. Graduates often start as a beginning level accountant in a small business or enter a specialty field in industry. Such opportunities include working in payroll, accounts receivable/payable, and general ledger. The qualified individual often advances rapidly to a professional accounting position, particularly in the small business.

#### REQUIREMENTS FOR ASSOCIATE IN ARTS DEGREE

- Complete Major Field and Supporting Courses with a grade of C or better.
- Complete Plan A, B, or C General Education requirements. These requirements are specified in the Ohlone College catalog.
- Complete at least 60 degree-applicable units with a 2.0 grade point average.
- Complete at least 12 units at Ohlone College.

#### REQUIREMENTS FOR CERTIFICATE OF ACHIEVEMENT

- Complete Major Field courses as indicated below.
- Complete at least six units at Ohlone College.
- Maintain a 2.0 grade point average in Major Field courses.

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**MAJOR FIELD**

BA-101A	Financial Accounting	5
BA-101B	Managerial Accounting	5
BA-102B	Principles of Economics-Microeconomics	3
BA-104	Computer Applications in Accounting	3
BA-105	Income Tax Principles	4
BA-123	Math for Accounting and Business	3
		23

**SUPPORTING COURSES**

BA-102A	Principles of Economics-Macroeconomics	3
BA-116	Business English and Communication	4
BA-125	Introduction to Business	3
BA/PSY-139	Psychology in the Workplace	3
BA-141A	Business Law	3
CS-101	Introduction to Computers and Information Technology	3
PHIL-106	Ethics	3
		22
Total Required Units:		45

**ADMINISTRATION OF JUSTICE**

Associate in Arts in Administration of Justice  
and  
Certificate of Achievement in Administration of Justice

This curriculum is designed to prepare students for employment in entry level and advanced positions in the public and private sectors. The program prepares students for positions such as police officer, deputy sheriff, state or federal patrol and investigative officer, correctional aide, security specialist, community service officer, police cadet, and reserve officer, as well as manager and supervisor in these individual fields. Placement may depend on job availability and the successful completion of an entrance examination.

**REQUIREMENTS FOR ASSOCIATE IN ARTS DEGREE**

- Complete Major Field and Supporting Courses with a grade of C or better.
- Complete Plan A, B, or C General Education requirements. These requirements are specified in the Ohlone College catalog.
- Complete at least 60 degree-applicable units with a 2.0 grade point average.
- Complete at least 12 units at Ohlone College.

**REQUIREMENTS FOR CERTIFICATE OF ACHIEVEMENT:**

- Complete Major Field courses as indicated below.
- Complete a minimum of eight units of Major Field Electives.
- Complete at least six units at Ohlone College.
- Maintain a 2.0 grade point average in Major Field courses.

**MAJOR FIELD**

AJ-101	Administration of Justice	3
AJ-102	Criminal Law	3
AJ-104	Criminal Evidence	3
AJ-106	Criminal Procedure	3
AJ-117	Police and Society	3
AJ-118	Criminology	3
		18

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**MAJOR FIELD ELECTIVES**

Complete a minimum of 8 units for Certificate of Achievement. Complete a minimum of 16 units for Associate in Arts degree.

AJ-107	Criminal Investigation	3
AJ-115	Cyber Crime	3
AJ-116	Criminal Forensics	3
AJ-119	Murder in America	3
AJ-123	Terrorism	3
AJ-131	Juvenile Justice	3
AJ-132	Civil Law	2
AJ-135	Drug Enforcement	2
AJ-140	POST PC 832 Laws of Arrest	2
AJ-141	Post PC 832 Basic Firearms Qualification	1
AJ-144	Leadership Skills Development	3
AJ-195A	Work Experience Education – Vocational	1-4
BA/PSY-139	Psychology in the Workplace	3
PSY-101	General Psychology	3
SOC-101	Introduction to Sociology	3
SOC-102	Social Problems of a Diverse Society	3
SOC-105	Marriage and Family	3
		16

**SUPPORTING COURSES**

It is recommended that students select additional courses from among the Major Field Electives in order to broaden their preparation or to direct their program toward such specializations as law enforcement, corrections, investigation, or security. Counselor or instructor assistance in appropriate course selection is advised. Computer literacy and Spanish language capability recommended.

Total Required Units: 34

**ADMINISTRATIVE ASSISTANT**

Associate in Arts in Administrative Assistant  
and  
Certificate of Achievement in Administrative Assistant

This curriculum is designed to prepare students for employment in business, industry, or government. Graduates often begin as an administrative assistant and later advance to executive secretary and administrative assistant. Placement is dependent upon job availability as well as the successful completion of general entrance examinations.

**REQUIREMENTS FOR ASSOCIATE IN ARTS DEGREE**

- Complete Major Field and Supporting Courses with a grade of C or better.
- Complete Plan A, B, or C General Education requirements. These requirements are specified in the Ohlone College catalog.
- Complete at least 60 degree-applicable units with a 2.0 grade point average.
- Complete at least 12 units at Ohlone College.

**REQUIREMENTS FOR CERTIFICATE OF ACHIEVEMENT**

- Complete Major Field courses as indicated below.
- Complete at least six units at Ohlone College.
- Maintain a 2.0 grade point average in Major Field courses.

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**MAJOR FIELD**

BA-101A	Financial Accounting	5
BA-116	Business English and Communication	4
BA-125	Introduction to Business	3
BA-141A	Business Law	3
CAOT-101A	Computer Applications I	2
CAOT-101B	Computer Applications II	2
CAOT-104	Basic Keyboarding <i>OR</i>	1
CAOT-110A	Beginning Keyboarding I	(1)
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**SUPPORTING COURSES**

BA-123	Math for Accounting and Business	3
BA/PSY-139	Psychology in the Workplace	3
CAOT-153	Introduction to Internet	1
SPCH-101	Introduction to Public Speaking	3
		10

**RECOMMENDED MAJOR FIELD ELECTIVES**

Complete three units from the following courses:

BSM-101	Fundamentals of Supervision	3
BSM-102	Interpersonal Relations in the Workplace	3
BSM-103	Management of Human Resources	3
BSM-106	Communication for Supervisors	3
BSM-108	Leadership in Organizations	3
CS-101	Introduction to Computers and Information Technology	3
ENGL-156	Introduction to Report and Technical Writing	3
		3

Total Required Units: 33

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## ADMINISTRATIVE ASSISTANT WITH SUPERVISORY FOCUS

Associate in Arts in Administrative Assistant with Supervisory Focus  
and  
Certificate of Achievement in Administrative Assistant  
with Supervisory Focus

This curriculum is designed to prepare students for employment in business, industry, or government. Graduates often begin as an Administrative Assistant and later advance to first level managers.

Placement is dependent upon job availability.

**REQUIREMENTS FOR ASSOCIATE IN ARTS DEGREE**

- Complete Major Field and Supporting Courses with a grade of C or better.
- Complete Plan A, B, or C General Education requirements. These requirements are specified in the Ohlone College catalog.
- Complete at least 60 degree-applicable units with a 2.0 grade point average.
- Complete at least 12 units at Ohlone College.

**REQUIREMENTS FOR CERTIFICATE OF ACHIEVEMENT**

- Complete Major Field courses as indicated below.
- Complete at least six units at Ohlone College.
- Maintain a 2.0 grade point average in Major Field and Supporting Courses.

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**MAJOR FIELD**

BA-101A	Financial Accounting	5
BA-116	Business English and Communication	4
BA-125	Introduction to Business	3
BA-141A	Business Law	3
CAOT-101A	Computer Applications I	2
CAOT-101B	Computer Applications II	2
CAOT-104	Basic Keyboarding <i>OR</i>	1
CAOT-110A	Beginning Keyboarding I	(1)
MM-105	Web Site Design	4
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**SUPPORTING COURSES**

BA-123	Math for Accounting and Business	3
BA/PSY-139	Psychology in the Workplace	3
CAOT-153	Introduction to Internet	1
SPCH-101	Introduction to Public Speaking	3
		10

**RECOMMENDED MAJOR FIELD ELECTIVES**

Complete 3 units from the following courses:

BSM-101	Fundamentals of Supervision	3
BSM-102	Interpersonal Relations in the Workplace	3
BSM-103	Management of Human Resources	3
BSM-106	Communication for Supervisors	3
BSM-108	Leadership in Organizations	3
CS-101	Introduction to Computers and Information Technology	3
ENGL-156	Introduction to Report and Technical Writing	3
		3

Total Required Units: 37

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## AMERICAN SIGN LANGUAGE AND DEAF STUDIES

Associate in Arts in American Sign Language and Deaf Studies  
and  
Certificate of Achievement in  
American Sign Language and Deaf Studies

This curriculum is designed to prepare students for paraprofessional positions in areas of deaf education (instructional aides, dorm counselors, etc.), research, human services, or community services. This program will also help students with other majors and with their personal and/or professional contacts with Deaf persons.

**REQUIREMENTS FOR ASSOCIATE IN ARTS DEGREE**

- Complete Major Field, Major Field Electives, and Supporting Courses with a grade of C or better.
- Complete Plan A, B, or C General Education requirements. These requirements are specified in the Ohlone College catalog.
- Complete at least 60 degree-applicable units with a 2.0 grade point average.
- Complete at least 12 units at Ohlone College.

**REQUIREMENTS FOR CERTIFICATE OF ACHIEVEMENT**

- Complete Major Field and Major Field Electives.
- Complete at least six units at Ohlone College.
- Maintain a 2.0 grade point average in Major Field and Major Field Electives.

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**MAJOR FIELD**

ASL-101A	Principles of American Sign Language I	5
ASL-102A	Principles of American Sign Language II	5
ASL-103A	Principles of American Sign Language III	5
ASL-104A	Principles of American Sign Language IV	5
ASL-140	Deaf Education <i>OR</i>	3
DEAF-330	Educating the Deaf	(3)
ASL-142	Deaf Culture <i>OR</i>	3
DEAF-311	Introduction to American Deaf Culture	(3)
ASL-150	Linguistics of ASL <i>OR</i>	3
DEAF-312	Linguistics of ASL	(3)
ASL-152	Advanced Fingerspelling	1
ASL-154	Advanced American Sign Language Vocabulary	2
ASL-156	Advanced Reception of ASL	3
ASL-160	American Sign Language Field Work <i>OR</i>	1
ASL-161	American Sign Language Field Work	(2)

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**MAJOR FIELD ELECTIVES**

Complete at least three of the following courses:

ASL-145	Deaf History	3
ASL-155	ASL Literature (Folklore)	3
ASL-157	ASL Storytelling	3
ASL-158	Classifiers in ASL	3

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**SUPPORTING COURSES**

These supporting classes are approved California State Education Requirements for the California School for the Deaf.

Complete a minimum of three semester units in at least three different areas from those listed below:

**Child Growth and Development**

Select three units from:

ECS-301, ECS-303, ECS-306, ECS-316, ECS-327, PD-180, PSY-105, PSY-106, PSY-108

**Education Techniques**

Select three units from:

CHS-101, ECS-300, ECS-302, ECS-321, ECS-328, EDUC-101, HIST-114B, IS-110

**English Composition or Report Writing**

Select three units from:

ASL-155, ENGL-101A, ENGL-101B, ENGL-101C

**Health, Science, and Hygiene**

Select three units from:

BIOL-103A, BIOL-103B, BIOL-104, HLTH-101, HLTH-150, HLTH-160, KIN-251, KIN-257, KIN-258

**Psychology, Sociology, Behavioral Sciences, Handicapping Conditions, Family Life, Social Work, or Rehabilitation**

Select three units from:

PSY-101, PSY-112, SOC-101, SOC-102

**Recreational Planning and/or Physical Education Methodology for Children**

Select three units from:

PE-250-PE-379

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Total Required Units: 54-55

**ART****Associate in Arts in Art**

The Associate in Arts in Art offered by Ohlone College is designed to prepare students for studying Fine Arts at most universities. While the core courses required in the Associate in Arts in Art will fulfill the lower division major requirements at many universities, students are advised to meet with their counselor to assess the course requirements for specific universities. This program will enable students to develop a strong foundation in art.

**REQUIREMENTS FOR ASSOCIATE IN ARTS DEGREE**

- Complete the Major Field and Supporting Courses with a grade of C or better.
- Complete Plan A, B, or C General Education requirements. These requirements are specified in the Ohlone College catalog.
- Complete at least 60 degree-applicable units with a 2.0 grade point average.
- Complete at least 12 units at Ohlone College.

**MAJOR FIELD**

ART-103A	Survey of World Art History – Prehistoric Through 1300 C.E. <i>OR</i>	4
ART-103B	Survey of World Art History – 14th Century Through 20th Century	(4)
ART-104A	2D Design	3
ART-104B	3D Design	3
ART-104C	Color	3
ART-106A	Descriptive Drawing	3
ART-117A	Museum and Gallery Techniques	2

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**SUPPORTING COURSES**

Select 8-10 units from the courses listed below; courses may not be duplicated from above.

ART-103A	Survey of World Art History – Prehistoric Through 1300 C.E.	4
ART-103B	Survey of World Art History – 14th Century Through 20th Century	4
ART-106B	Intermediate Descriptive Drawing	3
ART-107A	Life Drawing	3
ART-108	Perspective Drawing	3
ART-109A	Beginning Graphic Design I	3
ART-111A	Painting – Color and Composition	3
ART-116A	Basic Sculpture	3
ART-121A	Introductory Ceramics I	3
ART-133A	Black and White Photography	3
ART-134A	Basic Color Photography	3
ART-139A	Beginning Digital Photography	3
ART-150A	Interior Design Concepts	3
ART-160A	Computer Graphics I	4
ART-161A	Digital Graphics I	2

Total Required Units: 26-28

## ASL-ENGLISH INTERPRETER PREPARATION PROGRAM

Associate in Arts in ASL-English Interpreter Preparation Program  
and  
Certificate of Achievement in ASL-English  
Interpreter Preparation Program

The ASL-English Interpreter Preparation Program (IPP) is limited in the number of students it can admit to each class. Students must fulfill minimum requirements listed below prior to applying to the Interpreter Preparation Program.

### MINIMUM REQUIREMENTS

1. All pre-interpreter students are required to take the placement test OR provide sufficient proof of college level English and Math coursework to waive this requirement:
  - a. Completion of ENGL-101A or equivalent with a grade of C or better.
  - b. Reading Clearance: Clearing ENGL-163 through the Ohlone College English Placement Test or completion of ENGL-163 or substitute reading course from an approved list.
  - c. Completion of MATH-151 or any higher level Math course or Math clearance on the Ohlone Math Placement Test.
  - d. Completion of 30 General Education units (one year of college-level work) with a cumulative GPA of 2.70 or higher.
2. Students must attend an all day screening. All applications must be evaluated regardless of previous coursework in ASL.
3. A separate application, found online, must be submitted to the Division of Deaf Studies by mid-April. The exact deadline is provided online at <http://www.ohlone.edu/instr/deafstudies/ipp/#eligibility>

Students have met the requirements and taken and passed all courses satisfactorily.

### REQUIREMENTS FOR ASSOCIATE IN ARTS DEGREE

- a) Complete Major Field courses with a grade of C or better.
- b) Complete Plan A, B, or C General Education requirements. These requirements are specified in the Ohlone College catalog.
- c) Complete at least 60 degree-applicable units with a 2.0 grade point average.
- d) Complete at least 12 units at Ohlone College.

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### REQUIREMENTS FOR CERTIFICATE OF ACHIEVEMENT

- a) Complete Major Field courses as indicated below.
- b) Complete at least six units at Ohlone College.
- c) Maintain a 2.0 grade point average in Major Field courses.

#### MAJOR FIELD

BA-121A	Developing Your Business Plan	.5
BA-121B	Legal Aspects of Small Business	.5
INT-106	Discourse Analysis: ASL	3
INT-107	Interpreter Orientation	3
INT-112	Comparative Linguistics: ASL and English	3
INT-115	Interpreting Preparation Skills	2
INT-116	Discourse Analysis: English	3
INT-127	Ethics I	1
INT-145	Practicum: Deaf Mentorship	4.5
INT-147	Introduction to Interpreting for People Who Are Deaf/Blind	2
INT-153	Interpreting: ASL to English	6
INT-199A	Introduction to Multicultural Issues in Interpreting	1
INT-227	Ethics II: Interpreting Ethics and Decision-Making	3
INT-245	Phantom Interpreting	1
INT-253	Interpreting: English to ASL	6
INT-263	Interpreting Across the Language Continuum	4
INT-295	Interpreting Internship	4.5
INT-299	Capstone Course	1

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Choose 3.5 units from the following: 3.5

INT-199B	Introduction to Oral Facilitation	.5
INT-199C	Introduction to Medical Interpreting	1
INT-199D	Introduction to Educational Interpreting K-12	1
INT-199E	Introduction to Post-Secondary Interpreting	.5
INT-199F	Introduction to Social Service and Employment	.5
INT-199G	Introduction to Telephone and Video Relay Interpreting	.5
INT-199H	Introduction to Mental Health Interpreting	.5
INT-199I	Introduction to Deaf/Hearing Team Interpreting	.5

Total Required Units: 52.5



## BIOLOGY

### Associate in Science in Biology

The Associate in Science in Biology offered by Ohlone College is designed to prepare students for studying the Biological Sciences at most universities. The core courses required in the Associate in Science in Biology will fulfill the lower division requirements for most campuses of the UC and CSU systems. This program will enable students to develop a strong foundation in the life sciences, physical sciences, and mathematics. Furthermore, the theoretical knowledge and laboratory skills acquired by students in this program will also enhance their success with obtaining entry-level jobs that require two years of college-level science and math.

Since some curriculum requirements may vary among transfer universities, it is imperative that students entering Ohlone's Associate in Science degree program in Biology meet with a counselor at the start of their academic work. Counselors will assist students in preparing a Student Education Plan that will prepare them to transfer to the university of their choice. Counselors will also advise students on the general education plan that best prepares them for future transfer.

#### REQUIREMENTS FOR ASSOCIATE IN SCIENCE DEGREE

- Complete the Major Field courses with a grade of C or better.
- Complete Plan A, B, or C General Education requirements. These requirements are specified in the Ohlone College catalog.
- Complete at least 60 degree-applicable units with a 2.0 grade point average.
- Complete at least 12 units at Ohlone College.
- Complete at least 50% of the Major Field courses at Ohlone College.
- Complete BIOL-101A and BIOL-101B at Ohlone College.

#### MAJOR FIELD

BIOL-101A	Principles of Biology – Molecular and Cellular	5
BIOL-101B	Principles of Biology – Organisms and Systems	5
CHEM-101A	General Chemistry	5
CHEM-101B	General Chemistry	5
CHEM-112A	Organic Chemistry	5
CHEM-112B	Organic Chemistry	5
MATH-101A	Calculus with Analytic Geometry	5
PHYS-120*	Introduction to Physics I	4
PHYS-121*	Introduction to Physics II	4
Total Required Units:		43

\*PHYS-140 + PHYS-141 + PHYS-142 may be substituted for PHYS-120 + PHYS-121.

## BIOTECHNOLOGY

### Associate in Science in Biotechnology

The Associate in Science in Biotechnology is a program designed to train students in the methods and techniques used in biotechnology. Courses in this program train students in standard biotechnology laboratory techniques and record keeping. The program prepares students for entry-level positions in biomanufacturing and pharmanufacturing positions.

#### REQUIREMENTS FOR ASSOCIATE IN SCIENCE DEGREE

- Complete the Biotechnology Core Courses with a grade of C or better.
- Complete Plan A, B, or C General Education Requirements. These requirements are specified in the Ohlone College catalog .
- Complete at least 60 degree-applicable units with a 2.0 grade point average.
- Complete at least 12 units at Ohlone College.
- Complete at least 50% of the Biotechnology Core Courses at Ohlone College.
- Complete BIOT-115A, BIOT-115B, BIOT-117, and BIOT-119 at Ohlone College.

#### BIOTECHNOLOGY CORE COURSES

BIOT-105	Introduction to Cell and Molecular Biology	4
BIOT-110A1	Introduction to DNA Techniques	1
BIOT-110A2	PCR I and DNA Sequencing	1
BIOT-110A3	Protein Isolation and Assays	1
BIOT-111A	Genomic and cDNA Library Construction and Analysis	1
BIOT-111B	PCR Primer Design and Optimization and Reverse Transcription	1
BIOT-112	Introduction to Bioinformatics	2
BIOT-113	GMP/GLP	1
BIOT-115A	Mammalian Cell Culture Techniques	1
BIOT-115B	Bioreactor Cell Culture Techniques	1
BIOT-117	Immunology	1
BIOT-119	Clean Room Operations	.5
BIOT-121	Biotechnology Careers	1
BIOT-123	Writing SOPs	.5
BIOT-114	Introduction to Plant Biology <i>OR</i>	3
BIOT-122	Introduction to Nanotechnology <i>OR</i>	(3)
BIOT-133	Introduction to SAS Programming	(3)
CAOT-148	Computer Applications in Biotechnology	.5
CHEM-109	Biochemistry for Health Science and Biotechnology	4
ENGL-156	Introduction to Report and Technical Writing	3
MATH-159	Introduction to Statistics	5
Total Required Units:		32.5

“I would use the knowledge that I have gained to help more people achieve their college goals and let them know that education can help them have better lives.”

Jun Li

Robert & Diane Douglass Engineering  
Scholarship Recipient  
Ohlone College Class of 2010

Future goals: Become a teacher

## BIOTECHNOLOGY: BIO-MANUFACTURING

### Certificate of Achievement in Biotechnology: Bio-Manufacturing

This certificate program provides students with an excellent preparation in various protocols and hands-on laboratory skills used in many biotechnology companies. A goal of the program is to prepare students for entry-level positions in biotech and pharmaceutical companies.

This certificate prepares students as laboratory research assistants and bio-manufacturing technicians. It provides excellent preparation in laboratory skills used in entry-level positions at many biotechnology and pharmaceutical companies.

#### REQUIREMENTS FOR CERTIFICATE OF ACHIEVEMENT

- Complete Major Field courses as indicated below.
- Complete at least six units at Ohlone College.
- Maintain a 2.0 grade point average in Major Field courses.

#### MAJOR FIELD

BIOT-105	Introduction to Cell and Molecular Biology	4
BIOT-110A1	Introduction to DNA Techniques	1
BIOT-110A2	PCR I and DNA Sequencing	1
BIOT-110A3	Protein Isolation and Assays	1
BIOT-113	GMP/GLP	1
BIOT-115A	Mammalian Cell Culture Techniques	1
BIOT-115B	Bioreactor Cell Culture Techniques	1
BIOT-119	Clean Room Operations	.5
BIOT-121	Biotechnology Careers	1
BIOT-123	Writing SOPs	.5
CHEM-109	Biochemistry for Health Science and Biotechnology	4
Total Required Units:		16

#### OPTIONAL COURSES (RECOMMENDED)

BIOT-112	Introduction to Bioinformatics	(2)
BIOT-114	Introduction to Plant Biology	(3)
BIOT-117	Immunology	(1)
BIOT-120A	Introduction to SEM Technology	(.5)
BIOT-120B	SEM – Biological Applications and Techniques	(.5)
BIOT-122	Introduction to Nanotechnology	(3)
BIOT-131	Computing Concepts in Biotechnology	(4)
BIOT-133	Introduction to SAS Programming	(3)
BIOT-143	Advanced SAS Programming	(3)
BIOT-203	Biotechnology Internship	(3)
CAOT-148	Computer Applications in Biotechnology	(.5)

## BIOTECHNOLOGY: BIOSTATISTICS

### Certificate of Achievement in Biotechnology: Biostatistics

The Certificate of Achievement in Biotechnology: Biostatistics is designed to train students in methods and techniques used in biotechnology statistical analysis. Courses in this program train students in DNA and protein laboratory techniques and assays, laboratory record keeping, sterile techniques, and mathematical analysis of laboratory outcomes. The program prepares students for entry-level positions in bio-manufacturing, biostatistician assistant, clinical data assistant/associate, validation assistant/technician, production planner/scheduler, and research assistant/associate positions requiring skills in statistics.

The Certificate of Achievement in Biotechnology: Biostatistics prepares students in methods and techniques used in biotechnology statistical analysis. Students are prepared for entry-level positions in bio-manufacturing, biostatistician assistant, clinical data assistant/associate, validation assistant/technician, production planner/scheduler, and research assistant/associate positions requiring skills in statistics.

#### REQUIREMENTS FOR CERTIFICATE OF ACHIEVEMENT

- Complete Major Field courses as indicated below.
- Complete at least six units at Ohlone College.
- Maintain a 2.0 grade point average in Major Field courses.

#### MAJOR FIELD

BIOT-105	Introduction to Cell and Molecular Biology	4
BIOT-110A1	Introduction to DNA Techniques	1
BIOT-110A2	PCR I and DNA Sequencing	1
BIOT-110A3	Protein Isolation and Assays	1
BIOT-112	Introduction to Bioinformatics	2
BIOT-113	GMP/GLP	1
BIOT-115A	Mammalian Cell Culture Techniques	1
BIOT-115B	Bioreactor Cell Culture Techniques	1
BIOT-119	Clean Room Operations	.5
BIOT-121	Biotechnology Careers	1
BIOT-123	Writing SOPs	.5
BIOT-133	Introduction to SAS Programming	3
CAOT-148	Computer Applications in Biotechnology	.5
CHEM-109	Biochemistry for Health Science and Biotechnology	4
ENGL-156	Introduction to Report and Technical Writing	3
MATH-159	Introduction to Statistics	5
Total Required Units:		29.5

### Did you know???

In 2009-2010, 54% of CSU graduates and 28% of UC graduates began their college years at a community college – and, upon transferring to either four-year institution, obtained GPAs equal to, or better than, “native” UC or CSU students, and graduated at rates comparable to “native” UC and CSU students.

## BIOTECHNOLOGY: CELL PRODUCTION/FERMENTATION

Certificate of Achievement in Biotechnology:  
Cell Production/Fermentation

The Certificate of Achievement in Biotechnology: Cell Production/Fermentation is a program designed to train students in the methods and techniques used in biotechnology, with emphasis on cell production used in manufacturing settings. Courses in this program train students in DNA and protein laboratory techniques and assays, laboratory record keeping, sterile techniques, and cell-culturing techniques. The student is prepared for biomanufacturing and pharmanufacturing entry-level positions requiring skills in cell culturing and fermentation.

### REQUIREMENTS FOR CERTIFICATE OF ACHIEVEMENT

- Complete Major Field courses as indicated below.
- Complete at least six units at Ohlone College.
- Maintain a 2.0 grade point average in Major Field courses.

#### MAJOR FIELD

BIOT-105	Introduction to Cell and Molecular Biology	4
BIOT-110A1	Introduction to DNA Techniques	1
BIOT-110A2	PCR I and DNA Sequencing	1
BIOT-110A3	Protein Isolation and Assays	1
BIOT-113	GMP/GLP	1
BIOT-115A	Mammalian Cell Culture Techniques	1
BIOT-115B	Bioreactor Cell Culture Techniques	1
BIOT-117	Immunology	1
BIOT-119	Clean Room Operations	.5
BIOT-121	Biotechnology Careers	1
BIOT-123	Writing SOPs	.5
CAOT-148	Computer Applications in Biotechnology	.5
CHEM-109	Biochemistry for Health Science and Biotechnology	4
ENGL-156	Introduction to Report and Technical Writing	3
Total Required Units:		20.5

## BIOTECHNOLOGY: QUALITY CONTROL/RESEARCH ASSOCIATE

Certificate of Achievement in Biotechnology:  
Quality Control/Research Associate

The Certificate of Achievement in Biotechnology: Quality Control/Research Associate is designed to train students in methods and techniques used in biotechnology QA/QC and research settings. Courses in this program train students in DNA and protein laboratory techniques and assays, laboratory record keeping, sterile techniques, advanced PCR procedures, and genomic/cDNA library construction and analytical skills. The program prepares students for entry-level positions in biotechnology/pharmaceutical companies as research assistants, quality control and/or quality assurance assistants/technicians and laboratory assistants/technicians.

### REQUIREMENTS FOR CERTIFICATE OF ACHIEVEMENT

- Complete Major Field courses as indicated below.
- Complete at least six units at Ohlone College.
- Maintain a 2.0 grade point average in Major Field courses.

(continued on next column)

#### MAJOR FIELD

BIOT-105	Introduction to Cell and Molecular Biology	4
BIOT-110A1	Introduction to DNA Techniques	1
BIOT-110A2	PCR I and DNA Sequencing	1
BIOT-110A3	Protein Isolation and Assays	1
BIOT-111A	Genomic and cDNA Library Construction and Analysis	1
BIOT-111B	PCR Primer Design and Optimization and Reverse Transcription	1
BIOT-113	GMP/GLP	1
BIOT-115A	Mammalian Cell Culture Techniques	1
BIOT-115B	Bioreactor Cell Culture Techniques	1
BIOT-119	Clean Room Operations	.5
BIOT-121	Biotechnology Careers	1
BIOT-123	Writing SOPs	.5
CAOT-148	Computer Applications in Biotechnology	.5
CHEM-109	Biochemistry for Health Science and Biotechnology	4
ENGL-156	Introduction to Report and Technical Writing	3
Total Required Units:		21.5

## BROADCASTING

Associate in Arts in Broadcasting  
and  
Certificate of Achievement in Broadcasting

This curriculum is designed to prepare students as broadcasters for careers in the radio industry and related fields (television, advertising, journalism). Students are encouraged to develop a wide variety of skills in order to be better prepared for a wide range of vocational opportunities. Placement often depends on audition tape; portfolio of scripts; willingness to relocate anywhere in the country; talent; job availability; and a thorough job search.

### REQUIREMENTS FOR ASSOCIATE IN ARTS DEGREE

- Complete Major Field and Supporting Course with a grade of C or better.
- Complete Plan A, B, or C General Education requirements. These requirements are specified in the Ohlone College catalog.
- Complete at least 60 degree-applicable units with a 2.0 grade point average.
- Complete at least 12 units at Ohlone College.

### REQUIREMENTS FOR CERTIFICATE OF ACHIEVEMENT

- Complete Major Field courses as indicated below.
- Complete at least six units at Ohlone College.
- Maintain a 2.0 grade point average in Major Field courses.

#### MAJOR FIELD

BRDC-120	Introduction to Electronic Media	2
BRDC-123A	Radio Operations I	3
BRDC-123B	Radio Operations II	3
BRDC-128	Radio Programming and Marketing	2
BRDC-130	Broadcast Announcing	3
BRDC-141	Live TV Newscast	3
BRDC-142	Live TV Studio Production	3
BRDC-148	Directing Live Television	3
JOUR-101A	News Writing	3
JOUR/BRDC-155	Mass Media and Society	3
		28

#### SUPPORTING COURSE

SPCH-101	Introduction to Public Speaking	3
Total Required Units:		31



## BUSINESS

### Associate in Arts in Business

The Associate in Arts in Business is designed to provide graduates with the skills and knowledge required to work effectively in a variety of business settings. The curriculum provides a solid foundation in areas of business management, information technology, economics, international business, and legal and ethical issues. Graduates from the associate degree in Business program will be able to communicate effectively for informal, formal, and quantitative tasks and will be conversant with the values and terminology of the field. Graduates will be able to access information resources, evaluate them for credibility and relevance, and use the sources to present a wide range of alternatives. Having utilized academic processes such as feedback from faculty and self-reflection, graduates will be situated for lifelong learning.

It is imperative that students entering Ohlone's Associate in Arts degree in Business meet with a counselor at the start of their academic work. Counselors will assist students in preparing a Student Education Plan that will prepare them to achieve their academic goals.

#### REQUIREMENTS FOR ASSOCIATE IN ARTS DEGREE

- Complete the Required Degree and Supporting Courses with a grade of C or better.
- Complete the Required Degree Courses and one Supporting Course.
- Complete Plan A, B, or C General Education requirements. These requirements are specified in the Ohlone College catalog. Counselors will also advise students on the General Education plan that best prepares them for pursuing an associate degree and/or transfer.
- Complete at least 60 degree-applicable units with a 2.0 grade point average.
- Complete at least 12 units at Ohlone College.
- Complete at least 50% of the Required Degree Courses at Ohlone College.

#### REQUIRED DEGREE COURSES

BA-101A	Financial Accounting	5
BA-101B	Managerial Accounting	5
BA-102A	Principles of Economics-Macroeconomics	3
BA-102B	Principles of Economics-Microeconomics	3
		16

(continued on next column)



## SUPPORTING COURSES

Select one course from the courses listed below:

BA-104	Computer Applications in Accounting	3
BA-105	Income Tax Principles	4
BA-107	Cost and Managerial Accounting	4
BA-115	Career Communication	3
BA-116	Business English and Communication	4
BA-123	Math for Accounting and Business	3
BA-125	Introduction to Business	3
BA-139	Psychology in the Workplace	3
BA-141A	Business Law	3
BA-141C	An Introduction to International Law	3
BA-143	Sports Marketing	3
BA-144	Sports Management	3
CS-101	Introduction to Computers and Information Technology	3
MATH-101A	Calculus with Analytic Geometry	5
MATH-101B	Calculus with Analytic Geometry	5
MATH-101C	Calculus with Analytic Geometry	5
MATH-103	Introduction to Linear Algebra	3
MATH-104	Differential Equations	5
MATH-156	Math for Liberal Arts	3
MATH-159	Introduction to Statistics	5
MATH-163	Discrete Mathematics for Computers	3
MATH-166	Finite Mathematics	4
MATH-167	Calculus for Business and Social Science	5
PHIL-106	Ethics	3

Total Required Units: 19-21

## BUSINESS ADMINISTRATION

### Associate in Arts in Business Administration

The Associate in Arts in Business Administration offered by Ohlone College is designed to provide students with a fundamental understanding of the principles of business administration. Classes prepare students for studying business at most universities. This program fulfills typical lower-division requirements at four-year institutions.

Since some curriculum requirements may vary among transfer universities, it is imperative that students entering Ohlone's associate degree program in Business Administration meet with a counselor at the start of their academic work. Counselors will assist students in preparing a Student Education Plan that will prepare them to transfer to the university of their choice. Counselors will also advise students on the general education plan that best prepares them for future transfer.

#### REQUIREMENTS FOR ASSOCIATE IN ARTS DEGREE

- Complete the Major Field courses with a grade of C or better.
- Complete Plan A, B, or C General Education requirements. These requirements are specified in the Ohlone College catalog.
- Complete at least 60 degree-applicable units with a 2.0 grade point average.
- Complete at least 12 units at Ohlone College.

(continued on next page)

**MAJOR FIELD**

BA-101A	Financial Accounting	5
BA-101B	Managerial Accounting	5
BA-102A	Principles of Economics-Macroeconomics	3
BA-102B	Principles of Economics-Microeconomics	3
BA-125	Introduction to Business	3
BA-141A	Business Law	3
MATH-159	Introduction to Statistics	5
MATH-167	Calculus for Business and Social Science	5
		Total Required Units: 32

**BUSINESS SUPERVISION/MANAGEMENT**

Associate in Arts in Business Supervision/Management  
and

Certificate of Achievement in Business Supervision/Management

This curriculum is designed to prepare students for entry-level positions in supervision/management and to prepare current leads, first line supervisors, and middle managers for promotion to higher-level positions in business, industry, and/or government. Students are trained for both line (operation) and staff (direct support) positions. Placement is often dependent upon job availability and the successful completion of an entrance examination.

**REQUIREMENTS FOR ASSOCIATE IN ARTS DEGREE**

- Complete Major Field and Supporting Courses with a grade of C or better.
- Complete Plan A, B, or C General Education requirements. These requirements are specified in the Ohlone College catalog.
- Complete at least 60 degree-applicable units with a 2.0 grade point average.
- Complete at least 12 units at Ohlone College.

**REQUIREMENTS FOR CERTIFICATE OF ACHIEVEMENT**

- Complete Major Field courses.
- Complete at least six units at Ohlone College.
- Maintain a 2.0 grade point average in Major Field courses.

**MAJOR FIELD**

BSM-101	Fundamentals of Supervision	3
BSM-102	Interpersonal Relations in the Workplace	3
BSM-103	Management of Human Resources	3
BSM-105	Operations Management	3
BSM-106	Communication for Supervisors	3
BSM-108	Leadership in Organizations	3
		18

**SUPPORTING COURSES**

BA-116	Business English and Communication	4
BA-125	Introduction to Business	3
BA-141A	Business Law	3
PHIL-106	Ethics	3
CS-101	Introduction to Computers and Information Technology	3
		16

(continued on next column)

**RECOMMENDED MAJOR FIELD ELECTIVES**

BA-101A	Financial Accounting	5
BA-101B	Managerial Accounting	5
BA-102B	Principles of Economics-Microeconomics	3
BA-123	Math for Accounting and Business	3
BA-126	Introduction to Marketing	3
BA-160A	Computer Graphics I	4
BA-160B	Computer Graphics II	4
BSM-195A1	Work Experience Education – Vocational	1
BSM-195A2	Work Experience Education – Vocational	2
BSM-195A3	Work Experience Education – Vocational	3
BSM-195A4	Work Experience Education – Vocational	4
CAOT-101A	Computer Applications I	2
CAOT-101B	Computer Applications II	2
MM-105	Web Site Design	4

3-5

Total Required Units: 37-39

**CHEMISTRY**

Associate in Science in Chemistry

The Associate in Science in Chemistry offered by Ohlone College is designed to prepare students for studying Chemistry at most universities. The core courses required in the Associate in Science in Chemistry will fulfill the lower division requirements for most campuses of the UC and CSU systems. This program will enable students to develop a strong foundation in chemistry, physics, and mathematics. Furthermore, the theoretical knowledge and laboratory skills acquired by students in this program will also enhance their success with obtaining entry-level jobs that require two years of college-level science and math.

Since some curriculum requirements may vary among transfer universities, it is imperative that students entering Ohlone's Associate in Science degree program in Chemistry meet with a counselor at the start of their academic work. Counselors will assist students in preparing a Student Education Plan that will prepare them to transfer to the university of their choice. Counselors will also advise students on the general education plan that best prepares them for future transfer.

**REQUIREMENTS FOR ASSOCIATE IN SCIENCE DEGREE**

- Complete the Major Field courses with a grade of C or better.
- Complete Plan A, B, or C General Education requirements. These requirements are specified in the Ohlone College catalog.
- Complete at least 60 degree-applicable units with a 2.0 grade point average.
- Complete at least 12 units at Ohlone College.
- Complete at least 50% of the Major Field courses at Ohlone College.
- Complete CHEM-101B, CHEM-112A, and CHEM-112B at Ohlone College.

**MAJOR FIELD**

CHEM-101A	General Chemistry	5
CHEM-101B	General Chemistry	5
CHEM-112A	Organic Chemistry	5
CHEM-112B	Organic Chemistry	5
MATH-101A	Calculus with Analytic Geometry	5
MATH-101B	Calculus with Analytic Geometry	5
MATH-101C	Calculus with Analytic Geometry	5
PHYS-140	Mechanics	4
PHYS-141	Electricity and Magnetism	4
PHYS-142	Optics, Heat, and Modern Physics	4

Total Required Units: 47

(continued on next page)

**RECOMMENDED COURSES**

The following courses are recommended because they are required in the lower division of some baccalaureate-granting universities:

MATH-103	Introduction to Linear Algebra	(3)
MATH-104	Differential Equations	(5)

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## CISCO CERTIFIED NETWORK PROFESSIONAL (NETWORK+, CCNA, CCNP)

Associate in Science in Cisco Certified Network Professional  
and

Certificate of Achievement in Cisco Certified Network Professional

The Cisco Certified Network Professional (CCNP) program is designed for professionals who work with traditional Cisco technology-based networks in which LAN and WAN routers and LAN switches predominate. This includes network design, configuration, and installation. Configuration techniques increase bandwidth, improve response times, enhance reliability and quality of service (QoS), maximize performance, and improve network security.

**REQUIREMENTS FOR ASSOCIATE IN SCIENCE DEGREE**

- Complete Major Field and Supporting Courses with a grade of C or better.
- Complete Plan A, B, or C General Education requirements. These requirements are specified in the Ohlone College catalog.
- Complete at least 60 degree-applicable units with a 2.0 grade point average.
- Complete at least 12 units at Ohlone College.

**REQUIREMENTS FOR CERTIFICATE OF ACHIEVEMENT**

- Complete Major Field courses as indicated below.
- Complete at least six units at Ohlone College.
- Maintain a 2.0 grade point average in Major Field courses.

**MAJOR FIELD**

CNET-150	Network Operating Systems	4
CNET-152	Data Communications	2
CNET-155A	Network Fundamentals	4
CNET-155B	Routing Protocols and Concepts	4
CNET-156A	LAN Switching and Wireless	2
CNET-156B	WAN Design and Support	2
CNET-157	TCP/IP and Internetworking	3
CNET-182	Advanced Routing	3
CNET-183	Implementing Cisco Secure WANs CCNP II	3
CNET-184	Advanced Switching	3
CNET-185	Optimizing Converged Networks	3
ENGL-156	Introduction to Report and Technical Writing <b>OR</b>	3
SPCH-115	Career Communication	(3)
		36

*(continued on next column)*

**SUPPORTING COURSES (MINIMUM SIX UNITS REQUIRED)**

Choose 1-4 units from the following:	1-4	
CNET-195A1-4 Internship		
Choose 2-5 units from the following:	2-5	
CNET-101 Introduction to Computers and Information Technology	3	
CNET-105 PC Hardware and Software	4	
CNET-140A Linux Installation and Configuration	2	
CNET-140B Linux System Administration	2	
CNET-142A Linux Networking	2	
CNET-142B Linux Security	2	
CNET-146 Introduction to UNIX/Linux	3	
CNET-147 UNIX/Linux Shell Scripting	4	
CNET-149 PERL Programming	4	
CNET-158 Wireless Networks	4	
CNET-160A Microsoft Client Operating Systems	2	
CNET-162A Microsoft Server Operating Systems	2	
CNET-162B Windows Network Infrastructure Administration	2	
CNET-164A Microsoft Directory Services	2	
CNET-164B Designing Microsoft Windows Directory Services Infrastructure	2	
CNET-165A Designing a Secure Microsoft Windows Network	2	
CNET-165B Microsoft Internet Security and Acceleration Server (ISA)	2	
CNET-167A Network Application Administration I – Email (Exchange 2003)	2	
CNET-168A Network Application Administration II – Database (SQL)	2	
CNET-170 Network Security	4	
CS-102 Introduction to Computer Programming Using C++	4	
CS-104A Introduction to .NET Programming	4	
CS-170 Java Programming	4	
CS-175 From JavaScript to AJAX	4	
CS-176 Introduction to PERL CGI Programming Development	4	
Total Required Units:		42

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## COMMUNICATION STUDIES

Associate in Arts in Communication Studies for Transfer

The Speech and Communication Studies Department at Ohlone College offers a wide range of communication studies courses that meet students' general education requirements, lower division transfer requirements for CSU and UC Communication Studies Departments, requirements for Speech and Communication Studies certificates, and the Associate in Arts in Communication Studies for Transfer. This department strives to help students gain knowledge of theoretical perspectives of communication and learn to speak, think, and write clearly and concisely, critically and creatively. Students study the necessary skills to prepare them for transfer in communication studies or related majors. Finally, the department encourages students to use their communication expertise ethically and in service to the larger community and to enhance their relationships and their own personal growth.

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The Student Transfer Achievement Reform Act (Senate Bill 1440, now codified in California Education Code sections 66746-66749) guarantees admission to a California State University (CSU) campus for any community college student who completes an "associate degree for transfer," a newly established variation of the associate degrees traditionally offered at a California community college. The Associate in Arts in Communication Studies for Transfer is intended for students who plan to complete a bachelor's degree in a similar major at a CSU campus. Students completing this degree are guaranteed admission to the CSU system, but not to a particular campus or major. In order to earn one of these degrees, students must complete a minimum of 60 required semester units of CSU-transferable coursework with a minimum GPA of 2.0. Students transferring to a CSU campus that does accept the AA-T will be required to complete no more than 60 units after transfer to earn a bachelor's degree. This degree may not be the best option for students intending to transfer to a particular CSU campus or to university or college that is not part of the CSU system. Students should consult with a counselor when planning to complete the degree for more information on university admission and transfer requirements.

#### REQUIREMENTS FOR ASSOCIATE IN ARTS FOR TRANSFER DEGREE

- Complete all Major and Supporting Courses with a grade of C or better.
- Complete Plan B or Plan C General Education requirements. These requirements are specified in the Ohlone College catalog.
- Complete a minimum of 60 CSU-transferable semester units.
- Complete a minimum grade point average (GPA) of at least 2.0 in all CSU-transferable coursework. While a minimum GPA of 2.0 is required for admission, some majors may require a higher GPA. Please consult with a counselor for more information.
- Complete a minimum of 18 semester units in the Communication Studies major.
- Complete at least 12 units at Ohlone College.

#### MAJOR FIELD

SPCH-101	Introduction to Public Speaking	3
Choose two courses from the following:		
SPCH-102	Small Group Communication/Critical Thinking	3
SPCH-103	Interpersonal Communication	3
SPCH-106	Critical Thinking/Argumentation and Debate	3
		9

#### SUPPORTING COURSES

Choose two courses from the following:

COMM-100	Introduction to Communication Theory	3
SPCH-102*	Small Group Communication/Critical Thinking <b>OR</b>	3
SPCH-103*	Interpersonal Communication <b>OR</b>	(3)
SPCH-106*	Critical Thinking/Argumentation and Debate	(3)
SPCH-104	Critical Thinking/Persuasion	3
SPCH-105	Intercultural Communication	3
SPCH-110A3	Forensics Workshop <b>OR</b>	3
SPCH-112A3	Argumentation and Debate Workshop <b>OR</b>	(3)
SPCH-114A3	Oral Interpretation Workshop	(3)
		6

\*SPCH-102, SPCH-103, and SPCH-106 cannot be double-counted to apply towards Major Field and Supporting Courses.

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#### ELECTIVES

Choose one course from the following:

ANTH-102	Cultural Anthropology	3
ENGL-101B	Reading and Composition (Introduction to Literature)	4
ENGL-101C	Critical Thinking and Composition	3
JOUR-101A	Newsriting	3
PSY-101	General Psychology	3
SOC-101	Introduction to Sociology	3
SPCH-107	Leadership Communication	3
SPCH-108	Gender Communication	3
SPCH-115	Career Communication	3
SPCH-122	Family Communication	3
SPCH-130	Oral Communication of Literature	3
SPCH-132	Voice and Diction	3
SPCH-190C	Speech Communication Lab Consultant	3

3-4

Total Required Units: 18-19

## COMPUTER ENGINEERING

### Associate in Science in Computer Engineering

The Associate in Science in Computer Engineering offered by Ohlone College is designed to prepare students for pursuing studies at the university level in computer science and engineering. The core courses in Computer Science, Engineering, Mathematics, and Physics required in this associate degree will fulfill the lower division major requirements at many universities. Students are advised, however, to meet with their counselor to assess the course requirements for specific universities. This program will enable students to develop a strong foundation in the computer and engineering sciences as well as a thorough training in applying their mathematical skills. In addition, students completing this program will acquire valuable cognitive skills (logic and common sense, reasoning and problem-solving skills) and practical laboratory skills. The theoretical and practical knowledge acquired through this program will enhance their success with obtaining entry-level jobs that require two years of college-level computer engineering and math.

#### REQUIREMENTS FOR ASSOCIATE IN SCIENCE DEGREE

- Complete the Major Field courses with a grade of C or better.
- Complete Plan A, B, or C General Education requirements. These requirements are specified in the Ohlone College catalog.
- Complete at least 60 degree-applicable units with a 2.0 grade point average.
- Complete at least 12 units at Ohlone College.
- Complete at least 50% of the Major Field courses at Ohlone College.
- Complete two or more Computer Science courses plus ENGL-101 and ENGL-130 at Ohlone College.

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**MAJOR FIELD**

CS-102	Introduction to Computer Programming Using C++	4
CS-113	Discrete Mathematics for Computers	3
CS-116	Object-Oriented Programming Using C++ <i>OR</i>	4
CS-118	Introduction to Assembly Language Programming	(4)
ENGI-101	Introduction to Engineering	3
ENGI-130	Electric Circuit Analysis	4
MATH-101A	Calculus with Analytic Geometry	5
MATH-101B	Calculus with Analytic Geometry	5
MATH-101C	Calculus with Analytic Geometry	5
MATH-103	Introduction to Linear Algebra	3
MATH-104	Differential Equations	5
PHYS-140	Mechanics	4
PHYS-141	Electricity and Magnetism	4
PHYS-142	Optics, Heat, and Modern Physics	4

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Total Required Units: 53

**RECOMMENDED COURSES**

To study computer engineering, students must be familiar with computers and computer applications. To study calculus students must have skills in algebra. The following courses are recommended:

CS-101	Introduction to Computers and Information Technology	(3)
MATH-188	Pre-Calculus	(5)

Some colleges and universities require additional courses such as:

CHEM-101A	General Chemistry	(5)
ENGI-115	Engineering Graphics and Design	(4)
ENGI-140	Materials Engineering	(4)
ENGL-101B	Reading and Composition (Introduction to Literature)	(4)
SPCH-101	Introduction to Public Speaking	(3)

**COMPUTER SCIENCE**

## Associate in Science in Computer Science

The Associate in Science in Computer Science offered by Ohlone College is designed to prepare students for pursuing studies at the university level in computer science and engineering. The core courses in Computer Science, Mathematics, and Physics required for this associate degree will fulfill the lower division major requirements at many universities. This program will enable students to develop a strong foundation in the computer and engineering sciences as well as a thorough training in applying their mathematical skills. In addition, students completing this program will acquire valuable cognitive skills (logic and common sense, reasoning and problem-solving skills) and practical laboratory skills. The theoretical and practical knowledge acquired through this program will enhance students' success with obtaining entry-level jobs that require two years of college-level computer science and math.

Since some curriculum requirements may vary among transfer universities, it is imperative that students entering Ohlone's associate degree program in Computer Science meet with a counselor at the start of their academic work. Counselors will assist students in preparing a Student Education Plan that will prepare them to transfer to the university of their choice. Counselors will also advise students on the general education plan that best prepares them for future transfer.

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**REQUIREMENTS FOR ASSOCIATE IN SCIENCE DEGREE**

- Complete the Major Field courses with a grade of C or better.
- Complete Plan A, B, or C General Education requirements. These requirements are specified in the Ohlone College catalog.
- Complete at least 60 degree-applicable units with a 2.0 grade point average.
- Complete at least 12 units at Ohlone College.
- Complete at least 50% of the Major Field courses at Ohlone College.
- Complete at least three or more Computer Science courses at Ohlone College.

**MAJOR FIELD**

CS-102	Introduction to Computer Programming Using C++	4
CS-113	Discrete Mathematics for Computers	3
CS-116	Object-Oriented Programming Using C++	4
CS-118	Introduction to Assembly Language Programming	4
CS-124	Programming with Data Structures	4
CS Electives	Any Computer Science course not listed above	2-4
MATH-101A	Calculus with Analytic Geometry	5
MATH-101B	Calculus with Analytic Geometry	5
MATH-103	Introduction to Linear Algebra	3
PHYS-140	Mechanics <i>AND</i>	4
PHYS-141	Electricity and Magnetism <i>OR</i>	4
CHEM-101A	General Chemistry <i>AND</i>	(5)
CHEM-101B	General Chemistry	(5)

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Total Required Units: 42-46

**RECOMMENDED COURSES**

To study programming, students must be familiar with computers and computer applications. To study calculus, students must have skills in algebra. The following course is recommended:

CS-101	Introduction to Computers and Information Technology	(3)
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**RECOMMENDED CORE COURSES**

The following courses are recommended because they are required in the lower division of some baccalaureate-granting universities.

MATH-101C	Calculus with Analytic Geometry	(5)
MATH-104	Differential Equations	(5)
PHYS-142	Optics, Heat, and Modern Physics	(4)

**RECOMMENDED CS ELECTIVES**

Computer Science is a very diverse field. Ohlone offers many courses that enhance students' knowledge as preparation for advanced studies. Please see the Ohlone College catalog for electives such as .NET Programming (CS-104A and CS-104B); Java (CS-170 and CS-172); PERL (CS-176); PL/SQL (CS-137); XML (CS-178); TCP/IP and Internetworking (CS-157); Data Communications (CS-152); UNIX/Linux Shell Programming (CS-147).

## COMPUTER STUDIES

Associate in Arts in Computer Studies  
and  
Certificate of Achievement in Computer Studies

### REQUIREMENTS FOR ASSOCIATE IN ARTS DEGREE

- Complete Major Field courses from one of the two options indicated below with a grade of C or better.
- Complete Plan A, B, or C General Education requirements. These requirements are specified in the Ohlone College catalog.
- Complete at least 60 degree-applicable units with a 2.0 grade point average.
- Complete at least 12 units at Ohlone College.

### REQUIREMENTS FOR CERTIFICATE OF ACHIEVEMENT

- Complete one of the Major Field options as indicated below.
- Complete at least six units at Ohlone College.
- Maintain a 2.0 grade point average in Major Field courses.

### MAJOR FIELD

Students must complete all courses in one of the following two options listed below:

#### Option #1 – Computer Programming (Software Development)

CS-101	Introduction to Computers and Information Technology	3
CS-102*	Introduction to Computer Programming Using C++	4
CS-113/MATH-163*	Discrete Mathematics for Computers	3
CS-116*	Object-Oriented Programming Using C++	4
CS-118*	Introduction to Assembly Language Programming	4
CS-124*	Programming with Data Structures <b>OR</b>	4
CS-170	Java Programming	(4)
CS-152	Data Communications	2
CS-178	XML	3
		27

\*Note: These Major Field courses and other supporting courses are usually required by most four-year colleges and universities for the computer science major. Consult the specific college's catalog for details.

### RECOMMENDED MAJOR FIELD ELECTIVES

Courses may not be taken for duplicate credit.

CNET-160A	Microsoft Client Operating Systems	2
CS-146	Introduction to UNIX/Linux	3
		3
Total Required Units:		30

#### Option #2 – Computer Programming (Internet/Web Programming)

CS-101	Introduction to Computers and Information Technology	3
CS-104A	Introduction to .NET Programming	4
CS-104B	Advanced .NET Programming	4
CS-113/MATH-163	Discrete Mathematics for Computers <b>OR</b>	3
MATH-156	Math for Liberal Arts <b>OR</b>	(3)
MATH-166	Finite Mathematics	(4)
CS-149	PERL Programming <b>OR</b>	4
CS-176	Introduction to PERL CGI Programming Development	(4)
CS-152	Data Communications	2
CS-170	Java Programming	4
CS-175	From JavaScript to AJAX	4
		28-29

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### RECOMMENDED MAJOR FIELD ELECTIVES

Courses may not be taken for duplicate credit.

CNET-160A	Microsoft Client Operating Systems	2
CS-102	Introduction to Computer Programming Using C++	4
CS-146	Introduction to UNIX/Linux	3
CS-149	PERL Programming	4
CS-175	From JavaScript to AJAX	4
CS-176	Introduction to PERL CGI Programming Development	4
CS-177	E-Commerce	4
		3-4

Total Required Units: 31-32

## DESKTOP SUPPORT TECHNICIAN (A+, NETWORK+, MCP)

Associate in Science in Desktop Support Technician  
and  
Certificate of Achievement in Desktop Support Technician

PC Technicians install, fix, repair, and upgrade personal computers. In contrast to Technical Support Specialists, who often support computer software applications, PC Technicians tend to focus on computer hardware. Software is used, but typically only at the operating system level in order to diagnose problems or correctly configure a system.

### REQUIREMENTS FOR ASSOCIATE IN SCIENCE DEGREE

- Complete Major Field and Supporting Courses with a grade of C or better.
- Complete Plan A, B, or C General Education requirements. These requirements are specified in the Ohlone College catalog.
- Complete at least 60 degree-applicable units with a 2.0 grade point average.
- Complete at least 12 units at Ohlone College.

### REQUIREMENTS FOR CERTIFICATE OF ACHIEVEMENT

- Complete Major Field courses as indicated below.
- Complete at least six units at Ohlone College.
- Maintain a 2.0 grade point average in Major Field courses.

### MAJOR FIELD

CNET-105	PC Hardware and Software	4
CNET-150	Network Operating Systems	4
CNET-152	Data Communications	2
CNET-158	Wireless Networks	4
CNET-160A	Microsoft Client Operating Systems	2
CNET-161A	Desktop Support I - Supporting Users	2
CNET-161B	Desktop Support II - Supporting Applications	2
CNET-162A	Microsoft Server Operating Systems	2
ENGL-156	Introduction to Report and Technical Writing OR	3
SPCH-115	Career Communication	(3)
		25

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**SUPPORTING COURSES (MINIMUM SIX UNITS REQUIRED)**

Choose 1-4 units from the following:	1-4
CNET-195A1-4 Internship	
Choose 2-5 units from the following:	2-5
CNET-101 Introduction to Computers and Information Technology	3
CNET-140A Linux Installation and Configuration	2
CNET-140B Linux System Administration	2
CNET-142A Linux Networking	2
CNET-142B Linux Security	2
CNET-146 Introduction to UNIX/Linux	3
CNET-147 UNIX/Linux Shell Scripting	4
CNET-149 PERL Programming	4
CNET-155A Network Fundamentals	4
CNET-155B Routing Protocols and Concepts	4
CNET-156A LAN Switching and Wireless	2
CNET-156B WAN Design and Support	2
CNET-162B Windows Network Infrastructure Administration	2
CNET-164A Microsoft Directory Services	2
CNET-164B Designing Microsoft Windows Directory Services Infrastructure	2
CNET-165A Designing a Secure Microsoft Windows Network	2
CNET-165B Microsoft Internet Security and Acceleration Server (ISA)	2
CNET-167A Network Application Administration I – Email (Exchange 2003)	2
CNET-168A Network Application Administration II – Database (SQL)	2
CNET-170 Network Security	4
CNET-182 Advanced Routing	3
CNET-183 Implementing Cisco Secure WANs CCNP II	3
CNET-184 Advanced Switching	3
CNET-185 Optimizing Converged Networks	3
CS-102 Introduction to Computer Programming Using C++	4
CS-104A Introduction to .NET Programming	4
CS-170 Java Programming	4
CS-175 From JavaScript to AJAX	4
CS-176 Introduction to PERL CGI Programming Development	4
Total Required Units:	31

**EARLY CHILDHOOD STUDIES**

Associate in Arts in Early Childhood Studies  
and

Certificate of Achievement in Early Childhood Studies

The Early Childhood Studies Program at Ohlone College prepares students for employment in child development programs including preschools, children's centers, family childcare centers, school age programs, and infant and toddler programs. The Ohlone College program meets or exceeds the requirements for teachers in centers and programs licensed in the State of California by the Department of Social Services. The program also meets the requirements for the Child Development Permit issued by the California Commission on Teacher Credentialing. All Early Childhood Studies majors should plan to follow the suggested flow of courses, beginning with ECS-300. Options in a particular area of child development involve the completion of an additional six to nine units in courses specific to that area.

*(continued on next column)*

**REQUIREMENTS FOR ASSOCIATE IN ARTS DEGREE**

- Complete Major Field and Supporting Courses with a grade of C or better.
- Complete Plan A, B, or C General Education requirements. These requirements are specified in the Ohlone College catalog.
- Complete at least 60 degree-applicable units with a 2.0 grade point average.
- Complete at least 12 units at Ohlone College.

**REQUIREMENTS FOR CERTIFICATE OF ACHIEVEMENT**

- Complete Major Field courses as indicated below.
- Complete at least six units at Ohlone College.
- Maintain a 2.0 grade point average in Major Field courses.

**MAJOR FIELD**

ECS-300	Principles and Practices of Teaching Young Children	4
ECS-301	Childhood Growth and Development	3
ECS-302	Introduction to Curriculum	4
ECS-303	Child, Family, and Community	3
ECS-304	Observation and Assessment of Children	4
ECS-305	Health Safety and Nutrition	3
ECS-306	Guidance and Discipline of Young Children	3
ECS-307A4, B4, or C4	Practicum – Field Experience	4
		28

**SUPPORTING COURSES**

Select 6-8 additional units in Early Childhood Studies to complete Major Field requirement. For an option, select from the categories provided.

ECS-308	Administration of Programs for Young Children	3
ECS-309	Teaching in a Diverse Society	3
ECS-310	Music and Movement Curriculum for Young Children	3
ECS-311	Art for the Young Child	3
ECS-312	The Development of Literacy in Early Childhood Education	3
ECS-313	Science and Math Curriculum for Young Children	3
ECS-314	Literature for the Young Child	3
ECS-316	Children with Special Needs in Programs for Young Children	3
ECS-317	Infant and Toddler Development and Care	3
ECS-320	Introduction to Family Child Care Homes	1
ECS-321	Supervision in Early Childhood Programs	3
ECS-322	Mentoring and Supervision in Early Childhood Programs	2
ECS-323	Advanced Training in Infant-Toddler Care	3
ECS-324	Parenting	3
ECS-327	School Age Child Development	3
ECS-328	Curriculum for the School Age Child	3
ECS-330	Second Helping for Family Childcare Providers	2
		Total Required Units: 34-36

**ECS OPTIONS**

The following options meet the requirements of the Commission on Teacher Credentialing for a specialization. To meet the Master Teacher requirements students must complete six units in a specialized field and complete ECS-322, Mentoring and Supervision in Early Childhood Programs.

The State of California, Commission on Teacher Credentialing, requires a specialization of 6-8 units in a specific area to meet the qualifications for the Master Teacher level of the Child Development Permit. These options have been designed to meet the needs reflected by the community. Students may create their own specialization. Check with the ECS Professional Development Coordinator at (510) 979-7496 for information.

*(continued on next page)*

**Family Child Care**

ECS-320	Introduction to Family Child Care Homes	1
ECS-324	Parenting	3
ECS-330	Second Helping for Family Childcare Providers	2

**Infant and Toddler**

ECS-317	Infant and Toddler Development and Care	3
ECS-323	Advanced Training in Infant-Toddler Care	3

**Administrative** (Required for Site Supervisor and Program Directors)

ECS-308	Administration of Programs for Young Children	3
ECS-321	Supervision in Early Childhood Programs	3
ECS-322	Mentoring and Supervision in Early Childhood Programs	2

**Family and Community Partnership**

ECS-309	Teaching in a Diverse Society	3
ECS-324	Parenting	3

**Creative Activities**

ECS-310	Music and Movement Curriculum for Young Children	3
ECS-311	Art for the Young Child	3
ECS-312	The Development of Literacy in Early Childhood Education	3
ECS-313	Science and Math Curriculum for Young Children	3
ECS-314	Literature for the Young Child	3

**Working with Special Needs**

ECS-304	Observation and Assessment of Children	4
ECS-316	Children with Special Needs in Programs for Young Children	3

**School Age Programs**

ECS-327	School Age Child Development	3
ECS-328	Curriculum for the School Age Child	3

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**ENGINEERING**

## Associate in Science in Engineering

The Associate in Science in Engineering offered by Ohlone College is designed to prepare students for studying engineering at most universities. The core courses required in the Associate in Science in Engineering will fulfill the lower division requirements for most campuses of the UC and CSU systems. This program will enable students to develop a strong foundation in engineering, physics, and mathematics. Furthermore, the theoretical knowledge and laboratory skills acquired by students in this program will also enhance their success with obtaining entry-level jobs that require two years of college-level science and math.

Since some curriculum requirements may vary among transfer universities, it is imperative that students entering Ohlone's Associate in Science degree program in Engineering meet with a counselor at the start of their academic work. Counselors will assist students in preparing a Student Education Plan that will prepare them to transfer to the university of their choice. Counselors will also advise students on the general education plan that best prepares them for future transfer.

*(continued on next column)*

**REQUIREMENTS FOR ASSOCIATE IN SCIENCE DEGREE**

- Complete the Major Field courses with a grade of C or better.
- Complete Plan A, B, or C General Education requirements. These requirements are specified in the Ohlone College catalog.
- Complete at least 60 degree-applicable units with a 2.0 grade point average.
- Complete at least 12 units at Ohlone College.
- Complete at least 50% of the Major Field courses at Ohlone College.
- Complete ENGI-120, ENGI-130, and ENGI-140 at Ohlone College.

**MAJOR FIELD**

CS-116	Object-Oriented Programming Using C++	4
ENGI-101	Introduction to Engineering	3
MATH-101A	Calculus with Analytic Geometry	5
MATH-101B	Calculus with Analytic Geometry	5
MATH-101C	Calculus with Analytic Geometry	5
MATH-104	Differential Equations	5
PHYS-140	Mechanics	4
PHYS-141	Electricity and Magnetism	4
PHYS-142	Optics, Heat, and Modern Physics	4

39

Select two of the following Engineering courses: 7-8

ENGI-120	Engineering Mechanics – Statics	(3)
ENGI-130	Electric Circuit Analysis	(4)
ENGI-140	Materials Engineering	(4)

Total Required Units: 46-47

**RECOMMENDED COURSES**

The following courses are recommended because they are required in the lower division of some baccalaureate-granting universities:

CHEM-101A	General Chemistry	(5)
CHEM-101B	General Chemistry	(5)
ENGI-115	Engineering Graphics and Design	(4)
MATH-103	Introduction to Linear Algebra	(3)

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**ENGLISH**

## Associate in Arts in English

The Associate in Arts in English is designed to provide students with the skills necessary to think critically and write persuasively about literary works in poetry, fiction, and drama. Students can survey major writers in English or American literature, or explore their interest in specific forms such as the novel, poetry, or Shakespeare. The program emphasizes critical analysis and interpretation in all of its courses. The associate degree in English prepares students for upper division academic work in literature and for careers in fields requiring critical thinking and persuasive writing, such as teaching, journalism, business, and law.

**REQUIREMENTS FOR ASSOCIATE IN ARTS DEGREE**

- Complete the Major Field, Supporting, and Elective courses with a grade of C or better.
- Complete Plan A, B, or C General Education requirements. These requirements are specified in the Ohlone College catalog.
- Complete at least 60 degree-applicable units with a 2.0 grade point average.
- Complete at least 12 units at Ohlone College.

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**MAJOR FIELD**

ENGL-101A	Reading and Written Composition	4
ENGL-101B	Reading and Composition (Introduction to Literature)	4
		8

**SUPPORTING COURSES**

Select three courses from the courses listed below, for a total of nine units:

ENGL-112	Modern Fiction	3
ENGL-113	Poetry	3
ENGL-118	Introduction to Shakespeare	3
ENGL-120A	Survey of American Literature: Beginning to 1865	3
ENGL-120B	Survey of American Literature: 1865 to Present	3
ENGL-125A	English Literature: From the Middle Ages to the Restoration/18th Century	3
ENGL-125B	English Literature: From Romanticism to Modernism	3
		9

**ELECTIVES**

Select any one of the following courses, for a total of three units. Courses may not be double-counted to apply towards Supporting Courses and Electives requirements.

ENGL-101C	Critical Thinking and Composition	3
ENGL-104	The Short Story	3
ENGL-106	Censorship and Literature	3
ENGL-107	Literature and Film	3
ENGL-108	Writing Short Fiction	3
ENGL-109	The Graphic Novel	3
ENGL-111A	Beginning Creative Writing	3
ENGL-111B	Intermediate Creative Writing	3
ENGL-113	Poetry	3
ENGL-114	World Mythology	3
ENGL/WS-115	Women in Literature	3
ENGL-117	Science Fiction and Fantasy	3
ENGL-118	Introduction to Shakespeare	3
ENGL-119	The Gothic Novel	3
ENGL-120A	Survey of American Literature: Beginning to 1865	3
ENGL-120B	Survey of American Literature: 1865 to Present	3
ENGL-121	The Mystery: Unlocking Its Secrets	3
ENGL-122	Environmental Literature	3
ENGL-125A	English Literature: From the Middle Ages to the Restoration/18th Century	3
ENGL-125B	English Literature: From Romanticism to Modernism	3
ENGL-127	Autobiography: Writing Journals and Memoirs	3
ENGL-129	Psychology and Literature	3
ENGL-130	American Stories: Multicultural Autobiography and Memoir	3
ENGL-131	Hip Hop/Slam Poetry	3
ENGL-141	Advanced Novel and Short Story Writing	3
		3
Total Required Units:		20

**RECOMMENDED COURSE**

One year of college-level foreign language, with a grade of C or better.

**ENTERTAINMENT DESIGN AND TECHNOLOGY**

Associate in Arts in Entertainment Design and Technology  
and

Certificates of Achievement in Entertainment Design and Technology

This curriculum is designed to prepare students for the various fields of the Entertainment Design and Technology industry. Special competency areas can be directed toward lighting, audio, live event management, scenery, or costumes. The program offers Certificates of Achievement for students intending to go directly into the workplace, as well as for entertainment industry professionals desiring to enhance their skills.

**REQUIREMENTS FOR ASSOCIATE IN ARTS DEGREE**

- Complete Major Field courses and one of the six Options with a grade of C or better.
- Complete Plan A, B, or C General Education requirements. These requirements are specified in the Ohlone College catalog.
- Complete at least 60 degree-applicable units with a 2.0 grade point average.
- Complete at least 12 units at Ohlone College.

**REQUIREMENTS FOR CERTIFICATE OF ACHIEVEMENT**

- Complete Major Field courses and one of the six Options as indicated below.
- Complete at least six units at Ohlone College.
- Maintain a 2.0 grade point average in Major Field courses and one of the six option areas.

**MAJOR FIELD**

ART-104A	2D Design <i>OR</i>	3
ID-155A	Architectural Drafting for Interior Design	(3)
CS-101	Introduction to Computers and Information Technology	3
TD-100	Survey of the Arts	3
TD-150	Technical Theatre	3
TD-152	Introduction to Lighting	3
TD-170	Survey of Entertainment Design	3
		18

**OPTION 1: Stage Craft**

BRDC-142	Live TV Studio Production <i>OR</i>	3
BRDC-152	Film and Video Production	(4)
CS-152	Data Communications	2
TD-153	Scenic Painting	3
TD-161-164	Stagecraft Lab (Theatre, Television, Dance)	1-4
TD-171	3D Entertainment Design for Lighting	3
TD-178	Fundamentals of Rigging	2
TD-195A1-A4	Work Experience Education – Vocational	1-4
Welding Competency*		—
		15-22

Total Required Units: 33-40

\*The welding competency requirement may be met by successful completion (with a grade of C or better) of a welding course at any accredited institution (such as Welding Technology at Chabot College or Mission Valley Regional Occupational Program) or by obtaining a Certificate of Accomplishment from a certified professional program.

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**OPTION 2: Costuming**

ART-106A	Descriptive Drawing	3
BRDC-142	Live TV Studio Production <i>OR</i>	3
BRDC-152	Film and Video Production	(4)
TD-154	Theatrical Makeup for Stage, TV, and Dance	2
TD-155A	Costume Construction I	3
TD-155B	Costume Construction II	3
TD-156	Theatrical Costuming	2
TD-161-164	Stagecraft Lab (Theatre, Television, Dance)	1-4
TD-195A1-A3	Work Experience Education – Vocational	1-3
		18-24
Total Required Units:		36-42

**OPTION 3: Audio Technician**

BRDC-132/MUS-113	Studio Recording	3
BRDC-142	Live TV Studio Production <i>OR</i>	3
BRDC-152	Film and Video Production	(4)
CS-152	Data Communications	2
MUS-112A	Pro Tools 101	3
TD-161-164	Stagecraft Lab (Theatre, Television, Dance)	1-4
TD-175	Intermediate Sound for Stage, Television, and Live Events	3
TD-176	Digital Sound Editing for Stage and TV	3
TD-195A1-A3	Work Experience Education – Vocational	1-3
		19-25
Total Required Units:		37-43

**OPTION 4: Live Event Management**

BA-109B	Computerized Accounting for Small Business	1.5
BSM-101	Fundamentals of Supervision	3
BSM-102	Interpersonal Relations in the Workplace	3
TD-119	Directing for the Stage	4
TD-159	Theatre Management	3
TD-161-164	Stagecraft Lab (Theatre, Television, Dance)	1-4
TD-179	Introduction to Stage Management	3
TD-195A1-A3	Work Experience Education – Vocational	1-3
		19.5-24.5
Total Required Units:		37.5-42.5

**OPTION 5: Theatrical and TV Lighting Technician**

BRDC-142	Live TV Studio Production <i>OR</i>	3
BRDC-152	Film and Video Production	(4)
CS-152	Data Communications	2
TD-161-164	Stagecraft Lab (Theatre, Television, Dance)	1-4
TD-171	3D Entertainment Design for Lighting	3
TD-172	Intermediate Lighting for Stage, Television, and Live Events	3
TD-173	Introduction to Moving Lights	2
TD-178	Fundamentals of Rigging	2
TD-195A1-A3	Work Experience Education – Vocational	1-3
		17-23
Total Required Units:		35-41

**OPTION 6: Moving Light Technician**

CS-152	Data Communications	2
TD-161-164	Stagecraft Lab (Theatre, Television, Dance)	1-4
TD-172	Intermediate Lighting for Stage, Television, and Live Events	3
TD-173	Introduction to Moving Lights	2
TD-174	Intermediate Moving Lights	2
TD-178	Fundamentals of Rigging	2
TD-195A1-A3	Work Experience Education – Vocational	1-3
		13-18
Total Required Units:		31-36

**ENVIRONMENTAL SCIENCE**

## Associate in Science in Environmental Science

The Associate in Science in Environmental Science offered by Ohlone College is designed to prepare students for studying Environmental Science at most universities. The core courses in the Associate in Science degree in Environmental Science will fulfill the lower division requirements for most campuses of the UC and CSU systems. This program will enable students to develop a strong foundation in the life and physical sciences, as well as a foundation in the functioning of living systems including population growth, ecology, toxicology, geologic processes, energy resources, pollution, and human attitudes toward nature. Through these courses students will gain a better understanding of how humans are intimately connected with the environment and how human activities impact and are impacted by the environment. Careers in biological consultant, ecosystem and habitat restoration, environmental field or lab technician, environmental health scientist, and environmental manager all require knowledge of environmental issues and the functioning of ecosystems.

Since some curriculum requirements may vary among transfer universities, it is imperative that students entering Ohlone's Associate in Science degree program in Environmental Science meet with a counselor at the start of their academic work. Counselors will assist students in preparing a Student Education Plan that will prepare them to transfer to the university of their choice. Counselors will also advise students on the general education plan that best prepares them for the future transfer.

**REQUIREMENTS FOR ASSOCIATE IN SCIENCE DEGREE**

- Complete the Major Field courses with a grade of C or better.
- Complete Plan A, B, or C General Education requirements. These requirements are specified in the Ohlone College catalog.
- Complete at least 60 degree-applicable units with a 2.0 grade point average.
- Complete at least 12 units at Ohlone College.
- Complete at least 50% of the Major Field courses at Ohlone College.
- Complete BIOL-108, BIOL-142, ENVS-101, ENVS-102, ENVS-103, and GEOG-121 at Ohlone College.

**MAJOR FIELD**

BIOL-101A	Principles of Biology – Molecular and Cellular	5
BIOL-101B	Principles of Biology – Organisms and Systems	5
BIOL-108	Human Ecology	3
BIOL-142	Environmental Biology	4
CHEM-101A	General Chemistry	5
CHEM-101B	General Chemistry	5
ENVS-101	Natural Resource Management	3
ENVS-102	Environmental Law and Regulations	3
ENVS-103	The Environment and Human Health	3
GEOG-101	Physical Geography	4
GEOG-121	Introduction to Geographic Information Systems (GIS)	2
MATH-101A	Calculus with Analytic Geometry	5

Total Required Units: 47

**RECOMMENDED COURSES**

BA-102B	Principles of Economics-Microeconomics	(3)
CHEM-112A	Organic Chemistry	(5)
CHEM-112B	Organic Chemistry	(5)
GEOG-122	Environmental GIS	(2)
GEOG-123	GIS Projects	(1)
GEOL-101	Introduction to Geology	(4)
MATH-159	Introduction to Statistics	(5)
PHYS-120	Introduction to Physics I	(4)
PHYS-121	Introduction to Physics II	(4)

## ENVIRONMENTAL STUDIES

### Associate in Arts in Environmental Studies

The Associate in Arts in Environmental Studies offered by Ohlone College is designed to prepare students for studying Environmental Studies at most universities. The core courses in the Associate in Arts degree in Environmental Studies will fulfill the lower division requirements for most campuses of the UC and CSU systems. This program will enable students to develop a strong foundation in the life and physical sciences, as well as a foundation in the functioning of living systems including population growth, ecology, toxicology, geologic processes, energy resources, pollution, and human attitudes toward nature. Through these courses students will gain a better understanding of how humans are intimately connected with the environment and how human activities impact and are impacted by the environment. Careers in natural resources, land use planning, business, energy, waste management, pollution control, law, and environmental administration all require knowledge of environmental issues and the functioning of ecosystems.

Since some curriculum requirements may vary among transfer universities, it is imperative that students entering Ohlone's Associate in Arts degree program in Environmental Studies meet with a counselor at the start of their academic work. Counselors will assist students in preparing a Student Education Plan that will prepare them to transfer to the university of their choice. Counselors will also advise students on the general education plan that best prepares them for the future transfer.

#### REQUIREMENTS FOR ASSOCIATE IN ARTS DEGREE

- Complete the Major Field courses with a grade of C or better.
- Complete Plan A, B, or C General Education requirements. These requirements are specified in the Ohlone College catalog.
- Complete at least 60 degree-applicable units with a 2.0 grade point average.
- Complete at least 12 units at Ohlone College.
- Complete at least 50% of the Major Field courses at Ohlone College.
- Complete BIOL-108, BIOL-142, ENVS-101, ENVS-102, ENVS-103, GEOG-121, GEOG-122, and GEOG-123 at Ohlone College.

#### MAJOR FIELD

BA-102B	Principles of Economics-Microeconomics	3
BIOL-108	Human Ecology	3
BIOL-142	Environmental Ecology	4
CHEM-106A	Principles of Chemistry	4
ENVS-101	Natural Resource Management	3
ENVS-102	Environmental Law and Regulations	3
ENVS-103	The Environment and Human Health	3
GEOG-101	Physical Geography	4
GEOG-102	Cultural Geography <b>OR</b>	3
GEOG-105	California Geography <b>OR</b>	(3)
ANTH-102	Cultural Anthropology	(3)
GEOG-121	Introduction to Geographic Information Systems (GIS)	2
GEOG-122	Environmental GIS	2
GEOG-123	GIS Projects	1
MATH-159	Introduction to Statistics	5
WEX-195A1	Occupational Work Experience Education	1-4

Total Required Units: 41-44

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## RECOMMENDED COURSES

BIOL-101A	Principles of Biology – Molecular and Cellular	(5)
BIOL-101B	Principles of Biology – Organisms and Systems	(5)
BIOL-130	Introduction to Biology	(4)
CHEM-101A	General Chemistry	(5)
CHEM-112A	Organic Chemistry	(5)
CHEM-112B	Organic Chemistry	(5)
GEOG-101	Introduction to Geology	(4)
PHYS-120	Introduction to Physics I	(4)
PHYS-121	Introduction to Physics II	(4)

## FINE ARTS

### Associate in Arts in Fine Arts

The Associate in Arts degree in Fine Arts has three concentrations: Art; Music; and Theatre and Dance. Students may choose one of the concentrations to earn a degree in Fine Arts. These courses emphasize the study of cultural and humanistic activities and artistic expression of human beings. Students will evaluate and interpret the ways in which people through the ages in different cultures have responded to themselves and the world around them in artistic and cultural creation. Students will also learn to value aesthetic understanding and incorporate these concepts when constructing value judgments. It is imperative that students entering Ohlone's Associate in Arts degree in Fine Arts meet with a counselor at the start of their academic work. Counselors will assist students in preparing a Student Education Plan that will prepare them to achieve their academic goals.

#### REQUIREMENTS FOR ASSOCIATE IN ARTS DEGREE

- Complete the Required Degree Courses with a grade of C or better.
- Complete a minimum of twenty transferable units in Art, Music, and Theatre and Dance, including a minimum of twelve units in one of the concentrations and an additional eight units from either of the remaining concentrations.
- Complete Plan A, B, or C General Education requirements. These requirements are specified in the Ohlone College catalog. Students who do not intend to transfer may complete Plan A; students who intend to transfer may complete either Plan B or C. Counselors will advise students on the general education plan that best prepares them for pursuing an associate degree and/or transfer.
- Complete at least 60 degree-applicable units with a 2.0 grade point average.
- Complete at least 12 units at Ohlone College.
- Complete at least 50% of the required degree courses at Ohlone College.

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### Did you know???

62% of Ohlone students are younger than 25 years of age.



### REQUIRED DEGREE COURSES

#### Art Concentration

Choose a minimum of twelve units from the courses listed below and an additional eight units from either of the remaining concentrations.

ART/IS/MUS/TD-100	Survey of the Arts	3
ART-101	Art: An Introduction	3
ART-103A	Survey of World Art History – Prehistoric Through 1300 C.E.	4
ART-103B	Survey of World Art History – 14th Century Through 20th Century	4
ART-104A	2D Design	3
ART-104B	3D Design	3
ART-104C	Color	3
ART-106A	Descriptive Drawing	3
ART-106B	Intermediate Descriptive Drawing	3
ART-107A	Life Drawing	3
ART-107B	Life Drawing	3
ART-108	Perspective Drawing	3
ART-111A	Painting – Color and Composition	3
ART-111B	Painting	3
ART-116A	Basic Sculpture	3
ART-116B	Advanced Sculpture	3
ART-121A	Introductory Ceramics I	3
ART-121B	Introductory Ceramics II	3
ART-133A	Black and White Photography	3
ART-133B	Intermediate Black and White Photography	3
ART-133C	Advanced Black and White Photography	3
ART-139A	Beginning Digital Photography	3
ART-139B	Intermediate Digital Photography	3
ART-151	Visualization and Presentation	3
ART-156	Architectural Modelmaking for Interior Design	3
ART-161A	Digital Graphics I	2
ART-161B	Digital Graphics II	2

Total Required Units: 12-20

(continued on next column)

#### Music Concentration

Choose a minimum of twelve units from the courses listed below and an additional eight units from either of the remaining concentrations.

ART/IS/MUS/TD-100	Survey of the Arts	3
MUS-101	Introduction to Music – Western Classical Music	3
MUS-102	Music Appreciation	3
MUS-103	Fundamentals of Music	3
MUS-104	Music of World Cultures	3
MUS-108	Song Writing	2
MUS-110A	Music Theory and Harmony	3
MUS-110B	Harmony	3
MUS-110C	Advanced Harmony	3
MUS-110D	Advanced Harmony	3
MUS-111A	Musicianship	1
MUS-111B	Musicianship	1
MUS-111C	Advanced Musicianship	1
MUS-111D	Advanced Musicianship	1
MUS-121	The History of Jazz	3
MUS-122	A History of Early Rock and Roll: Music and Culture of the 1950's	3
MUS-123	History of Rock and Roll: Music and Culture of the 1960's	3
MUS-125	History of Rock and Roll: Music and Culture Since 1970	3
MUS-160A	Beginning Class Piano	1
MUS-160B	Class Piano	1
MUS-160C	Class Piano	1
MUS-160D	Class Piano	1

Total Required Units: 12-20

#### Theatre and Dance Concentration

Choose a minimum of twelve units from the courses listed below and an additional eight units from either of the remaining concentrations.

ART/IS/MUS/TD-100	Survey of the Arts	3
TD-102	Introduction to Theatre Appreciation	3
TD-107	History of Film	3
TD-109	Theatre for Today	3
TD-110	Introduction to Acting	4
TD-112	Acting Styles – Classical	4
TD-113	Screenwriting Basics	3
TD-130	Oral Communication of Literature	3
TD-141A	Introduction to Ballet	2
TD-141B	Intermediate Ballet	2
TD-142A	Introduction to Jazz Dance	2
TD-142B	Intermediate Jazz Dance	2
TD-142C	Advanced Jazz Dance	2
TD-143A	Introduction to Tap	2
TD-143B	Intermediate Tap	2
TD-143C	Advanced Tap Dance	2
TD-144A	Introduction to Modern Dance	2
TD-144B	Intermediate Modern Dance	2
TD-150	Technical Theatre	3
TD-155A	Costume Construction I	3
TD-155B	Costume Construction II	3
TD-156	Theatrical Costuming	2
TD-159	Theatre Management	3
TD-161	Stagecraft Lab	1
TD-162	Stagecraft Lab	2
TD-163	Stagecraft Lab	3
TD-164	Stagecraft Lab	4

Total Required Units: 12-20

## GEOLOGY

### Associate in Science in Geology

The Associate in Science in Geology offered by Ohlone College is designed to prepare students for studying Geology at most universities. The core courses required in the Associate in Science in Geology will fulfill the lower division requirements for most campuses of the UC and CSU systems. This program will enable students to develop a strong foundation in geology, physics, chemistry, and mathematics. Furthermore, the theoretical knowledge and laboratory skills acquired by students in this program will also enhance their success with obtaining entry-level jobs that require two years of college-level science and math.

Since some curriculum requirements may vary among transfer universities, it is imperative that students entering Ohlone's Associate in Science in Geology meet with a counselor at the start of their academic work. Counselors will assist students in preparing a Student Education Plan that will prepare them to transfer to the university of their choice. Counselors will also advise students on the General Education plan that best prepares them for future transfer.

#### REQUIREMENTS FOR ASSOCIATE IN SCIENCE DEGREE

- Complete the Major Field courses with a grade of C or better.
- Complete Plan A, B, or C General Education requirements. These requirements are specified in the Ohlone College catalog.
- Complete at least 60 degree-applicable units with a 2.0 grade point average.
- Complete at least 12 units at Ohlone College.
- Complete at least 50% of the Major Field courses at Ohlone College.
- Complete GEOL-101, GEOL-102/102L, and GEOL-103/103L at Ohlone College.

#### MAJOR FIELD

CHEM-101A	General Chemistry	5
CHEM-101B	General Chemistry	5
GEOL-101	Introduction to Geology	4
MATH-101A	Calculus with Analytic Geometry	5
MATH-101B	Calculus with Analytic Geometry	5
MATH-101C	Calculus with Analytic Geometry	5
PHYS-140	Mechanics	4

Select one of the following course combinations: 4

GEOL-102	Introduction to Oceanography <i>AND</i>	(3)
GEOL-102L	Oceanography Laboratory <i>OR</i>	(1)
GEOL-103	Paleontology and Dinosaurs <i>AND</i>	(3)
GEOL-103L	Earth History and Paleontology Laboratory	(1)

Select one of the following Physics courses: 4

PHYS-141	Electricity and Magnetism <i>OR</i>	(4)
PHYS-142	Optics, Heat, and Modern Physics	(4)

Total Required Units: 41

#### RECOMMENDED COURSES

The following courses are recommended because they are required in the lower division of some baccalaureate-granting universities:

BIOL-101A	Principles of Biology – Molecular and Cellular	(5)
BIOL-101B	Principles of Biology – Organisms and Systems	(5)
MATH-103	Introduction to Linear Algebra	(3)
MATH-104	Differential Equations	(5)
MATH-159	Introduction to Statistics	(5)

## GRAPHIC ARTS/COMPUTER GRAPHICS

### Associate in Arts in Graphic Arts/Computer Graphics and

### Certificate of Achievement in Graphic Arts/Computer Graphics

This curriculum is designed to prepare students as graphic artists for careers with graphic design printing companies and other media firms. Students are encouraged to develop a wide variety of skills in order to be better prepared for a range of job opportunities. Placement often depends upon the portfolio of completed work, willingness to move to a different area, and job availability.

#### REQUIREMENTS FOR ASSOCIATE IN ARTS DEGREE

- Complete Major Field and Supporting Course with a grade of C or better.
- Complete Plan A, B, or C General Education requirements. These requirements are specified in the Ohlone College catalog.
- Complete at least 60 degree-applicable units with a 2.0 grade point average.
- Complete at least 12 units at Ohlone College.

#### REQUIREMENTS FOR CERTIFICATE OF ACHIEVEMENT

- Complete Major Field courses as indicated below.
- Complete at least six units at Ohlone College.
- Maintain a 2.0 grade point average in the Major Field Courses.

#### MAJOR FIELD

ART-103A	Survey of World Art History – Prehistoric Through 1300 C.E. <i>OR</i>	4
ART-103B	Survey of World Art History – 14th Century Through 20th Century	(4)
ART-104A	2D Design	3
ART-104C	Color	3
ART-106A	Descriptive Drawing	3
ART-133A	Black and White Photography <i>OR</i>	3
ART-138A	Beginning Photoshop <i>OR</i>	(3)
ART-139A	Beginning Digital Photography	(3)
GA/ART-109A	Beginning Graphic Design I	3
GA/ART-109B	Beginning Graphic Design II	3
GA/ART-110A	Advanced Graphic Design I	3
GA/ART-110B	Advanced Graphic Design II	3
GA/ART/BA/CS-160A	Computer Graphics I	4
GA/ART/CAOT-161A	Digital Graphics I	2
		34

#### SUPPORTING COURSE

JOUR-146-148	Photography/Graphic Arts Newspaper Staff	1-3
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Total Required Units: 35-37

## HUMAN DEVELOPMENT STUDIES

### Associate in Arts in Human Development Studies

The Associate in Arts in Human Development Studies offered by Ohlone College is designed to prepare students for studying Anthropology, Environmental Studies, Psychology, Sociology and other related subjects at most colleges and universities. While the core courses required in the Associate in Arts in Human Development Studies will fulfill the lower division major requirements at most universities, students are advised to meet with academic counselors to assess the course requirements for specific universities. For example, some universities will focus on Social Science or Social Studies as a concentration. This program will enable students to develop a strong foundation in life and social sciences while connected to other areas.

The Associate in Arts in Human Development prepares students for a baccalaureate major in Human Development, Sociology, Psychology, or Anthropology. By fulfilling many of the lower division major requirements at the CSU and UC campuses, this program will enhance student awareness in ecological, historical, political, social, service/community learning issues as well as facilitate successful student transfer. The goal is also to excite, ignite, and inspire students to learn and serve their respective communities.

### REQUIREMENTS FOR ASSOCIATE IN ARTS DEGREE

- Complete the Required Degree Courses with a grade of C or better.
- Complete a minimum of twenty units selected from the four areas below.
- Complete Plan A, B, or C General Education requirements. These requirements are specified in the Ohlone College catalog.
- Complete at least 60 degree-applicable units with a 2.0 grade point average.
- Complete at least 12 units at Ohlone College.
- Complete at least 50% of the required degree courses at Ohlone College.

Choose one course from Anthropology, History, Psychology, or Sociology.

ANTH-101	Physical Anthropology	4
ANTH-102	Cultural Anthropology	3
HIST-104A	Western Civilization with a World Perspective Until 1600	3
HIST-104B	Western Civilization with a World Perspective From 1600	3
HIST-105	History of California	3
HIST-112	Chicano History	3
HIST-114A	African American History 1619-1877	3
HIST-114B	African American History 1877 to Present	3
HIST-115	Asian-American History	3
HIST-117A	History of the United States	3
HIST-117B	History of the United States	3
PSY-101	General Psychology	3
PSY-102	Introduction to Experimental Psychology	3
PSY-105	Child Development	3
PSY-106	Adolescent Development	3
PSY-108	A Survey of Human Development	3
PSY-112	Social Psychology	3
PSY-115	Abnormal Psychology	3
PSY-139	Psychology in the Workplace	3
PS-102	American Government	3
SOC-101	Introduction to Sociology	3
SOC-102	Social Problems of a Diverse Society	3
SOC-105	Marriage and Family	3
SOC-106	Chicano Culture I	3

3-4

(continued on next column)

Choose one course from Biology, Environmental Studies, Geography, or Geology.

BIOL-105	Heredity, Evolution, and Society	3
BIOL-107	Microbiology and Infectious Diseases	3
BIOL-108	Human Ecology	3
BIOL-109	Biology of Sexual Reproduction	3
BIOL-130	Introduction to Biology	4
ENVS-102	Environmental Law and Regulations	3
ENVS-103	The Environment and Human Health	3
ENVS-142	Environmental Biology	4
GEOG-101	Physical Geography	4
GEOG-102	Cultural Geography	3
GEOG-104	The World's Nations	3
GEOG-105	California Geography	3
GEOG-101	Introduction to Geology	4

3-4

Choose one course from Speech and Communication Studies.

SPCH-101	Introduction to Public Speaking	3
SPCH-102	Small Group Communication/Critical Thinking	3
SPCH-103	Interpersonal Communication	3
SPCH-104	Critical Thinking/Persuasion	3
SPCH-105	Intercultural Communication	3
SPCH-106	Critical Thinking/Argumentation and Debate	3
SPCH-107	Leadership Communication	3

3

Choose 9-11 units from any remaining course listed in sections 1-3 or listed below.

BA-102A	Principles of Economics-Macroeconomics	3
BA-102B	Principles of Economics-Microeconomics	3
BIOT-100	Biotechnology and Society	3
BIOT-102	Chemical Safety and Hygiene	1
BRDC-155	Mass Media and Society	3
CFS-108	Nutrition and Fitness	3
CFS-109	Nutrition	3
CHEM-108	Survey of Chemistry	3
CHS-109	Barrio Fieldwork	2
CNET-114	How Technology Works	4
CS-101	Introduction to Computers and Information Technology	3
ECS-301	Childhood Growth and Development	3
ECS-303	Child, Family, and Community	3
ECS-305	Health Safety and Nutrition	3
HLTH-101	Contemporary Health Issues	3
HLTH-150	Women's Health Issues	3
IS-110	Introduction to Ethnic Studies	3
KIN-240	Theory of Physical Education, Fitness, and Sport	3
KIN-251	Fitness for Life	3
MATH-156	Math for Liberal Arts	3
MATH-159	Introduction to Statistics	5
MATH-166	Finite Mathematics	4
MATH-181	Trigonometry	3
MUS-104	Music of World Cultures	3
PD-105	College Success	3
PD-180	Peer Mentoring	2
TD-102	Introduction to Theatre Appreciation	3
TD-109	Theatre for Today	3
TD-114	Acting for the Camera	4
WEX-195A1-A4	Occupational Work Experience Education	1-4
WS-120	Women of the Western World	3

9-11

Total Required Units: 20

## INTERIOR DESIGN

Associate in Arts in Interior Design  
and  
Certificate of Achievement in Interior Design

This curriculum is designed to prepare creative students in the various fields of Interior Design. The job market is varied and offers positions such as Interiors Salespersons, Product Representatives, and Interior Design Services (self-employed or associated with small shops or consultants for large department stores and furniture outlets). Special competency areas can be directed toward textiles/fabrics, furniture and floor covering, remodeling and space design, corporate office space decorating, model homes, etc. This two-year program includes courses that will give graduates the professional skills needed to secure an entry-level job, as well as the option of continuing to study Interior Design at the university level.

### REQUIREMENTS FOR ASSOCIATE IN ARTS DEGREE

- Complete Major Field and Supporting Courses with a grade of C or better.
- Complete Plan A, B, or C General Education requirements. These requirements are specified in the Ohlone College catalog.
- Complete at least 60 degree-applicable units with a 2.0 grade point average.
- Complete at least 12 units at Ohlone College.

### REQUIREMENTS FOR CERTIFICATE OF ACHIEVEMENT

- Complete Major Field courses as indicated below.
- Complete at least six units at Ohlone College.
- Maintain a 2.0 grade point average in Major Field Courses.

#### MAJOR FIELD

ART-104B	3D Design	3
ART-104C	Color	3
ART-106A	Descriptive Drawing	3
ART-108	Perspective Drawing	3
ID/ART-150A	Interior Design Concepts	3
ID/ART-150B	Interior Design	3
ID/ART-151	Visualization and Presentation	3
ID/ART-153	History of Decorative Arts	3
ID/ART-154	Contemporary Home Design <i>OR</i>	2
ID/ART-159A	Applied Design: Residential Lighting <i>AND</i>	(1)
ID/ART-159B	Applied Design: Color for the Home	(1)
ID/ART-155A	Architectural Drafting for Interior Design	3
ID/ART-155B	CAD for Interior Design	3
ID/ART-156	Architectural Modelmaking for Interior Design	3
ID/ART-157	Professional Practice for Interior Design	3
ID/ART-158	Textiles	3
		41

#### SUPPORTING COURSES

ART-103A	Survey of World Art History – Prehistoric Through 1300 C.E. <i>OR</i>	4
ART-103B	Survey of World Art History – 14th Century Through 20th Century	(4)
		4
Total Required Units:		45

## JOURNALISM

Associate in Arts in Journalism  
and  
Certificate of Achievement in Journalism

This curriculum is designed to offer students an opportunity for learning writing techniques that can be applied to commercial publications, photojournalism, public relations, advertising, etc. Journalism students become involved in production of the student newspaper, *The Monitor*. This award-winning publication presents the opportunity to write, edit, design, and finally prepare a publication for distribution throughout the college community.

### REQUIREMENTS FOR ASSOCIATE IN ARTS DEGREE

- Complete Major Field courses with a grade of C or better.
- Complete Plan A, B, or C General Education requirements. These requirements are specified in the Ohlone College catalog.
- Complete at least 60 degree-applicable units with a 2.0 grade point average.
- Complete at least 12 units at Ohlone College.

### REQUIREMENTS FOR CERTIFICATE OF ACHIEVEMENT

- Complete Major Field courses as indicated below.
- Complete at least six units at Ohlone College.
- Maintain a 2.0 grade point average in Major Field courses.

#### MAJOR FIELD

ART-133A	Black and White Photography <i>OR</i>	3
JOUR-175	Magazine Writing and Editing Staff	(3)
BA-125	Introduction to Business	3
JOUR-101A	Newswriting	3
JOUR/BRDC-155	Mass Media and Society	3
JOUR-172	Newspaper Writing and Editing Staff (2 semesters) <i>OR</i>	6
JOUR-178	Advertising Staff (2 semesters) <i>OR</i>	(6)
JOUR-148	Photography/Graphic Arts Newspaper Staff (2 semesters)	(6)
MM-105	Web Site Design	4
Total Required Units:		22

## KINESIOLOGY: ATHLETIC TRAINING

Associate in Science in Kinesiology: Athletic Training

The Associate in Science in Kinesiology: Athletic Training offered by Ohlone College is designed to prepare students for studying Athletic Training at accredited universities. While the courses required in the Associate in Science in Kinesiology: Athletic Training will fulfill the lower division major requirements at many universities, students are advised to meet with their counselor to assess the course requirements for specific institutions. This program will enable students to develop a strong foundation in exercise science, kinesiology, and athletic training. The theoretical knowledge and laboratory skills acquired by students in this program will also enhance their success with obtaining entry-level jobs in the fitness and physical therapy industry.

### REQUIREMENTS FOR ASSOCIATE IN SCIENCE DEGREE

- Complete the Major Field courses with a grade of C or better.
- Complete Plan A, B, or C General Education requirements. These requirements are specified in the Ohlone College catalog.
- Complete at least 60 degree-applicable units with a 2.0 grade point average.
- Complete at least 12 units at Ohlone College.

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**MAJOR FIELD**

BIOL-103A	Human Anatomy and Physiology	4
BIOL-103B	Human Anatomy and Physiology	4
BIOL-130	Introduction to Biology	4
CHEM-106A	Principles of Chemistry	4
CFS-109	Nutrition	3
HLTH-101	Contemporary Health Issues	3
KIN-240	Theory of Physical Education, Fitness, and Sport	3
KIN-257	Prevention and Care of Athletic Injuries	4
KIN-258	Exercise Prescription	3
KIN-381	Clinical Experiences in Athletic Training I	1
KIN-382	Clinical Experiences in Athletic Training II	2
Total Required Units:		35

**LIBERAL ARTS**

## Associate in Arts

The Associate in Arts in Liberal Arts has three areas of emphasis: Language, Humanities, and Speech and Communication. A liberal arts education allows students to explore any number of career possibilities. Employment prospects are generally strong after graduation; often employers prefer to hire people with the education in the right skills (critical thinking, writing, and analysis) rather than the right subjects. Liberal arts degrees are also an excellent choice for students who want to pursue a higher degree, as universities often prefer candidates with a proven ability to learn and succeed. A liberal arts education offers much more than career-specific training, because it teaches students to understand problems, develop solutions, and lead a balanced and well-rounded life.

It is imperative that students entering Ohlone's Associate in Arts in Liberal Arts meet with a counselor at the start of their academic work. Counselors will assist students in preparing a Student Education Plan that will prepare them to achieve their academic goals.

**REQUIREMENTS FOR ASSOCIATE IN ARTS DEGREE**

- Complete the Required Degree Courses with a grade of C or better.
- Complete a minimum of twenty units selected from the following areas of emphasis.
- Complete Plan A, B, or C General Education requirements. These requirements are specified in the Ohlone College catalog. Students who do not intend to transfer may complete Plan A; students who intend to transfer may complete either Plan B or C. Counselors will advise students on the general education plan that best prepares them for pursuing an associate degree and/or transfer.
- Complete at least 60 degree-applicable units with a 2.0 grade point average.
- Complete at least 12 units at Ohlone College.
- Complete at least 50% of the required degree courses at Ohlone College.

**REQUIRED DEGREE COURSES****Language Emphasis**

This area of emphasis is designed to help students demonstrate progressive oral competence of the language; decipher progressively more difficult texts; become more competent in writing ability; and demonstrate rudimentary to more advanced level of cultural and historical understanding of the societies associated with the target language. Classes prepare students for entry into a variety of careers in which effective critical thinking, effective writing skills, and multilingual skills are important.

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Choose a minimum of twenty units from the courses listed below.

ARBC-101A	Elementary Arabic	5
ARBC-101B	Elementary Arabic	5
ASL-101A	Principles of American Sign Language I	5
ASL-101B	Principles of American Sign Language I	5
ASL-102A	Principles of American Sign Language II	5
ASL-102B	Principles of American Sign Language II	5
ASL-103A	Principles of American Sign Language III	5
ASL-103B	Principles of American Sign Language III	5
ASL-104A	Principles of American Sign Language IV	5
ASL-104B	Principles of American Sign Language IV	5
ASL-140	Deaf Education	3
ASL-142	Deaf Culture	3
ASL-145	Deaf History	3
ASL-150	Linguistics of ASL	3
ASL-181A	Conversational ASL I	3
ASL-181B	Conversational ASL II	3
CHIN-101A	Elementary Mandarin Chinese I	5
CHIN-101B	Elementary Mandarin Chinese II	5
CHIN-102A	Intermediate Mandarin Chinese I	5
CHIN-102B	Intermediate Mandarin Chinese II	5
ENGL-101A	Reading and Written Composition	4
ENGL-101B	Reading and Composition (Introduction to Literature)	4
ENGL-101C	Critical Thinking and Composition	3
ENGL-104	The Short Story	3
ENGL-106	Censorship and Literature	3
ENGL-107	Literature and Film	3
ENGL-108	Writing Short Fiction	3
ENGL-111A	Beginning Creative Writing	3
ENGL-111B	Intermediate Creative Writing	3
ENGL-112	Modern Fiction	3
ENGL-113	Poetry	3
ENGL-114	World Mythology	3
ENGL-115	Women in Literature	3
ENGL-117	Science Fiction and Fantasy	3
ENGL-118	Introduction to Shakespeare	3
ENGL-119	The Gothic Novel	3
ENGL-120A	Survey of American Literature: Beginning to 1865	3
ENGL-120B	Survey of American Literature: 1865 to Present	3
ENGL-127	Autobiography: Writing Journals and Memoirs	3
ENGL-129	Psychology and Literature	3
ENGL-130	American Stories: Multicultural Autobiography and Memoir	3
ENGL-167	Critical and Analytical Reading	3
FREN-101A	Elementary French	5
FREN-101B	Elementary French	5
FREN-102A	Intermediate French	5
FREN-102B	Intermediate French	5
JPNS-101A	Elementary Japanese	5
JPNS-101B	Elementary Japanese	5
JPNS-102A	Intermediate Japanese	5
JPNS-102B	Intermediate Japanese	5
SPAN-101A	Elementary Spanish	5
SPAN-101B	Elementary Spanish	5
SPAN-102A	Intermediate Spanish	5
SPAN-102B	Intermediate Spanish	5
SPCH-130	Oral Communication of Literature	3
TAG-181A	Conversational Tagalog	3
TAG-181B	Conversational Tagalog	3
Total Required Units:		20

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Photo courtesy of Don Jedlovec.

### Humanities Emphasis

This area of emphasis is designed to help students develop an awareness of the ways in which people through the ages and in different cultures have responded to themselves and the world around them in artistic and cultural creation and help the student develop aesthetic understanding and an ability to make value judgments. Classes prepare students for entry into a variety of careers in which effective critical thinking and effective writing skills are important.

Choose a minimum of twenty units from the courses listed below.

ART-103A	Survey of World Art History – Prehistoric Through 1300 C.E.	4
ART-103B	Survey of World Art History – 14th Century Through 20th Century	4
HIST-104A	Western Civilization with a World Perspective Until 1600	3
HIST-104B	Western Civilization with a World Perspective From 1600	3
HIST-107	History of Film	3
HIST-112	Chicano History	3
HIST-141	A History of Early Rock and Roll: Music and Culture of the 1950's	3
HIST-142	History of Rock and Roll: Music and Culture of the 1960's	3
HIST-143	History of Rock and Roll: Music and Culture Since 1970	3
PHIL-100	Introduction to Philosophy	3
PHIL-101	Ancient Philosophy	3
PHIL-102	Modern Philosophy	3
PHIL-104	Logic	3
PHIL-106	Ethics	3
PHIL-107	Practical Reasoning	3
PHIL-109A	Understanding the Old Testament	3
PHIL-109B	Understanding the New Testament	3
PHIL-110	Introduction to Asian Religions	3
PHIL-112	Introduction to Western Religions	3
PHIL-114	Introduction to Islam	3

Total Required Units: 20

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### Speech and Communication Emphasis

This area of emphasis is designed to help students to communicate with diverse audiences in multiple contexts; describe and analyze the symbolic nature of communication and how it creates individual, group, and cultural reality; identify, evaluate, and utilize evidence to support claims used in presentations and arguments; and demonstrate through performance and analysis the importance of both verbal and nonverbal communication. Classes prepare students for entry into careers in which effective communication skills are important, such as education, public relations, and law.

Choose a minimum of twenty units from the courses listed below. Students may only take a maximum of four units total for SPCH-110A1, SPCH-110A2, SPCH-110A3, SPCH-112A1, SPCH-112A2, SPCH-112A3, SPCH-114A1, SPCH-114A2, and SPCH-114A3. Students may also only take a maximum of three units of SPCH-190A, SPCH-190B, and SPCH-190C.

COMM-100	Introduction to Communication Theory	3
JOUR-101A	Newswriting	3
SPCH-101	Introduction to Public Speaking	3
SPCH-102	Small Group Communication/Critical Thinking	3
SPCH-103	Interpersonal Communication	3
SPCH-104	Critical Thinking/Persuasion	3
SPCH-105	Intercultural Communication	3
SPCH-106	Critical Thinking/Argumentation and Debate	3
SPCH-107	Leadership Communication	3
SPCH-108	Gender Communication	3
SPCH-110A1	Forensics Workshop	1
SPCH-110A2	Forensics Workshop	2
SPCH-110A3	Forensics Workshop	3
SPCH-112A1	Argumentation and Debate Workshop	1
SPCH-112A2	Argumentation and Debate Workshop	2
SPCH-112A3	Argumentation and Debate Workshop	3
SPCH-114A1	Oral Interpretation Workshop	1
SPCH-114A2	Oral Interpretation Workshop	2
SPCH-114A3	Oral Interpretation Workshop	3
SPCH-115	Career Communication	3
SPCH-122	Family Communication	3
SPCH-130	Oral Communication of Literature	3
SPCH-132	Voice and Diction	3
SPCH-190A	Speech Communication Lab Consultant	1
SPCH-190B	Speech Communication Lab Consultant	2
SPCH-190C	Speech Communication Lab Consultant	3

Total Required Units: 20

## MATHEMATICS

### Associate in Science in Mathematics for Transfer

The Student Transfer Achievement Reform Act (Senate Bill 1440, now codified in California Education Code sections 66746-66749) guarantees admission to a California State University (CSU) campus for any community college student who completes an "associate degree for transfer," a newly established variation of the associate degrees traditionally offered at a California community college. The Associate in Science in Mathematics for Transfer is intended for students who plan to complete a bachelor's degree as a math major at a CSU campus. Students completing this degree are guaranteed admission to the CSU system, but not to a particular campus or major. Students will learn the basic mathematical theory which is needed to study advanced math topics at a four year university.

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Mathematics is a traditional program of university study, with a heritage dating back centuries. In addition to being an academic program worthy of study for its own merits, a degree in mathematics allows a student to enter the workforce in a broad range of areas, including finance, data analysis, and teaching. A degree in mathematics also provides the background for students to pursue graduate programs in many areas such as engineering, law, medicine, and business. A degree in mathematics is often considered as a strong indication that a student possesses good critical thinking skills, the ability to process complicated ideas, and the ability to both follow and create logical processes.

In order to earn the Associate in Science in Mathematics for Transfer, students must complete a minimum of 60 required semester units of CSU-transferable coursework with a minimum GPA of 2.0. This degree may not be the best option for students intending to transfer to a particular CSU campus or to university or college that is not part of the CSU system. Students should consult with a counselor when planning to complete the degree for more information on university admission and transfer requirements.

### REQUIREMENTS FOR ASSOCIATE IN SCIENCE FOR TRANSFER DEGREE

- Complete all Major and Supporting Courses with a grade of C or better.
- Complete Plan B or Plan C General Education requirements. These requirements are specified in the Ohlone College catalog.
- Complete a minimum of 60 CSU-transferable semester units.
- Complete a minimum grade point average (GPA) of at least 2.0 in all CSU-transferable coursework. While a minimum GPA of 2.0 is required for admission, some majors may require a higher GPA. Please consult with a counselor for more information.
- Complete a minimum of 21 semester units in the Mathematics major.
- Complete at least 12 units at Ohlone College.

#### MAJOR FIELD

MATH-101A	Calculus with Analytic Geometry	5
MATH-101B	Calculus with Analytic Geometry	5
MATH-101C	Calculus with Analytic Geometry	5
		15

#### Group A

Choose a minimum of six units from Group A and Group B, with at least three units from Group A.

MATH-103	Introduction to Linear Algebra	3
MATH-104	Differential Equations	5
		3-5

#### Group B

Choose a minimum of six units from Group A and Group B, with at least three units from Group A.

CS-102	Introduction to Programming Using C++	4
MATH-111	Introduction to Matlab	3
MATH-163	Discrete Mathematics for Computers	3
PHYS-140	Mechanics	4
		3-4

Total Required Units: 21-24

## MICROSOFT SYSTEMS ENGINEER (NETWORK+, MCP, MCSE)

Associate in Science in Microsoft Systems Engineer  
and

Certificate of Achievement in Microsoft Systems Engineer

For network professionals, Microsoft offers the Microsoft Certified Systems Engineer (MCSE) credential. MCSE's are qualified to effectively plan, implement, maintain, and support information systems in a wide range of computing environments using the Microsoft Windows Server Products and the Microsoft BackOffice®. Candidates for this degree option must have strong PC skills prior to enrolling in the program.

### REQUIREMENTS FOR ASSOCIATE IN SCIENCE DEGREE

- Complete Major Field and Supporting Courses with a grade of C or better.
- Complete Plan A, B, or C General Education requirements. These requirements are specified in the Ohlone College catalog.
- Complete at least 60 degree-applicable units with a 2.0 grade point average.
- Complete at least 12 units at Ohlone College.

### REQUIREMENTS FOR CERTIFICATE OF ACHIEVEMENT

- Complete Major Field courses as indicated below.
- Complete at least six units at Ohlone College.
- Maintain a 2.0 grade point average in Major Field courses.

#### MAJOR FIELD

CNET-146	Introduction to UNIX/Linux	3
CNET-150	Network Operating Systems	4
CNET-152	Data Communications	2
CNET-157	TCP/IP and Internetworking	3
CNET-160A	Microsoft Client Operating Systems	2
CNET-162A	Microsoft Server Operating Systems	2
CNET-162B	Windows Network Infrastructure Administration	2
CNET-164A	Microsoft Directory Services	2
CNET-164B	Designing Microsoft Windows Directory Services Infrastructure	2
CNET-165A	Designing a Secure Microsoft Windows Network	2
ENGL-156	Introduction to Report and Technical Writing <b>OR</b>	3
SPCH-115	Career Communication	(3)
		27

(continued on next page)

### Did you know???

UC Berkeley, UC Davis, and UC San Diego are the most popular UC destinations for Ohlone students.

**SUPPORTING COURSES (MINIMUM SIX UNITS REQUIRED)**

Choose 1-4 units from the following:	1-4
CNET-195A1-4 Internship	
Choose 2-5 units from the following:	2-5
CNET-101 Introduction to Computers and Information Technology	3
CNET-105 PC Hardware and Software	4
CNET-140A Linux Installation and Configuration	2
CNET-140B Linux System Administration	2
CNET-142A Linux Networking	2
CNET-142B Linux Security	2
CNET-147 UNIX/Linux Shell Scripting	4
CNET-149 PERL Programming	4
CNET-155A Network Fundamentals	4
CNET-155B Routing Protocols and Concepts	4
CNET-156A LAN Switching and Wireless	2
CNET-156B WAN Design and Support	2
CNET-158 Wireless Networks	4
CNET-165B Microsoft Internet Security and Acceleration Server (ISA)	2
CNET-167A Network Application Administration I – Email (Exchange 2003)	2
CNET-168A Network Application Administration II – Database (SQL)	2
CNET-170 Network Security	4
CNET-182 Advanced Routing	3
CNET-183 Implementing Cisco Secure WANs CCNP II	3
CNET-184 Advanced Switching	3
CNET-185 Optimizing Converged Networks	3
CS-102 Introduction to Computer Programming Using C++	4
CS-104A Introduction to .NET Programming	4
CS-170 Java Programming	4
CS-175 From JavaScript to AJAX	4
CS-176 Introduction to PERL CGI Programming Development	4
Total Required Units:	33

**MAJOR FIELD**

MM-102A Introduction to Multimedia	3
MM-105 Web Site Design	4
MM-110 Digital Video for Web and DVD	4
MM-160 Multimedia Portfolio Development	3
	14

**GRAPHICS/ART AREA**

Choose 3-4 units from the following:	
ART-139A Beginning Digital Photography	3
GA-109A Beginning Graphic Design I	3
GA-160A Computer Graphics I	4
	3-4

**SUPPORTING COURSES**

Choose 12-14 units from the following:	
MM-103A Introduction to Flash: Animation	.5
MM-103B Intermediate Flash: Interactivity	.5
MM-104 Advanced Interactivity in Flash	3
MM-106 Advanced Web Site Design	3
MM-107 Introduction to Dreamweaver	.5
MM-114 Textures for 3D	3
MM-115 3D Animation	3
MM-116 3D Modeling	3
MM-117 Advanced 3D Modeling and Animation	3
MM-118 Introduction to Video Game Design	2
MM-119 Video Game Development	3-6
MM-162 XHTML	4
MM-195A1 Occupational Work Experience Education	1
MUS-112A Pro Tools 101	3
	12-14
Total Required Units:	29-32

**MULTIMEDIA**

Associate in Arts in Multimedia  
and  
Certificate of Achievement in Multimedia

This program is designed to provide students with technical skills and a strong foundation in design. Students have the opportunity to explore the many different areas of multimedia while following professional practices and employing industry-standard software.

**REQUIREMENTS FOR ASSOCIATE IN ARTS DEGREE**

- Complete Major Field and Supporting Courses with a grade of C or better.
- Complete Plan A, B, or C General Education requirements. These requirements are specified in the Ohlone College catalog.
- Complete at least 60 degree-applicable units with a 2.0 grade point average.
- Complete at least 12 units at Ohlone College.

**REQUIREMENTS FOR CERTIFICATE OF ACHIEVEMENT**

- Complete Major Field courses as indicated below.
- Complete at least six units at Ohlone College.
- Maintain a 2.0 grade point average in Major Field courses.

*(continued on next column)*

**MUSIC**

Associate in Arts in Music

The Associate in Arts in Music offered by Ohlone College is designed to prepare students for studying Music at most universities. While the Core courses required in the Associate in Arts Degree in Music will fulfill the lower division major requirements at most universities, students are advised to meet with their counselor to assess the course requirements for specific universities. This program will enable students to develop a strong foundation in music and directly enter the industry workforce if they choose not to transfer.

**REQUIREMENTS FOR ASSOCIATE IN ARTS DEGREE**

- Complete the Major Field and Emphasis Courses with a grade of C or better.
- Complete Plan A, B, or C General Education requirements. These requirements are specified in the Ohlone College catalog.
- Complete at least 60 degree-applicable units with a 2.0 grade point average.
- Complete at least 12 units at Ohlone College.

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**MAJOR FIELD**

MUS-102	Music Appreciation	3
MUS-104	Music of World Cultures	3
MUS-110A	Music Theory and Harmony	3
MUS-110B	Harmony	3
MUS-110C	Advanced Harmony	3
MUS-110D	Advanced Harmony	3
MUS-111A	Musicianship	1
MUS-111B	Musicianship	1
MUS-111C	Advanced Musicianship	1
MUS-111D	Advanced Musicianship	1
MUS-160A	Beginning Class Piano	1
MUS-160B	Class Piano	1
		<hr/>
		24

Complete one of the following courses:		3
MUS-101	Introduction to Music – Western Classical Music <b>OR</b>	3
MUS-121	The History of Jazz <b>OR</b>	(3)
MUS-125	History of Rock and Roll: Music and Culture Since 1970	(3)
		<hr/>
		3

**EMPHASIS COURSES**

Complete one of the following tracks:

**Vocal Track**

Complete all of the following courses:

MUS-162A	Class Voice – Beginning	1
MUS-162B	Class Voice – Beginning	1
MUS-162C	Class Voice – Intermediate	2
MUS-162D	Class Voice – Intermediate	2
MUS-166A	Applied Music	1
MUS-166B	Applied Music	1
		<hr/>
		8

Complete any two of the following courses:

MUS-352	Jazz/Rock Combos	1
MUS-355	College Chorus	1
MUS-356	Chamber Singers	1
MUS-358	Community Chorale	1
MUS-367	Women's Chorus	1
MUS-368	Men's Chorus	1
MUS-380	Musical Theatre Workshop I (Principals)	1
MUS-381	Musical Theatre Workshop II (Chorus)	1
MUS-394	Madrigals	1
		<hr/>
		2

Total Vocal Track Emphasis Units: 10

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**Instrumental Track**

Complete both of the following courses:

MUS-166A	Applied Music	1
MUS-166B	Applied Music	1
		<hr/>
		2

Complete three units from the following:

MUS-161A	Class Guitar	1
MUS-161B	Class Guitar	1
MUS-161C	Class Guitar	1
MUS-163A	Woodwind Instruments	1
MUS-163B	Woodwind Instruments	1
MUS-163C	Woodwind Instruments	1
MUS-164A	Brass Instruments	1
MUS-164B	Brass Instruments	1
MUS-164C	Brass Instruments	1
MUS-165A	Percussion Instruments	1
MUS-165B	Percussion Instruments	1
MUS-165C	Percussion Instruments	1
		<hr/>
		3

Complete two units from the following:

MUS-350	Community Band	.5
MUS-352	Jazz/Rock Combos	1
MUS-370	Symphonic Band	.5
MUS-371	Mixed Wind Ensemble	.5
MUS-374	Community Orchestra	.5
		<hr/>
		2

Total Instrumental Track Emphasis Units: 7

**Commercial Track**

Complete the following course:

MUS-112A	Pro Tools 101	3
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Complete one of the following courses:

MUS-112B	Pro Tools 110 <b>OR</b>	3
MUS-112C	Pro Tools 201 <b>OR</b>	(3)
MUS-113	Studio Recording	(3)
		<hr/>
		3

Total Commercial Track Emphasis Units: 6

**Piano Track**

Complete the following courses:

MUS-160C	Class Piano	1
MUS-160D	Class Piano	1
MUS-160E	Piano Repertoire	1
MUS-160F	Piano Repertoire	1
MUS-166A	Applied Music	1
MUS-166B	Applied Music	1
		<hr/>
		6

Total Piano Track Emphasis Units: 6

Total Required Units for Music Major: 33-37

## NATURAL SCIENCE

### Associate in Arts in Natural Science

The Associate in Arts in Natural Science has three areas of emphasis: Biological Science; Physical Science; and Mathematics and Technology. Students may choose one of these emphases to earn a degree in Natural Science. These emphases will provide students with the knowledge and skills to succeed in a variety of science or technological careers. Graduates with an Associate in Arts in Natural Science will develop a strong foundation in the life sciences, physical sciences, and mathematics. Furthermore, the theoretical knowledge and laboratory skills acquired by students in these programs will also enhance their success with obtaining entry-level jobs that require two years of college-level science and math.

It is imperative that students entering Ohlone's Associate in Arts in Natural Science meet with a counselor at the start of their academic work. Counselors will assist students in preparing a Student Education Plan that will prepare them to pursue their academic goals.

#### REQUIREMENTS FOR ASSOCIATE IN ARTS DEGREE

- a) Complete the Required Degree Courses with a grade of C or better.
- b) Complete a minimum of twenty transferable units selected from one of the areas of emphasis, including a minimum of twelve units in the same department and an additional eight units from any of the courses within the emphasis.
- c) Complete Plan A, B, or C General Education requirements. These requirements are specified in the Ohlone College catalog. Students who do not intend to transfer may complete Plan A; students who intend to transfer may complete either Plan B or C. Counselors will advise students on the general education plan that best prepares them for pursuing an associate degree and/or transfer.
- d) Complete at least 60 degree-applicable units with a 2.0 grade point average.
- e) Complete at least 12 units at Ohlone College.
- f) Complete at least 50% of the required degree courses at Ohlone College.

*(continued on next column)*

## REQUIRED DEGREE COURSES

### Biological Science Emphasis

This emphasis will enable students to develop a strong foundation in the life sciences. Furthermore, the theoretical knowledge and laboratory skills acquired by students in this emphasis will also enhance their success with obtaining entry-level jobs that require two years of college-level life science and laboratory skills.

Choose a minimum of twelve units from the Biology courses listed below and an additional eight units from any of the remaining courses within this emphasis.

ANTH-101	Physical Anthropology	4
BIOL-101A	Principles of Biology – Molecular and Cellular	5
BIOL-101B	Principles of Biology – Organisms and Systems	5
BIOL-103A	Human Anatomy and Physiology	4
BIOL-103B	Human Anatomy and Physiology	4
BIOL-104	Basic Human Anatomy and Physiology	4
BIOL-105	Heredity, Evolution, and Society	3
BIOL-106	Microbiology	5
BIOL-107	Microbiology and Infectious Diseases	3
BIOL-108	Human Ecology	3
BIOL-109	Biology of Sexual Reproduction	3
BIOL-114	Introduction to Plant Biology	3
BIOL-130	Introduction to Biology	4
BIOL-140	Sierra Nevada Natural History	3
BIOL-141	Marine Biology	3
BIOL-142	Environmental Biology	4
CHEM-101A	General Chemistry	5
CHEM-102	Preparation for General Chemistry	4
CHEM-106A	Principles of Chemistry	4
CHEM-109	Biochemistry for Health Science and Biotechnology	4

Total Required Units: 20

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Photo courtesy of Jacqlyn Vetter.

**Physical Science Emphasis**

This emphasis will enable students to develop a strong foundation in the physical sciences. Furthermore, the theoretical knowledge and laboratory skills acquired by students in this emphasis will also enhance their success with obtaining entry-level jobs that require two years of college-level physical science and laboratory skills.

Choose a minimum of twelve units from either the Chemistry, Geology, or Physics courses listed below and an additional eight units from any of the remaining courses within this emphasis.

ASTR-101A	General Astronomy of the Solar System	3
ASTR-101B	General Astronomy Beyond the Solar System	3
ASTR-102	General Astronomy Lab	1
CHEM-101A	General Chemistry	5
CHEM-101B	General Chemistry	5
CHEM-102	Preparation for General Chemistry	4
CHEM-106A	Principles of Chemistry	4
CHEM-106B	Principles of Chemistry	4
CHEM-108	Survey of Chemistry	3
CHEM-109	Biochemistry for Health Science and Biotechnology	4
CHEM-112A	Organic Chemistry	5
CHEM-112B	Organic Chemistry	5
GEOG-101	Physical Geography	4
GEOL-101	Introduction to Geology	4
GEOL-102	Introduction to Oceanography	3
GEOL-102L	Oceanography Laboratory	1
GEOL-103	Paleontology and Dinosaurs	3
GEOL-103L	Earth History and Paleontology Laboratory	1
PHYS-108	Survey of Physics	3
PHYS-120	Introduction to Physics I	4
PHYS-120A	Introduction to Physics – Calculus Supplement	1
PHYS-121	Introduction to Physics II	4
PHYS-121A	Introduction to Physics II – Calculus Supplement	1
PHYS-140	Mechanics	4
PHYS-141	Electricity and Magnetism	4
PHYS-142	Optics, Heat, and Modern Physics	4
Total Required Units:		20

**Mathematics and Technology Emphasis**

This emphasis will enable students to develop a strong foundation in mathematics and technology. Furthermore, the theoretical knowledge and laboratory skills acquired by students in this emphasis will also enhance their success with obtaining entry-level jobs that require two years of college-level mathematics and technology courses. Classes prepare students for technical careers such as in information technology, systems administration, and networking.

*(continued on next column)*

Choose a minimum of twelve units in the same department, a minimum of three units in Mathematics, and a minimum of three units in technology (CS or CNET).

CNET-105	PC Hardware and Software	4
CNET-114	How Technology Works	4
CNET-115	Introduction to Robotics and Automated Systems	4
CNET-150	Network Operating Systems	4
CNET-170	Network Security	4
CNET-171	Information Security	3
CS-101	Introduction to Computers and Information Technology	3
CS-102	Introduction to Computer Programming Using C++	4
CS-104A	Introduction to .NET Programming	4
CS-104B	Advanced .NET Programming	4
CS-104D	Web Services for .NET	4
CS-113	Discrete Mathematics for Computers	3
CS-116	Object-Oriented Programming Using C++	4
CS-118	Introduction to Assembly Language Programming	4
CS-122	C#.NET Programming	4
CS-124	Programming With Data Structures	4
CS-125	Introduction to Programming Using Java	4
CS-131	Computing Concepts in Biotechnology	4
CS-133	Introduction to SAS Programming	3
CS-137	Introduction to SQL	4
CS-141B	SAS Graphing and ODS	2
CS-143	Advanced SAS Programming	3
CS-146	Introduction to UNIX/Linux	3
CS-147	UNIX/Linux Shell Scripting	4
CS-149	PERL Programming	4
CS-152	Data Communications	2
CS-157	TCP/IP and Internetworking	3
CS-160A	Computer Graphics I	4
CS-160B	Computer Graphics II	4
CS-162	XHTML	4
CS-169A	Digital Photography	2
CS-169B	Intermediate Digital Photography	2
CS-170	Java Programming	4
CS-175	From JavaScript to AJAX	4
CS-176	Introduction to PERL CGI Programming Development	4
CS-178	XML	3
MATH-101A	Calculus with Analytic Geometry	5
MATH-101B	Calculus with Analytic Geometry	5
MATH-101C	Calculus with Analytic Geometry	5
MATH-103	Introduction to Linear Algebra	3
MATH-104	Differential Equations	5
MATH-111	Introduction to Matlab	3
MATH-156	Math for Liberal Arts	3
MATH-159	Introduction to Statistics	5
MATH-163	Discrete Mathematics for Computers	3
MATH-166	Finite Mathematics	4
MATH-167	Calculus for Business and Social Science	5
MATH-181	Trigonometry	3
MATH-188	Pre-Calculus	5
Total Required Units:		20

## NETWORK ADMINISTRATOR (NETWORK+, MCP OR UNIX, CCNA)

Associate in Science in Network Administrator  
and  
Certificate of Achievement in Network Administrator

Network Administrators manage all of the day-to-day aspects of a computer network. In addition to configuring networks they are responsible for making the network operational 24 hours a day. Tasks performed include adding/deleting users, backing up the server, loading new software applications, and maintaining security. Network Administrators are responsible for fixing an application or service, such as e-mail or printer access, when it is not working properly. Candidates for this degree option must have strong PC skills prior to enrolling in the program.

### REQUIREMENTS FOR ASSOCIATE IN SCIENCE DEGREE

- Complete Major Field and Supporting Courses with a grade of C or better.
- Complete Plan A, B, or C General Education requirements. These requirements are specified in the Ohlone College catalog.
- Complete at least 60 degree-applicable units with a 2.0 grade point average.
- Complete at least 12 units at Ohlone College.

### REQUIREMENTS FOR CERTIFICATE OF ACHIEVEMENT

- Complete Major Field courses as indicated below.
- Complete at least six units at Ohlone College.
- Maintain a 2.0 grade point average in Major Field courses.

#### MAJOR FIELD

CNET-150	Network Operating Systems	4
CNET-152	Data Communications	2
CNET-155A	Network Fundamentals	4
CNET-155B	Routing Protocols and Concepts	4
CNET-156A	LAN Switching and Wireless	2
CNET-156B	WAN Design and Support	2
CNET-157	TCP/IP and Internetworking	3
CNET-160A	Microsoft Client Operating Systems <b>AND</b>	2
CNET-162A	Microsoft Server Operating Systems <b>AND</b>	2
CNET-162B	Windows Network Infrastructure Administration <b>AND</b>	2
CNET-164A	Microsoft Directory Services <b>OR</b>	2
CNET-140A	Linux Installation and Configuration <b>AND</b>	(2)
CNET-140B	Linux System Administration <b>AND</b>	(2)
CNET-146	Introduction to UNIX/Linux <b>AND</b>	(3)
CNET-147	UNIX/Linux Shell Scripting	(4)
ENGL-156	Introduction to Report and Technical Writing <b>OR</b>	3
SPCH-115	Career Communication	(3)

32-35

*(continued on next column)*

### SUPPORTING COURSES (MINIMUM SIX UNITS REQUIRED)

Choose 1-4 units from the following:		1-4
CNET-195A1-4	Internship	
Choose 2-5 units from the following:		2-5
CNET-101	Introduction to Computers and Information Technology	3
CNET-105	PC Hardware and Software	4
CNET-140A	Linux Installation and Configuration	2
CNET-140B	Linux System Administration	2
CNET-142A	Linux Networking	2
CNET-142B	Linux Security	2
CNET-149	PERL Programming	4
CNET-158	Wireless Networks	4
CNET-164B	Designing Microsoft Windows Directory Services Infrastructure	2
CNET-165A	Designing a Secure Microsoft Windows Network	2
CNET-165B	Microsoft Internet Security and Acceleration Server (ISA)	2
CNET-167A	Network Application Administration I – Email (Exchange 2003)	2
CNET-168A	Network Application Administration II – Database (SQL)	2
CNET-170	Network Security	4
CNET-182	Advanced Routing	3
CNET-183	Implementing Cisco Secure WANs CCNP II	3
CNET-184	Advanced Switching	3
CNET-185	Optimizing Converged Networks	3
CS-102	Introduction to Computer Programming Using C++	4
CS-104A	Introduction to .NET Programming	4
CS-170	Java Programming	4
CS-175	From JavaScript to AJAX	4
CS-176	Introduction to PERL CGI Programming Development	4

Total Required Units: 38-41

## PHYSICAL THERAPIST ASSISTANT

Associate in Science in Physical Therapist Assistant

The Physical Therapist Assistant (PTA) Program is a two calendar year course of study leading to an Associate in Science degree and eligibility to take the National PTA licensing examination. The degree requirements include general education, supporting courses, and Physical Therapist Assistant theory and clinical courses.

The PTA Program at Ohlone College is limited to 32 students per class each academic year. Clinical affiliations are an essential part of the program. Students are expected to be able to travel to off-campus locations in the greater Bay Area.

Ohlone College's PTA program is accredited by the Commission on Accreditation in Physical Therapy Education of the American Physical Therapy Association.

Physical Therapist Assistants (PTAs) are skilled health care providers who work under the direction of a Physical Therapist (PT). Duties of the PTA include assisting the PT in implementing treatment programs, training patients in exercise and activities of daily living, conducting treatments, and reporting to the PT on the patient's response.

PTAs work in HMO's, hospitals, private physical therapy offices, community health centers, corporate and health centers, nursing homes, home health agencies, schools, pediatric centers, and colleges and universities.

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Program Admission is based on a selective process and involves a special Application for Admission. Applicants are selected once a year and begin the course of study each Fall Semester. For program information and application see the PTA Web page at [http://www.ohlone.edu/instr/phys\\_ther/home.html](http://www.ohlone.edu/instr/phys_ther/home.html).

### REQUIREMENTS FOR ASSOCIATE IN SCIENCE DEGREE

- Complete Major Field and Supporting Courses with a grade of C or better.
- Complete Plan A, B, or C General Education requirements. These requirements are specified in the Ohlone College catalog.
- Complete at least 60 degree-applicable units with a 2.0 grade point average.
- Complete at least 12 units at Ohlone College.

#### MAJOR FIELD

PTA-101	Introduction to Physical Therapy	3
PTA-102	Pathology	3
PTA-103	Kinesiology I	3
PTA-104	Kinesiology II	3
PTA-105A	Therapeutic Exercise I	3
PTA-105B	Therapeutic Exercise II	3
PTA-106	Orthopedics	2
PTA-107C	Clinical Practicum III	3
PTA-108	Advanced Modalities	2
PTA-109	Physical Therapy Through the Life Span	2
PTA-110	Neurological Disorders	2
PTA-111	Advanced Procedures	2
PTA-301	Clinical Practicum I	4
PTA-302	Clinical Practicum II	4
PTA-303	Clinical Internship	4.5
		43.5

#### SUPPORTING COURSES

BIOL-103A	Human Anatomy and Physiology	4
BIOL-103B	Human Anatomy and Physiology	4
PSY-108	A Survey of Human Development	3
PTA-119/KIN-256	Sports Performance Testing	2
		13
Total Required Units:		56.5

## PHYSICS

### Associate in Science in Physics

The Associate in Science in Physics offered by Ohlone College is designed to prepare students for studying Physics at most universities. The core courses required in the Associate in Science in Physics will fulfill the lower division requirements for most campuses of the UC and CSU systems. This program will enable students to develop a strong foundation in physics and mathematics. Furthermore, the theoretical knowledge and laboratory skills acquired by students in this program will also enhance their success with obtaining entry-level jobs that require two years of college-level science and math.

Since some curriculum requirements may vary among transfer universities, it is imperative that students entering Ohlone's Associate in Science degree program in Physics meet with a counselor at the start of their academic work. Counselors will assist students in preparing a Student Education Plan that will prepare them to transfer to the university of their choice. Counselors will also advise students on the general education plan that best prepares them for future transfer.

*(continued on next column)*

### REQUIREMENTS FOR ASSOCIATE IN SCIENCE DEGREE

- Complete the Major Field courses with a grade of C or better.
- Complete Plan A, B, or C General Education requirements. These requirements are specified in the Ohlone College catalog.
- Complete at least 60 degree-applicable units with a 2.0 grade point average.
- Complete at least 12 units at Ohlone College.
- Complete at least 50% of the Major Field courses at Ohlone College.
- Complete PHYS-140, PHYS-141, and PHYS-142 at Ohlone College.

#### MAJOR FIELD

CHEM-101A	General Chemistry	5
CHEM-101B	General Chemistry	5
MATH-101A	Calculus with Analytic Geometry	5
MATH-101B	Calculus with Analytic Geometry	5
MATH-101C	Calculus with Analytic Geometry	5
MATH-103	Introduction to Linear Algebra	3
MATH-104	Differential Equations	5
PHYS-140	Mechanics	4
PHYS-141	Electricity and Magnetism	4
PHYS-142	Optics, Heat, and Modern Physics	4
Total Required Units:		45

#### RECOMMENDED COURSES

The following course is recommended because it is required in the lower division of some baccalaureate-granting universities:

MATH-159	Introduction to Statistics	(5)
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## PSYCHOLOGY

### Associate in Arts in Psychology for Transfer

The Student Transfer Achievement Reform Act (Senate Bill 1440, now codified in California Education Code sections 66746-66749) guarantees admission to a California State University (CSU) campus for any community college student who completes an "associate degree for transfer," a newly established variation of the associate degrees traditionally offered at a California community college. The Associate of Arts in Psychology for Transfer is intended for students who plan to complete a bachelor's degree in a similar major at a CSU campus. Students completing this degree are guaranteed admission to the CSU system, but not to a particular campus or major. In order to earn one of these degrees, students must complete a minimum of 60 required semester units of CSU-transferable coursework with a minimum GPA of 2.0. Students transferring to a CSU campus that does accept the Associate in Arts for Transfer will be required to complete no more than 60 units after transfer to earn a bachelor's degree. This degree may not be the best option for students intending to transfer to a particular CSU campus or to university or college that is not part of the CSU system. Students should consult with a counselor when planning to complete the degree for more information on university admission and transfer requirements.

Benefits to students completing the Associate in Arts in Psychology for Transfer are that students will earn an associate degree and transfer to a university. Additionally, the Associate in Arts in Psychology for Transfer establishes a clear pathway to transfer. Students who complete the Associate in Arts in Psychology for Transfer will be prepared for employment in public relations, social work, human resources, education, and recreational therapy, among other careers.

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**REQUIREMENTS FOR ASSOCIATE IN ARTS FOR TRANSFER DEGREE**

- Complete all Major and Supporting Courses with a grade of C or better.
- Complete Plan B or Plan C General Education requirements. These requirements are specified in the Ohlone College catalog.
- Complete a minimum of 60 CSU-transferable semester units.
- Complete a minimum grade point average (GPA) of at least 2.0 in all CSU-transferable coursework. While a minimum GPA of 2.0 is required for admission, some majors may require a higher GPA. Please consult with a counselor for more information.
- Complete a minimum of 21 semester units in the Psychology major.
- Complete at least 12 units at Ohlone College.

**MAJOR FIELD**

MATH-159	Introduction to Statistics	5
PSY-101	General Psychology	3
PSY-120	Biological Psychology	3
SOC-103	Social Science Research Methods	4
		<hr/> 15

Choose two courses from the following:

PSY-105	Child Development	3
PSY-108	A Survey of Human Development	3
PSY-115	Abnormal Psychology	3
		<hr/> 6
Total Required Units:		21

**REAL ESTATE SALES BROKER**

Associate in Arts in Real Estate Sales Broker  
and

Certificate of Achievement in Real Estate Sales Broker

This curriculum is designed to prepare students for employment as a real estate sales broker. Opportunities exist in sales, appraising, with a real estate finance organization, or with a title company. The program qualifies students for the real estate sales broker examination.

**REQUIREMENTS FOR ASSOCIATE IN ARTS DEGREE**

- Complete Major Field and Supporting Courses with a grade of C or better.
- Complete Plan A, B, or C General Education requirements. These requirements are specified in the Ohlone College catalog.
- Complete at least 60 degree-applicable units with a 2.0 grade point average.
- Complete at least 12 units at Ohlone College.

**REQUIREMENTS FOR CERTIFICATE OF ACHIEVEMENT**

- Complete Major Field courses as indicated below.
- Complete at least six units at Ohlone College.
- Maintain a 2.0 grade point average in Major Field courses.

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**MAJOR FIELD**

BA-106	Applied Accounting	3
RE-121	Real Estate Principles	3
RE-122	Real Estate Practice	3
RE-124	Legal Aspects of Real Estate	3
RE-126	Real Estate Finance	3
RE-128	Real Estate Appraisal	3
RE-149	Real Estate Property Management	3
		<hr/> 21

**SUPPORTING COURSES**

BA-102A	Principles of Economics-Macroeconomics	3
BA-123	Math for Accounting and Business	3
BA-141A	Business Law	3
CAOT-153	Introduction to Internet	1
		<hr/> 10

Total Required Units: 31

**REGISTERED NURSING**

Associate in Science in Registered Nursing

The nursing program is an Associate in Science degree program that can be completed in four semesters and one summer term after admission to the major. The graduates of an associate degree program in nursing are prepared to practice as staff nurses in direct patient care in hospitals and long-term care facilities, clinics, and other agencies where nursing roles and services are structured and well developed. Clinical, hospital, and community experiences are provided at a number of sites in Alameda, Santa Clara, and other local counties. During the first year, nursing students take basic nursing and support courses to the major. The development of critical thinking, professional oral and written communications, and ethical practice form the foundation for success in future nursing courses. Beginning in the latter part of the first year and continuing through the second year, nursing courses are more specifically concerned with the care of patients ranging in age from infants to the elderly, with various conditions affecting their health. With expert faculty guidance, nursing students learn to function in the clinical setting as they care for patients with a wide variety of health illness problems.

There is no Certificate of Achievement offered in this major. The program prepares the associate degree graduate to take the NCLEX-RN (licensing exam), leading to practice as a Registered Nurse (R.N.).

The program is based on a selective admission process and involves a special application due in April for admission the following Fall Semester (August) and October for Spring Semester (January). For more information on advanced placement, LVN RN, and the 30 unit option, see the Health Sciences Web pages. The program is accredited by the National League for Nursing Accrediting Commission (3343 Peachtree Road NE, Suite 500, Atlanta, GA 30329; 404-975-5000; www.nln.org) and the California Board of Registered Nursing (400 R Street, Suite 4030, Sacramento, California 95814; (916) 322-3350; www.rn.ca.gov).

*(continued on next page)*

**Did you know???**

17% of Ohlone transfer students transfer to private universities in California and 11% transfer to universities in other states.

**REQUIREMENTS FOR ASSOCIATE IN SCIENCE DEGREE**

- Complete Major Field and Supporting Courses with a grade of C or better.
- Complete Plan A, B, or C General Education requirements. These requirements are specified in the Ohlone College catalog.
- Complete at least 60 degree-applicable units with a 2.0 grade point average.
- Complete at least 12 units at Ohlone College.
- Complete each Major Field and Supporting Course with a grade of C or better.

**MAJOR FIELD**

NUR-301	Foundations of Nursing	5.5
NUR-302	Nursing Care of the Medical-Surgical Patient I	5.5
NUR-303	Nursing Care of Women and Children	8
NUR-304	Nursing Care of the Medical-Surgical Patient II	5
NUR-305	Nursing Care of the Medical-Surgical Patient III	5
NUR-306	Nursing Care of the Mental Health Client and Advanced Gerontologic Care	5
NUR-307	Nursing Leadership and Preceptorship	5
		39

**SUPPORTING COURSES**

BIOL-103A	Human Anatomy and Physiology	4
BIOL-103B	Human Anatomy and Physiology	4
BIOL-106	Microbiology	5
CFS-109	Nutrition	3
PSY-108	A Survey of Human Development	3
SPCH-101	Introduction to Public Speaking OR	3
SPCH-103	Interpersonal Communication	(3)
		22
Total Required Units:		61

**RESPIRATORY THERAPIST**

## Associate in Science in Respiratory Therapist

Respiratory Care is a health care specialty directed at the diagnosis, treatment, management, and care of patients with deficiencies and abnormalities associated with the cardio respiratory system. Upon completion of the program graduates are eligible to sit for the California State License Examination for Respiratory Care Practitioner (RCP). Once the RCP Credential has been attained graduates are eligible to sit for the Advanced Level Practitioner Examinations (RRT) of the National Board for Respiratory Care.

This program is based on a selective admission process and involves a special Application for Admission. Applicants are selected once a year and begin the course of study each Fall Semester. For program application contact the Health Sciences Division Office. For program information see the College's Web page.

This program is accredited by the Commission on Accreditation for Respiratory Care (CoARC), 1248 Harwood Road, Bedford, TX 76021-2835, 76021-7244; (817) 283-2835; www.coarc.com.

**REQUIREMENTS FOR ASSOCIATE IN SCIENCE DEGREE**

- Complete Major Field and Supporting Courses with a grade of C or better.
- Complete Plan A, B, or C General Education requirements. These requirements are specified in the Ohlone College catalog.
- Complete at least 60 degree-applicable units with a 2.0 grade point average.
- Complete at least 12 units at Ohlone College.

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**MAJOR FIELD**

RT-101	Principles of Respiratory Therapy I	3
RT-101L	Beginning Clinical Practice	1
RT-102	Beginning Laboratory	2
RT-103	Basic Patient Care	.5
RT-104A	Principles of Respiratory Therapy II	3
RT-104B	Principles of Respiratory Therapy III	3
RT-105A	Intermediate Laboratory I	1
RT-105B	Intermediate Laboratory II	.5
RT-106	Intermediate Clinical Practice (twice) <b>OR</b>	4
RT-107	Intermediate Clinical Practice	(4)
RT-108	Basic Principles of Respiratory Pathophysiology	1
RT-130A	Advanced Respiratory Therapy I	2.5
RT-130B	Advanced Respiratory Therapy II	1.5
RT-130L	Advanced Clinical Practice	2
RT-131A	Principles of Mechanical Ventilation I	2.5
RT-131B	Principles of Mechanical Ventilation II	2.5
RT-132	Advanced Laboratory	1
RT-133	Mechanical Ventilation Laboratory	2
RT-134	Neonatal and Pediatric Respiratory Care	1
RT-134L	Clinical Practicum in Neonatal and Pediatric Respiratory Care	1.5
RT-135	Computer Simulation for Respiratory Care	.5
RT-136	Critical Care Clinical Practice	3.5
RT-137	Home Respiratory Care and Pulmonary Rehabilitation	.5
RT-138	Specialty Rotations in Respiratory Care	.5
RT-139	Pulmonary Function Testing	1
RT-139L	Clinical Practice in Pulmonary Function Testing	.5
RT-145	Cardio-Pulmonary Resuscitation Basic Life Support	.5
		42.5

**SUPPORTING COURSES**

AH-151	Applied Clinical Pharmacology	2
BIOL-103A	Human Anatomy and Physiology	4
BIOL-103B	Human Anatomy and Physiology	4
BIOL-106	Microbiology	5
PHYS-108	Survey of Physics	3
PSY-105	Child Development <b>OR</b>	3
PSY-106	Adolescent Development <b>OR</b>	(3)
PSY-108	A Survey of Human Development	(3)
		21
Total Required Units:		63.5



## SOCIAL SCIENCE

### Associate in Arts in Social Science

The Associate in Arts in Social Science allows students to explore a number of career possibilities. The general emphasis prepares students to be enlightened citizens equipped with the broad cultural background in anthropology, economics, geography, history, psychology, sociology, etc. Employment prospects are generally strong after graduation; often employers prefer to hire people with the education in the right skills (critical thinking, writing, and analysis) rather than the right subjects. Social science degrees are also an excellent choice for students who want to pursue a higher degree, as universities often prefer candidates with a proven ability to learn and succeed. A social science education offers much more than career-specific training, because it teaches students to understand problems, develop solutions, and lead a balanced and well-rounded life.

It is imperative that students entering Ohlone's Associate in Arts in Social Science meet with a counselor at the start of their academic work. Counselors will assist students in preparing a Student Education Plan that will prepare them to achieve their academic goals.

#### REQUIREMENTS FOR ASSOCIATE IN ARTS DEGREE

- Complete the Required Degree Courses with a grade of C or better.
- Complete a minimum of twenty units selected from the Required Degree Courses.
- Complete a minimum of two courses from each of three departments.
- Complete Plan A, B, or C General Education requirements. These requirements are specified in the Ohlone College catalog. Students who do not intend to transfer may complete Plan A; students who intend to transfer may complete either plan B or C. Counselors will advise students on the general education plan that best prepares them for pursuing an associate degree and/or transfer.
- Complete at least 60 degree-applicable units with a 2.0 grade point average.
- Complete at least 12 units at Ohlone College.
- Complete at least 50% of the required degree courses at Ohlone College.

*(continued on next column)*

#### REQUIRED DEGREE COURSES

Choose a minimum of twenty units from the courses listed below, including six units from each of three departments.

AJ-101	Administration of Justice	3
AJ-102	Criminal Law	3
AJ-104	Criminal Evidence	3
AJ-106	Criminal Procedure	3
AJ-107	Criminal Investigation	3
AJ-115	Cyber Crime	3
AJ-116	Criminal Forensics	3
AJ-117	Police and Society	3
AJ-118	Criminology	3
AJ-119	Murder in America	3
AJ-120	Report Writing for Law Enforcement and the Administration of Justice	3
AJ-123	Terrorism	3
AJ-131	Juvenile Justice	3
AJ-195A1	Work Experience Education – Vocational	1
AJ-195A2	Work Experience Education – Vocational	2
AJ-195A3	Work Experience Education – Vocational	3
AJ-195A4	Work Experience Education – Vocational	4
ANTH-102	Cultural Anthropology	3
ANTH-103	Introduction to Archaeology and Prehistory	3
ANTH-104	Survey of North American Indian Cultures	3
ANTH-105	Field Archaeology	3
ANTH-106	Magic, Witchcraft, and Religion	3
BA-102A	Principles of Economics-Macroeconomics	3
BA-102B	Principles of Economics-Microeconomics	3
GEOG-102	Cultural Geography	3
GEOG-104	The World's Nations	3
GEOG-105	California Geography	3
HIST-104A	Western Civilization with a World Perspective Until 1600	3
HIST-104B	Western Civilization with a World Perspective From 1600	3
HIST-105	History of California	3
HIST-112	Chicano History	3
HIST-114A	African-American History 1619-1877	3
HIST-115	Asian-American History	3
HIST-117A	History of the United States	3
HIST-117B	History of the United States	3
HIST-118	Contemporary U.S. History: 1945-	3
HIST-119A	Bad Girls: Women in America Before 1890	3
HIST-119B	Bad Girls: Women in America From 1890	3
IS-110	Introduction to Ethnic Studies	3
IS-120	Women of the Western World	3
PS-102	American Government	3
PS-103	International Relations	3
PS-105	Comparative Government	3
PSY-101	General Psychology	3
PSY-102	Introduction to Experimental Psychology	3
PSY-104	Murder in America	3
PSY-105	Child Development	3
PSY-106	Adolescent Development	3
PSY-108	A Survey of Human Development	3
PSY-112	Social Psychology	3
PSY-115	Abnormal Psychology	3
PSY-120	Biological Psychology	3
PSY-139	Psychology in the Workplace	3
SOC-101	Introduction to Sociology	3
SOC-102	Social Problems of a Diverse Society	3
SOC-105	Marriage and Family	3
SOC-106	Chicano Culture I	3
SOC-142	Sociology of Sport	3

Total Required Units: 20

## SOCIOLOGY

### Associate in Arts in Sociology for Transfer

The Student Transfer Achievement Reform Act (Senate Bill 1440, now codified in California Education Code sections 66746-66749) guarantees admission to a California State University (CSU) campus for any community college student who completes an "associate degree for transfer," a newly established variation of the associate degrees traditionally offered at a California community college. The Associate in Arts in Sociology for Transfer is intended for students who plan to complete a bachelor's degree in a similar major at a CSU campus. Students completing this degree are guaranteed admission to the CSU system, but not to a particular campus or major. In order to earn one of these degrees, students must complete a minimum of 60 required semester units of CSU-transferable coursework with a minimum GPA of 2.0. Students transferring to a CSU campus that does accept the AA-T will be required to complete no more than 60 units after transfer to earn a bachelor's degree. This degree may not be the best option for students intending to transfer to a particular CSU campus or to university or college that is not part of the CSU system. Students should consult with a counselor when planning to complete the degree for more information on university admission and transfer requirements.

Students who complete the Associate in Arts in Sociology for Transfer will gain insights on social factors that affect everyday life.

#### REQUIREMENTS FOR ASSOCIATE IN ARTS FOR TRANSFER DEGREE

- Complete all Major and Supporting Courses with a grade of C or better.
- Complete Plan B or Plan C General Education requirements. These requirements are specified in the Ohlone College catalog.
- Complete a minimum of 60 CSU-transferable semester units.
- Complete a minimum grade point average (GPA) of at least 2.0 in all CSU-transferable coursework. While a minimum GPA of 2.0 is required for admission, some majors may require a higher GPA. Please consult with a counselor for more information.
- Complete a minimum of 19 semester units in the Sociology major.
- Complete at least 12 units at Ohlone College.

#### MAJOR FIELD

SOC-101	Introduction to Sociology	3
Choose two courses from the following:		
MATH-159	Introduction to Statistics	5
SOC-102	Problems of a Diverse Society	3
SOC-103	Social Science Research Methods	4
		7-9

#### SUPPORTING COURSES

Choose two courses from the following:

AJ-118	Criminology	3
PSY-112	Social Psychology	3
SOC-105	Marriage and Family	3
WS-101	Introduction to Gender and Women's Studies	3
		6

Choose one course from the following:

ANTH-102	Cultural Anthropology <i>OR</i>	3
CHS-101	Chicano Culture I <i>OR</i>	(3)
SOC-142	Sociology of Sport	(3)
		3

Total Required Units: 19-21

## SPEECH AND COMMUNICATION STUDIES

### Associate in Arts in Speech and Communication Studies

The Associate in Arts in Speech and Communication Studies is designed to provide students with fundamental understanding of the principles of speech communication as well as experience in the application of these principles. Classes prepare students for transfer to four-year institutions and entry into careers in which effective communication skills are important, such as teaching, public relations, and law. This program fulfills typical lower-division requirements at four-year institutions. Some variation in requirements may exist at a particular four-year college or university; therefore, it is essential that students also refer to the catalog of the prospective transfer institution and consult a counselor.

#### REQUIREMENTS FOR ASSOCIATE IN ARTS DEGREE

- Complete Major Field and Supporting Courses with a grade of C or better.
- Complete Plan A, B, or C General Education requirements. These requirements are specified in the Ohlone College catalog.
- Complete at least 60 degree-applicable units with a 2.0 grade point average.
- Complete at least 12 units at Ohlone College.
- Complete at least 50% of the Major Field courses at Ohlone College.

#### MAJOR FIELD

COMM-100	Introduction to Communication Theory	3
SPCH-101	Introduction to Public Speaking	3
SPCH-102	Small Group Communication/Critical Thinking <i>OR</i>	3
SPCH-104	Critical Thinking/Persuasion <i>OR</i>	(3)
SPCH-106	Critical Thinking/Argumentation and Debate	(3)
SPCH-103	Interpersonal Communication	3
SPCH-105	Intercultural Communication	3
SPCH-110A1*	Forensics Workshop <i>OR</i>	1
SPCH-110A2*	Forensics Workshop <i>OR</i>	(2)
SPCH-110A3*	Forensics Workshop <i>OR</i>	(3)
SPCH-112A1*	Argumentation and Debate Workshop <i>OR</i>	(1)
SPCH-112A2*	Argumentation and Debate Workshop <i>OR</i>	(2)
SPCH-112A3*	Argumentation and Debate Workshop <i>OR</i>	(3)
SPCH-114A1*	Oral Interpretation Workshop <i>OR</i>	(1)
SPCH-114A2*	Oral Interpretation Workshop <i>OR</i>	(2)
SPCH-114A3*	Oral Interpretation Workshop <i>OR</i>	(3)
SPCH-116*	Listening Techniques <i>OR</i>	(1)
SPCH-190A*	Speech Communication Lab Consultant <i>OR</i>	(1)
SPCH-190B*	Speech Communication Lab Consultant <i>OR</i>	(2)
SPCH-190C*	Speech Communication Lab Consultant	(3)
SPCH-130	Oral Communication of Literature <i>OR</i>	3
SPCH-132	Voice and Diction	(3)
		19-21

\*SPCH-110A1-A3, and/or SPCH-112A1-A3, and/or SPCH-114A1-A3, and/or SPCH-190A-C should be taken for a minimum of two units and a maximum of 12 units.

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**SUPPORTING COURSES**

SPCH-102, SPCH-104, SPCH-106, SPCH-130, and SPCH-132 cannot be double-counted to apply towards Major Field and Supporting Courses.

Select a minimum of three units from the courses listed below:

BRDC-141	Live TV Newscast	3
JOUR-155	Mass Media and Society	3
PSY-101	General Psychology	3
SOC-101	Introduction to Sociology	3
SPCH-102	Small Group Communication/Critical Thinking	3
SPCH-104	Critical Thinking/Persuasion	3
SPCH-106	Critical Thinking/Argumentation and Debate	3
SPCH-107	Leadership Communication	3
SPCH-108	Gender Communication	3
SPCH-115	Career Communication	3
SPCH-122	Family Communication	3
SPCH-130	Oral Communication of Literature	3
SPCH-132	Voice and Diction	3
TD-110	Introduction to Acting	4
		3-4
Total Required Units:		22-25

Recommended for transfer: MATH-159, Introduction to Statistics

## TECHNICAL SUPPORT SPECIALIST (A+, NETWORK+, MCP)

Associate in Science in Technical Support Specialist  
and

Certificate of Achievement in Technical Support Specialist

A Technical Support Specialist offers frontline support to end-users, assisting them in getting the most from their computer product. The specialist is responsible for leading the end-users through various procedures helping them fix their problems; this support could be conducted over the telephone, one-on-one, or in a small group training session.

### REQUIREMENTS FOR ASSOCIATE IN SCIENCE DEGREE

- Complete Major Field and Supporting Courses with a grade of C or better.
- Complete Plan A, B, or C General Education requirements. These requirements are specified in the Ohlone College catalog.
- Complete at least 60 degree-applicable units with a 2.0 grade point average.
- Complete at least 12 units at Ohlone College.

### REQUIREMENTS FOR CERTIFICATE OF ACHIEVEMENT

- Complete Major Field courses as indicated below.
- Complete at least six units at Ohlone College.
- Maintain a 2.0 grade point average in Major Field courses.

*(continued on next column)*

**MAJOR FIELD**

CNET-101	Introduction to Computers and Information Technology	3
CNET-105	PC Hardware and Software	4
CNET-146	Introduction to UNIX/Linux	3
CNET-150	Network Operating Systems	4
CNET-152	Data Communications	2
CNET-157	TCP/IP and Internetworking	3
CNET-160A	Microsoft Client Operating Systems	2
CNET-162A	Microsoft Server Operating Systems	2
ENGL-156	Introduction to Report and Technical Writing <b>OR</b>	3
SPCH-115	Career Communication	(3)
		26

### SUPPORTING COURSES (MINIMUM SIX UNITS REQUIRED)

Choose 1-4 units from the following:		1-4
CNET-195A1-A4	Internship	
Choose 2-5 units from the following:		2-5
CNET-140A	Linux Installation and Configuration	2
CNET-140B	Linux System Administration	2
CNET-142A	Linux Networking	2
CNET-142B	Linux Security	2
CNET-147	UNIX/Linux Shell Scripting	4
CNET-149	PERL Programming	4
CNET-155A	Network Fundamentals	4
CNET-155B	Routing Protocols and Concepts	4
CNET-156A	LAN Switching and Wireless	2
CNET-156B	WAN Design and Support	2
CNET-158	Wireless Networks	4
CNET-162B	Windows Network Infrastructure Administration	2
CNET-164A	Microsoft Directory Services	2
CNET-164B	Designing Microsoft Windows Directory Services Infrastructure	2
CNET-165A	Designing a Secure Microsoft Windows Network	2
CNET-165B	Microsoft Internet Security and Acceleration Server (ISA)	2
CNET-167A	Network Application Administration I – Email (Exchange 2003)	2
CNET-168A	Network Application Administration II – Database (SQL)	2
CNET-170	Network Security	4
CNET-182	Advanced Routing	3
CNET-183	Implementing Cisco Secure WANs CCNP II	3
CNET-184	Advanced Switching	3
CNET-185	Optimizing Converged Networks	3
CS-102	Introduction to Computer Programming Using C++	4
CS-104A	Introduction to .NET Programming	4
CS-170	Java Programming	4
CS-175	From JavaScript to AJAX	4
CS-176	Introduction to PERL CGI Programming Development	4
Total Required Units:		32

## UNIX/LINUX SYSTEMS ADMINISTRATOR

Associate in Science in UNIX/Linux Systems Administrator  
and

Certificate of Achievement in UNIX/Linux Systems Administrator

Students who complete this program learn the skills and the general knowledge of UNIX/Linux Systems Administration, including an understanding of theory and the development of a solid foundation of system administration skills. Graduates are qualified for entry-level positions in UNIX/Linux Systems Administration.

### REQUIREMENTS FOR ASSOCIATE IN SCIENCE DEGREE

- Complete Major Field and Area Specialization courses with a grade of C or better.
- Complete Plan A, B, or C General Education requirements. These requirements are specified in the Ohlone College catalog.
- Complete at least 60 degree-applicable units with a 2.0 grade point average.
- Complete at least 12 units at Ohlone College.

### REQUIREMENTS FOR CERTIFICATE OF ACHIEVEMENT

- Complete Major Field and Area Specialization courses as indicated below.
- Complete at least six units at Ohlone College.
- Maintain a 2.0 grade point average in Major Field and Area Specialization courses.

#### MAJOR FIELD

CNET-140A	Linux Installation and Configuration	2
CNET-140B	Linux System Administration	2
CNET-142A	Linux Networking	2
CNET-142B	Linux Security	2
CNET-146	Introduction to UNIX/Linux	3
CNET-147	UNIX/Linux Shell Scripting	4
CNET-149	PERL Programming	4
CNET-150	Network Operating Systems	4
SPCH-115	Career Communication	3
		26

#### AREA SPECIALIZATIONS

Complete one course from each of the following Area Specializations.

#### Advanced Administration Elective 1-4

CNET-135	Database Fundamentals I: Database Architecture and Administration <b>OR</b>	2
CNET-170	Network Security <b>OR</b>	(4)
CNET-195A1-A4	Internship	(1-4)

**AND**

#### Programming Elective 4

CNET-137	Introduction to SQL <b>OR</b>	4
CS-102	Introduction to Computer Programming Using C++ <b>OR</b>	(4)
CS-124	Programming With Data Structures <b>OR</b>	(4)
CS-170	Java Programming	(4)

Total Required Units: 31-34

## CERTIFICATES OF ACCOMPLISHMENT

Certificates of Accomplishment are awarded upon the completion of an organized course of study for a specific course, usually career or job related. Certificates of Accomplishment consist of a maximum of 17.5 semester units and allow students to finish the program in a shorter period of time. Certificates of Accomplishment are approved by Ohlone's Curriculum Committee and the Ohlone Community College District Board of Trustees, but are not approved by the Chancellor's Office of the California Community Colleges. Therefore, per Title 5 of the California Education Code (Section §55070.b), Certificates of Accomplishment may not appear on a student's transcript.

In order to earn a Certificate of Accomplishment students must:

- complete satisfactorily the courses listed for the particular certificate.
- complete at least 50% of the required units at Ohlone College.
- maintain a 2.0 grade point average.

## ANTHROPOLOGY: CULTURAL

The Cultural Anthropology Certificate of Accomplishment is awarded to students who have completed courses that trace the historic and prehistoric development and change in various cultures. Upon completion of the certificate requirements students will have completed a comprehensive spectrum of topics including development of language, traditions, belief systems, and economic and political organizations in various cultures. This certificate gives students an appreciation for diverse cultures and it provides a better understanding of the development of world social and political institutions.

ANTH-101	Physical Anthropology	4
ANTH-102	Cultural Anthropology	3
ANTH-104	Survey of North American Indian Cultures	3
GEOG-102	Cultural Geography	3

Choose one course from the following:

IS-110	Introduction to Ethnic Studies <b>OR</b>	3
IS-120	Women of the Western World	(3)

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## ANTHROPOLOGY: PHYSICAL

The Physical Anthropology Certificate of Accomplishment is designed to provide students with a basic foundation in the interaction between biology and culture. Upon completion of this certificate students will have completed lecture and laboratory training in paleontology and biology as these relate to the evolution of man. This certificate is well suited to prepare students to pursue further studies in fields that require an appreciation for our evolutionary and cultural past.

ANTH-101	Physical Anthropology	4
ANTH-102	Cultural Anthropology	3
BIOL-105	Heredity, Evolution, and Society	3
BIOL-130	Introduction to Biology	4
GEOG-103	Paleontology and Dinosaurs	3

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## ARCHAEOLOGY

The Certificate of Accomplishment in Archaeology is designed to provide students with the necessary anthropological archaeology skills to either continue for a four-year degree in archaeology or to obtain entry-level employment in cultural resource management. Students who complete this program will be educated in basic concepts, theories, and methods employed by archaeologists in reconstructing past life ways of humans and to aid in the preservation of culture and history. The courses required for this program will also satisfy the entry prerequisites for the Archaeological Technology Certificate Program at Cabrillo College in Aptos, California.

ANTH-102	Cultural Anthropology	3
ANTH-103	Introduction to Archaeology and Prehistory	3
ANTH-104	Survey of North American Indian Cultures	3
ANTH-105	Field Archaeology	3

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### RECOMMENDED COURSES: (OPTIONAL)

GEOG-121	Introduction to Geographic Information Systems (GIS)	(2)
GEOG-122	Environmental GIS	(2)
GEOG-123	GIS Projects	(1)

## ART HISTORY

Students who complete this certificate have received exposure to the major components of Art History. Courses cover art from ancient times through the 14th century A.D. and art and architecture of the 14th century through the Baroque period, the Renaissance to the 18th century, and the 19th and 20th centuries. This certificate provides a firm foundation for continued study in the field of art.

ART-103A	Survey of World Art History – Prehistoric through 1300 C.E.	4
ART-103B	Survey of World Art History – 14th Century through 20th Century	4
ART-117A	Museum and Gallery Techniques (Exhibition Production)	2
ART-153	History of Decorative Arts	3

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## ASTRONOMY

Students completing this certificate have received basic knowledge about the properties of stars and planets as well as insight in the physical principles underlying galaxy, star, and planet formation and evolution. In addition, students will have gained some quantitative understanding of measurement techniques involved in the study of these systems.

This knowledge not only provides the first foundation for continued study in astronomy or in the broad and expanding field of environmental sciences, but it will also facilitate paraprofessional employment in the form of research internships with various city, county, state, and private agencies.

ASTR-101A	General Astronomy of the Solar System	3
ASTR-101B	General Astronomy Beyond the Solar System	3
MATH-181	Trigonometry	3

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## AUDIO TECHNICIAN

This certificate signifies that students have mastered the basic skills of sound reinforcement and recording for live and recorded events. Successful completion will provide a solid basis for future study in sound design and live event reinforcement.

BRDC-132/MUS-113	Studio Recording	3
BRDC-152	Film and Video Production	4
TD-152	Introduction to Lighting	3
TD-160A	Production Lab OR	.5
TD-160A2	Production Lab	(2)
TD-170	Survey of Entertainment Design	3

13.5-15

## BALLET DANCE TEACHER/CHOREOGRAPHER

The student will focus on teaching styles and choreography. Each student will have the opportunity to mentor with a dance faculty and learn various teaching styles. The student will also learn theatre technology and lighting design. This will enhance the student's ability to communicate with theatre technicians in the field and provide for a better expression of choreography.

This certificate signifies that the student has competent teaching skills and has adequate experience in theatrical stage craft and lighting design necessary to communicate expressed choreography in the professional theatrical field.

TD-121C	Dance Rehearsal and Performance	4
TD-121L	Dance Rehearsal and Performance Lab	0
TD-141A	Introduction to Ballet <i>AND</i>	2
TD-141B	Intermediate Ballet (taken twice) <i>OR</i>	4
TD-141B	Intermediate Ballet (taken three times)	(6)
TD-149	Choreography for Production	2
TD-152	Introduction to Lighting	3
TD-160L	Production Lab	0
TD-161	Stagecraft Lab (Theatre, Television, Dance)	1

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## BIOLOGY: GENERAL

The certificate in General Biology indicates that students have successfully completed a regimen of introductory science courses including chemistry (inorganic and organic), mathematics or physics, and introductory college biology. Most of these courses are transferable and constitute a part of the freshman/sophomore core courses for the bachelor's degree in biology at four-year institutions. Students gain knowledge and laboratory skills in molecular and cell biology, metabolic processes, microscopy, genetics, DNA technology, microbiology, systematics, plant and animal physiology, and evolution and ecology. This certificate prepares students for a wide range of technical positions in private industry (biotechnology, pharmaceutical and medical supply, agricultural, environmental consulting firms, etc.) or in city, state, or federal agencies. This certificate is also ideal for students planning to pursue advanced studies in biology.

BIOL-101B*	Principles of Biology – Organisms and Systems	5
CHEM-112B	Organic Chemistry	5

Choose one of the following courses:

MATH-101A	Calculus with Analytic Geometry <i>OR</i>	5
PHYS-121	Introduction to Physics II <i>OR</i>	(4)
PHYS-142	Optics, Heat, and Modern Physics	(4)

14-15

\*BIOL-101B must be completed at Ohlone College.

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## BIOLOGY: HUMAN

The Human Biology Certificate of Accomplishment is designed to provide students with a basic foundation on which to build their understanding of human biology. This certificate program is primarily for those students who will pursue careers as allied health professionals (e.g., nursing, respiratory therapy, and physical therapy assistant programs) and fulfills the typical prerequisite requirements for entry into these programs. Some variations in program requirements make it essential that the student refer to the catalog of the program of interest and consult a counselor.

BIOL-103A	Human Anatomy and Physiology	4
BIOL-103B	Human Anatomy and Physiology	4
BIOL-130	Introduction to Biology	4

Choose one course from the following:

BIOL-106	Microbiology <i>OR</i>	5
BIOL-107	Microbiology and Infectious Diseases	(3)
		15-17

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## BIOLOGY: LIFE SCIENCES SURVEY

This certificate demonstrates that students have received training in biological principles as they relate to evolution, human systems, and the interaction of humans with their natural world. Current techniques and issues in genetics, ecology, and disease are emphasized. This certificate provides the basics for further studies in the life sciences.

Choose one course from the following:

BIOL-130	Introduction to Biology <i>OR</i>	4
BIOT-105	Introduction to Cell and Molecular Biology	(4)

Complete at least three of the following courses: 9

BIOL-105	Heredity, Evolution, and Society	(3)
BIOL-107	Microbiology and Infectious Diseases	(3)
BIOL-108	Human Ecology	(3)
BIOL-109	Biology of Sexual Reproduction	(3)
		13

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## BROADCASTING: ADVANCED FILM AND VIDEO

This certificate shows that a student has successfully completed a sequence of classes and developed specific skills necessary to pursue a career in commercial film or video production.

BRDC-134	Final Cut Pro Editing	3
BRDC-135	Final Cut Pro Suite-Master	3
BRDC-136	Digital Video and Lighting	3
BRDC-152	Film and Video Production	4
TD-152	Introduction to Lighting	3
		16

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## BROADCASTING: DIGITAL VIDEO AND EDITING

This certificate confirms that the student has completed a sequence of classes and developed specific skills required to work as a professional video cameraperson, and to edit video using professional grade non-linear editing equipment and software such as Final Cut Pro, AfterEffects, and Motion.

BRDC-110	Digital Video for Web and DVD	4
BRDC-134	Final Cut Pro Editing	3
BRDC-135	Final Cut Pro Suite-Master	3
BRDC-136	Digital Video and Lighting	3
		13

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## BROADCASTING: ENTERTAINMENT TELEVISION

This certificate focuses on the skills needed to work on the entertainment side of commercial broadcasting including television situation comedy, sports broadcasting, and news and entertainment programs.

BRDC-134	Final Cut Pro Editing	3
BRDC-135	Final Cut Pro Suite-Master	3
BRDC-136	Digital Video and Lighting	3
BRDC-144	Sports Broadcasting	3
BRDC-148	Directing Live Television	3
		15

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## BROADCASTING: LIVE TELEVISION PRODUCTION

This certificate is awarded to students who have successfully completed a sequence of courses and thereby developed basic skills required for a career in live television production.

BRDC-134	Final Cut Pro Editing	3
BRDC-136	Digital Video and Lighting	3
BRDC-141	Live TV Newscast	3
BRDC-142	Live TV Studio Production	3
BRDC-148	Directing Live Television	3
		15

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## BROADCASTING: RADIO AIR TALENT

The Radio Broadcasting Air Talent certificate indicates successful completion of courses covering the use of digital and analog studio systems required for on-air and basic production applications. Announcing instruction focuses on news, production, and air personality development.

BRDC-123A	Radio Operations I	3
BRDC-123B	Radio Operations II	3
BRDC-127A	Radio Broadcast Lab	1
BRDC-130	Broadcast Announcing	3
		10



## BROADCASTING: RADIO DIGITAL PRODUCTION

Completion of curriculum required for the Radio Broadcasting Digital Production certificate indicates familiarity with advanced digital production and on-air studio systems. Students are introduced to integrated digital station operating platforms.

BRDC-123A	Radio Operations I	3
BRDC-123B	Radio Operations II	3
BRDC-127A	Radio Broadcast Lab	1
BRDC-129	Digital Radio Studio Systems	3
		10

## BROADCASTING: RADIO PROGRAM MANAGEMENT

The Radio Broadcasting Program Management certificate indicates successful completion of courses covering the operation of digital and analog studio systems required for on-air and basic production applications. Additional emphasis is placed upon radio station programming techniques, management structure, research, and the responsibilities of the program director.

BRDC-120	Introduction to Electronic Media	2
BRDC-123A	Radio Operations I	3
BRDC-123B	Radio Operations II	3
BRDC-127A	Radio Broadcast Lab	1
BRDC-128	Radio Programming and Marketing	2
		11

## BROADCASTING: RADIO STUDIO OPERATIONS

The Radio Broadcasting Studio Operations certificate indicates successful completion of courses focusing on the operation of digital and analog studio equipment required for on-air and basic production applications.

BRDC-123A	Radio Operations I	3
BRDC-123B	Radio Operations II	3
BRDC-127A	Radio Broadcast Lab	1
BRDC-127B	Radio Broadcast Lab	1
		8

## BROADCASTING: SPORTS TELEVISION

The Broadcasting: Sports Television Certificate of Accomplishment will show that a student has successfully completed a sequence of classes and developed specific skills required to pursue a career in commercial sports broadcasting.

BRDC-134	Final Cut Pro Editing	3
BRDC-136	Digital Video and Lighting	3
BRDC-144	Sports Broadcasting	3
BRDC-148	Directing Live Television	3
		12

## BUSINESS COMMUNICATION\*

This certificate provides students with communication skills required for careers in business.

SPCH-102	Small Group Communication/Critical Thinking <i>OR</i>	3
SPCH-104	Critical Thinking/Persuasion <i>OR</i>	(3)
SPCH-106	Critical Thinking/Argumentation and Debate	(3)
SPCH-103	Interpersonal Communication	3
SPCH-105	Intercultural Communication	3
SPCH/BA-115	Career Communication	3
SPCH-116	Listening Techniques	1
		13

\*Students must earn a B grade or better in each of the required courses to be eligible for this certificate, and all required courses must be taken at Ohlone College.

## CERAMICS

Completion of this certificate signifies that students have received exposure to the art of ceramics with emphasis on wheel throwing, advanced hand building, glaze application, and loading and firing of bisque kilns. This certificate provides a good foundation for continued study in the field of the art of ceramics.

ART-121A	Introductory Ceramics I	3
ART-121B	Introductory Ceramics II	3
ART-122A	Ceramic Throwing I	3
ART-122B	Ceramic Throwing II	3
		12

## CHEMISTRY LAB SKILLS: ADVANCED

This certificate in Advanced Chemistry Lab Skills emphasizes basic laboratory skills, plus experience with distillation, refluxing, purification techniques, melting point determinations, and hands-on use of FTIR. Ideal for the students seeking a research internship, this certificate demonstrates advanced skill and the ability to work independently in both organic and inorganic lab settings. Students receiving this certificate would be best qualified for more selective internships or employment in a chemical lab.

CHEM-112A	Organic Chemistry	5
CHEM-112B	Organic Chemistry	5
		10

## CHEMISTRY LAB SKILLS: BASIC

This certificate emphasizes basic laboratory skills including titration, pipetting, UV/Vis spectrophotometry, and solution preparation. Advantageous to any student interested in science, this certificate demonstrates a basic mastery of lab protocols in an inorganic lab setting. This certificate is highly recommended for stock room assistants and similar positions.

CHEM-101A	General Chemistry	5
CHEM-101B	General Chemistry	5
		10

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## CISCO CERTIFIED NETWORK ASSOCIATE

Upon completion of the Cisco Certified Network Associate Certificate of Accomplishment students will have gained the expertise they need to pass the test required to achieve Cisco Certified Networking Associate (CCNA) status. CCNA Certification skills include the ability to install, configure, and operate simple-routed LAN, routed WAN, and switched LAN networks.

CNET-154	Network Technician Training <b>OR</b>	4
CNET-155A	Network Fundamentals <b>AND</b>	(4)
CNET-155B	Routing Protocols and Concepts	(4)
CNET-156A	LAN Switching and Wireless	2
CNET-156B	WAN Design and Support	2
		8-12

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## COMMERCIAL MUSIC

The Music Department at Ohlone College has developed the Commercial Music Certificate of Accomplishment to recognize completion of coursework in a range of commercially oriented music courses. Recipients will have a solid foundation in working with Pro Tools, digital audio, MIDI (Musical Instrument Digital Interface), Studio Recording Techniques, and Live Sound Reinforcement, all of which are basic for work in the field.

MUS-103	Fundamentals of Music	3
MUS-112A	Pro Tools 101	3
MUS-112B	Pro Tools 110	3
MUS-112C	Pro Tools 201	3
MUS-113	Studio Recording	3
		15

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## COMPUTER AND INFORMATION LITERACY

This certificate will provide literacy in the area of computers and information technology.

CAOT-153	Introduction to Internet	1
CS-101	Introduction to Computers and Information Technology	3
CS-101L	Computer Applications	2
CS-102	Introduction to Computer Programming Using C++ <b>OR</b>	4
CS-104A	Introduction to .NET Programming	(4)
CS-152	Data Communications	2
		12

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## COMPUTER APPLICATIONS IN BIOTECHNOLOGY

The field of computer applications in biotechnology is a complex hybrid of two distinct scientific disciplines – computer technology and bioscience. This certificate is designed to provide an understanding of bioinformatics and other computer related subjects to students with some computer and/or life science background. This program is useful for students who desire to explore this new information science in which computers help to simulate, visualize, and analyze genetic and biological information. It also provides an introduction to the fundamental scientific and computational concepts, methods, and tools central to the growing field of computer applications in biotechnology.

BIOT-112	Introduction to Bioinformatics	2
BIOT-121	Biotechnology Careers	1
CS-131/BIOT-131	Computing Concepts in Biotechnology	4
CS-133/BIOT-133	Introduction to SAS Programming	3
CS-141B/BIOT-141B	SAS Graphing and ODS <b>OR</b>	2
CS-143/BIOT-143	Advanced SAS Programming <b>OR</b>	(3)
CS-133A/BIOT-133A	Data Analysis Using SAS	(3)
		12-13

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## COMPUTER PROGRAMMING

Upon completion of the Computer Programming Certificate program students will be capable of writing high-level language programs in procedural, object-oriented, and event-driven languages.

CS-102	Introduction to Computer Programming Using C++	4
CS-104A	Introduction to .NET Programming	4
CS-116	Object-Oriented Programming Using C++ <b>OR</b>	4
CS-170	Java Programming	(4)
CS-118	Introduction to Assembly Language Programming <b>OR</b>	4
CS-124	Programming With Data Structures <b>OR</b>	(4)
CS-178	XML	(3)
		15-16

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## COSTUMING

This certificate signifies that students have mastered the basic skills of costume construction and maintenance as well as the use of theatrical make-up. Successful completion will provide a solid basis for future study in costume design.

ART-106A	Descriptive Drawing	3
ID-158	Textiles	3
TD-154	Theatrical Makeup for Stage, TV, and Dance	2
TD-155A	Costume Construction I	3
TD-155B	Costume Construction II	3
TD-160A	Production Lab <b>OR</b>	.5
TD-160A2	Production Lab	(2)

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## DATABASE ADMINISTRATION

Database Administration certification combines training, experience, and testing to ensure that students have a strong foundation and expertise in the industry's most advanced database management system.

CNET-135	Database Fundamentals I: Database Architecture and Administration	2
CNET-136	Database Fundamentals II: Database Backup and Recovery	2
CNET-137	Introduction to SQL	4
CNET-138	PL/SQL Programming	4
		12

## DATA COMMUNICATIONS AND WEB PROGRAMMING

This certificate will provide students with information and skills in data communications and Internet programming.

CAOT-153	Introduction to Internet	1
CS-152	Data Communications	2
CS-175	From JavaScript to AJAX	4
CS-176	Introduction to PERL CGI Programming Development	4
		11

## DEAF EDUCATION

Course offerings for this certificate are designed to provide students with the necessary knowledge and background information on the educational needs of Deaf and hard of hearing children. Historical perspectives and contemporary trends associated with Deaf Education are discussed. The focus of these courses is to provide Deaf and hard of hearing students with opportunities to compare and contrast classroom learning with their own personal experiences.

DEAF-191	Human Potential Seminar	2
DEAF-311	Introduction to American Deaf Culture	3
DEAF-312	Linguistics of ASL	3
DEAF-330	Educating the Deaf	3
DEAF-331	Counseling the Deaf	3
DEAF-332	Development of the Deaf Child	3
		17

## DESIGN

The Design Certificate of Accomplishment signifies that students have received exposure to techniques, concepts, color theory, and drawing, with emphases on creative expression and composition. This certificate provides a good foundation for continued study in the field of drawing and design.

ART-104A	2D Design	3
ART-104B	3D Design	3
ART-104C	Color	3
ART-106A	Descriptive Drawing	3
		12

## DESKTOP SUPPORT TECHNICIAN

This certificate will assist students in offering frontline or helpdesk support to end-users, assist computer users in getting the most from their computer products, and lead them through various procedures, helping them to fix problems. This support is conducted over the telephone, one-on-one, or in a small group training session.

CNET-105	PC Hardware and Software	4
CNET-160A	Microsoft Client Operating Systems	2
CNET-161A	Desktop Support I – Supporting Users	2
CNET-161B	Desktop Support II – Supporting Applications	2
		10

## DIGITAL ART

The Digital Art Certificate of Accomplishment signifies that students have received exposure to the basic design, solutions, and presentation in Graphic and Digital Art. This certificate provides a good foundation for continued study in the field of graphic and digital art.

GA-160A	Computer Graphics I	4
GA-160B	Computer Graphics II	4
GA-161A	Digital Graphics I	2
GA-161B	Digital Graphics II	2
		12

## DRAWING

The Drawing Certificate of Accomplishment signifies that students have received and developed basic drawing skills and techniques and have had exposure to composition, presentation, and creative expression. This certificate provides a firm foundation in the field of art.

ART-106A	Descriptive Drawing	3
ART-106B	Intermediate Descriptive Drawing	3
ART-107A	Life Drawing <b>OR</b>	3
ART-107B	Life Drawing	(3)
ART-108	Perspective Drawing	3
		12



Photo courtesy of Jacquelyn Vetter.

## EARTH AND ENVIRONMENTAL SCIENCES

This Certificate of Accomplishment signifies that students have received basic knowledge of the earth sciences, environmental problems, and skills, which facilitate paraprofessional employment such as environmental technician, field assistant, as well as internships with various city, county, state, and private agencies. The certificate also provides a good foundation for continued study in the broad and expanding field of environmental sciences.

BIOL-108	Human Ecology	3
GEOG-121	Introduction to Geographic Information Systems (GIS)	2
GEOL-102	Introduction to Oceanography	3
GEOL-102L	Oceanography Laboratory	1
GEOL-103	Paleontology and Dinosaurs	3
GEOL-103L	Earth History and Paleontology Laboratory	1
Choose from the following:		
GEOG-101	Physical Geography <i>OR</i>	4
GEOL-101	Introduction to Geology	(4)
		17

## ELECTRONIC MUSIC COMPOSITION

The Music Department at Ohlone College has developed the Electronic Music Composition Certificate of Accomplishment to recognize the completion of acquired skills in the field of electronic music composition. Students who demonstrate the industry and passion to finish this program will be rewarded with an expanded skills-set in electronic music and composition, the conceptual tools to apply the same techniques to other life tasks, and the continued pride of program completion.

MUS-103*	Fundamentals of Music	3
MUS-110A	Music Theory and Harmony	3
MUS-111A	Musicianship	1
MUS-112A	Pro Tools 101	3
MUS-112B	Pro Tools 110	3
		13

\*Students may test out of this course using Credit by Examination. Credit by Examination can only be used to complete two out of the four required courses. At least two semesters must be completed in residence at Ohlone.

## ENGINEERING

This certificate demonstrates that students have completed classes that serve as a beginning foundation for a career in engineering. These courses emphasize the application of scientific and mathematical principles to solving practical problems.

MATH-104	Differential Equations	5
PHYS-141	Electricity and Magnetism	4
Choose one course from the following:		
ENGI-120	Engineering Mechanics – Statics <i>OR</i>	3
ENGI-130	Electric Circuit Analysis <i>OR</i>	(4)
ENGI-140	Materials Engineering	(4)
		12-13

## ENGINEERING/MANUFACTURING TECHNICIAN

This certificate prepares students for a career as a technician in a variety of manufacturing and technical capacities, including electronics assembly, QA/QC, construction, medical devices, energy/environmental industry (i.e., solar energy), semi conductor, computer manufacturing, computer networking, general manufacturing, biotechnology automation, engineering consulting, telecommunications, etc.

BIOT-113	GMP/GLP	1
BIOT-119	Clean Room Operations	.5
CAOT-166	2D Drafting with AutoCAD	3
CHMT-102	Chemical Safety and Hygiene	1
CNET-105	PC Hardware and Software	4
ENGI-101	Introduction to Engineering	3
ETEC-106	Electronics for Technology	3
ETEC-107	Properties of Materials	.5
		16

### RECOMMENDED COURSE

MATH-151	Algebra I	(5)
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## ENVIRONMENTAL STEWARDSHIP

This Certificate of Accomplishment signifies that students have completed coursework in biological, human, socioeconomic, and political principles as they relate to and are influenced by the environment. The courses include an emphasis on a scientific understanding of the environment, social and economic concepts, and an awareness of the behaviors that protect or damage the earth and its resources. On completion of this certificate students will have the ability to better understand their relationship with the planet and obtain an understanding of how their behavior (including energy and natural resource use) affects the environment they inhabit. This certificate provides an excellent background for the various careers in the fields of environmental studies, environmental sciences, public policy, and energy management.

ENVS-101	Natural Resource Management	3
ENVS-102	Environmental Law and Regulations	3
ENVS-103	The Environment and Human Health	3
ENVS-108	Human Ecology	3
ENVS-142	Environmental Biology	4
		16

## FINE ARTS

The Fine Arts Certificate of Accomplishment recognizes the completion of acquired skills in the field of Fine Arts. This certificate gives students a broad understanding of modern or ancient art.

ART-103A	Survey of World Art History – Prehistoric through 1300 C.E. <i>OR</i>	4
ART-103B	Survey of World Art History – 14th Century through 20th Century	(4)
ART-104A	2D Design	3
ART-106A	Descriptive Drawing	3
ART-107A	Life Drawing <i>OR</i>	3
ART-117A	Museum and Gallery Techniques (Exhibition Production)	(2)

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## FITNESS INSTRUCTOR

The Fitness Instructor Certificate of Accomplishment provides the instruction, skills, knowledge, and experience that facilitate employment in a job setting such as sports and fitness centers. The certificate provides an excellent foundation for students interested in a career in exercise science, athletic training, physical therapy, and other health related careers.

KIN-251	Fitness for Life	3
KIN-256	Sports Performance Testing <b>OR</b>	2
HLTH-101	Contemporary Health Issues	(3)
KIN-257	Prevention and Care of Athletic Injuries	4
KIN-258	Exercise Prescription	3
KIN-382	Clinical Experiences in Athletic Training II	2
		14-15

## FORENSICS\*

This certificate provides students with training in speaking competitively.

SPCH-101	Introduction to Public Speaking	3
SPCH-110A3	Forensics Workshop <b>OR</b>	6
SPCH-112A3	Argumentation and Debate Workshop <b>OR</b>	(6)
SPCH-114A3	Oral Interpretation Workshop	(6)
SPCH/TD-132	Voice and Diction	3
		12

\*Students must earn a B grade or better in each of the required courses to be eligible for this certificate, and all required courses must be taken at Ohlone College.

## GENDER AND WOMEN'S STUDIES

This curriculum is designed to prepare students to explore the condition of women's lives, in of themselves, in relation to each other, and to men. We will assume that these conditions are not the same for all women, that they change historically and oftentimes according to culture, race, ethnicity, class, or sexuality.

WS-101	Introduction to Gender and Women's Studies	3
Choose three courses from the following:		9
CHS-112	Contemporary Issues of Chicanas	(3)
HIST-119A	Bad Girls: Women in America Before 1890	(3)
HIST-119B	Bad Girls: Women in America From 1890	(3)
SPCH-108	Gender Communication	(3)
WS-115	Women in Literature	(3)
WS-120	Women of the Western World	(3)
WS-132	Introduction to US Muslim Women and Islam	(3)
WS-150	Women's Health Issues	(3)
		12

## GEOGRAPHIC INFORMATION SYSTEMS (GIS)

GIS is a computer-based database management system for capture, storage, retrieval, analysis, and display of spatial data. Students who complete this program will be better prepared to map data for decision-making in business, environmental protection, risk assessment, utility planning and management, emergency response, land use planning, transportation planning, delivery route planning, real estate, and crime prevention.

GEOG-120	Introduction to Global Positioning Systems (GPS)	1
GEOG-121	Introduction to Geographic Information Systems (GIS)	2
GEOG-122	Environmental GIS	2
GEOG-123	GIS Projects	1
Choose one course or combination of courses from the following:		3-4
ANTH-102	Cultural Anthropology	(3)
ANTH-105	Field Archaeology	(3)
ENVS-108	Human Ecology	(3)
GEOG-101	Physical Geography	(4)
GEOG-102	Cultural Geography	(3)
GEOG-104	The World's Nations	(3)
GEOG-105	California Geography	(3)
GEOL-101	Introduction to Geology	(4)
RE-122	Real Estate Practice	(3)
SOC-102	Social Problems of a Diverse Society	(3)
		9-10

## GEOGRAPHY: CULTURAL

This Certificate of Accomplishment signifies that students have received basic training in regional variations of the world, as well as human modification of the physical environment. Upon completion of this certificate students will have lab experience with map analysis, weather, and the earth's landform features and will be educated in current theories of how different cultures use, abuse, or otherwise change the earth. This certificate provides an excellent background for careers in public policy and environmental impact.

BIOL-108	Human Ecology	3
GEOG-101	Physical Geography	4
GEOG-102	Cultural Geography	3
GEOG-104	The World's Nations	3
		13

## GEOGRAPHY: PHYSICAL

The Physical Geography Certificate of Accomplishment is awarded for studies in geology and related courses; emphasis is placed on human modification of the physical environment and ecology. Students explore weather and climate, land forms, soil, water quality, and environmental management. This certificate is a good foundation for students interested in environmental fields.

GEOG-101	Physical Geography	4
GEOG-104	The World's Nations	3
GEOL-101	Introduction to Geology	4
Choose one course from the following:		
BIOL-108	Human Ecology <b>OR</b>	3
BIOL-140	Sierra Nevada Natural History	(3)

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## GEOLOGY

This Certificate of Accomplishment signifies that students have received basic knowledge in geological sciences and skills, which facilitate paraprofessional employment such as geological technician and geological field assistant. It also provides a good foundation for continued study in the field of geology.

GEOG-121	Introduction to Geographic Information Systems (GIS)	2
GEOL-101	Introduction to Geology	4
GEOL-102	Introduction to Oceanography	3
GEOL-102L	Oceanography Laboratory	1
GEOL-103	Paleontology and Dinosaurs	3
GEOL-103L	Earth History and Paleontology Laboratory	1
		14

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## GLASS

The Glass Certificate of Accomplishment signifies that students have acquired skills in the fundamentals of glass design. Additional emphasis is placed upon ceramics or contemporary forms of sculpture. This certificate provides a firm foundation for continued study in the field of glass design.

ART-105A	Glass Art and Design	3
ART-105B	Advanced Glass Fabrication	3
ART-105C	3D Glass	3
ART-116A	Basic Sculpture <i>OR</i>	3
ART-121A	Introductory Ceramics I	(3)
		12

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## GRAPHIC DESIGN

The Graphic Design Certificate of Accomplishment signifies that students have received exposure to basic design, solutions, and presentation in Graphic Art. This certificate provides a firm foundation in Graphic Design, which can be used at printing companies and other media firms.

ART-109A	Beginning Graphic Design I	3
ART-109B	Beginning Graphic Design II	3
ART-110A	Advanced Graphic Design I	3
ART-110B	Advanced Graphic Design II	3
		12

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## INTERCULTURAL COMMUNICATION\*

This certificate provides students with intercultural communication competence for business and personal relationships.

SPCH-105	Intercultural Communication	3
SPCH-103	Interpersonal Communication <i>OR</i>	3
SPCH-108	Gender Communication <i>OR</i>	(3)
SPCH-122	Family Communication	(3)
SPCH-110A1	Forensics Workshop <i>OR</i>	1
SPCH-110A2	Forensics Workshop <i>OR</i>	(2)
SPCH-110A3	Forensics Workshop <i>OR</i>	(3)
SPCH-112A1	Argumentation and Debate Workshop <i>OR</i>	(1)
SPCH-112A2	Argumentation and Debate Workshop <i>OR</i>	(2)
SPCH-112A3	Argumentation and Debate Workshop <i>OR</i>	(3)
SPCH-114A1	Oral Interpretation Workshop <i>OR</i>	(1)
SPCH-114A2	Oral Interpretation Workshop <i>OR</i>	(2)
SPCH-114A3	Oral Interpretation Workshop <i>OR</i>	(3)
SPCH-116	Listening Techniques	(1)
		7-9

\*Students must earn a B grade or better in each of the required courses to be eligible for this certificate, and all required courses must be taken at Ohlone College.

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## INTERIOR DESIGN BASICS

This Certificate of Accomplishment signifies that students have received exposure to the major components of Interior Design. This certificate provides a firm foundation for continued study in the field of Interior Design.

ART-104B	3D Design	3
ART-104C	Color	3
ID/ART-150A	Interior Design Concepts	3
ID/ART-153	History of Decorative Arts	3
ID/ART-158	Textiles	3
ID/ART-154	Contemporary Home Design <i>OR</i>	2
ID/ART-159A	Applied Design: Residential Lighting <i>AND</i>	(1)
ID/ART-159B	Applied Design: Color for the Home	(1)
		17

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## INTERIOR DESIGN COMMUNICATIONS

This Certificate of Accomplishment signifies that students have developed basic graphic and design communication skills and have a firm understanding and appreciation of the importance of visualization and presentation in the practice of Interior Design. This certificate provides a good foundation for continued study in the field of Interior Design.

ART-106A	Descriptive Drawing	3
ART-108	Perspective Drawing	3
ID/ART-150A	Interior Design Concepts	3
ID/ART-151	Visualization and Presentation	3
SPCH-115	Career Communication	3

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## INTERIOR DESIGN TECHNOLOGY

This Certificate of Accomplishment signifies that students have developed basic drafting skills and have knowledge of the design technologies associated with Interior Design. This certificate provides a good foundation for continued study in the field of Interior Design.

ID/ART-150A	Interior Design Concepts	3
ID/ART-155A	Architectural Drafting for Interior Design	3
ID/ART-155B	CAD for Interior Design	3
ID/ART-156	Architectural Modelmaking for Interior Design	3
		12

## INTERNATIONAL BUSINESS

The certificate in International Business provides students with business, marketing, and communication skills necessary for academic and professional careers in the field of International Business.

BA-115	Career Communication	3
BA-136	Introduction to International Business	3
BA-137	Introduction to International Marketing	3
BA-141C	An Introduction to International Law <i>OR</i>	3
BA-142	International Economics	(3)
SPCH-105	Intercultural Communication	3
WEX-185A2	Work Experience Education <i>OR</i>	2
BA-138A	Services Export Marketing <i>AND</i>	(1)
WEX-185A1	Work Experience Education <i>OR</i>	(1)
BA-140	Global Business Immersion	(2)
		17

## INTERNET APPLICATIONS DEVELOPMENT

This certificate provides students with knowledge and skills in Internet applications programming and development.

CS-170	Java Programming	4
CS-175	From JavaScript to AJAX <i>OR</i>	4
CS-178	XML	(3)
		7-8

## INTERPERSONAL COMMUNICATION\*

This certificate provides students with competence in communicating interpersonally in their personal and professional lives.

SPCH-102	Small Group Communication/Critical Thinking <i>OR</i>	3
SPCH-104	Critical Thinking/Persuasion	(3)
SPCH-103	Interpersonal Communication	3
SPCH-110A1	Forensics Workshop <i>OR</i>	1
SPCH-110A2	Forensics Workshop <i>OR</i>	(2)
SPCH-110A3	Forensics Workshop <i>OR</i>	(3)
SPCH-112A1	Argumentation and Debate Workshop <i>OR</i>	(1)
SPCH-112A2	Argumentation and Debate Workshop <i>OR</i>	(2)
SPCH-112A3	Argumentation and Debate Workshop <i>OR</i>	(3)
SPCH-114A1	Oral Interpretation Workshop <i>OR</i>	(1)
SPCH-114A2	Oral Interpretation Workshop <i>OR</i>	(2)
SPCH-114A3	Oral Interpretation Workshop <i>OR</i>	(3)
SPCH-116	Listening Techniques	(1)
		7-9

\*Students must earn a B grade or better in each of the required courses to be eligible for this certificate, and all required courses must be taken at Ohlone College.

## JAVA DEVELOPER

Upon completion of the Java Developer Certificate Program students will be capable to develop advanced Java programs and applications for the client-server computing, the Internet, and the Web Services with JSP, J2EE, and EJB.

CS-170	Java Programming	4
CS-172	Servlets and JSP	4
CS-173	Java EE and EJB	4
CS-178	XML	3
		15

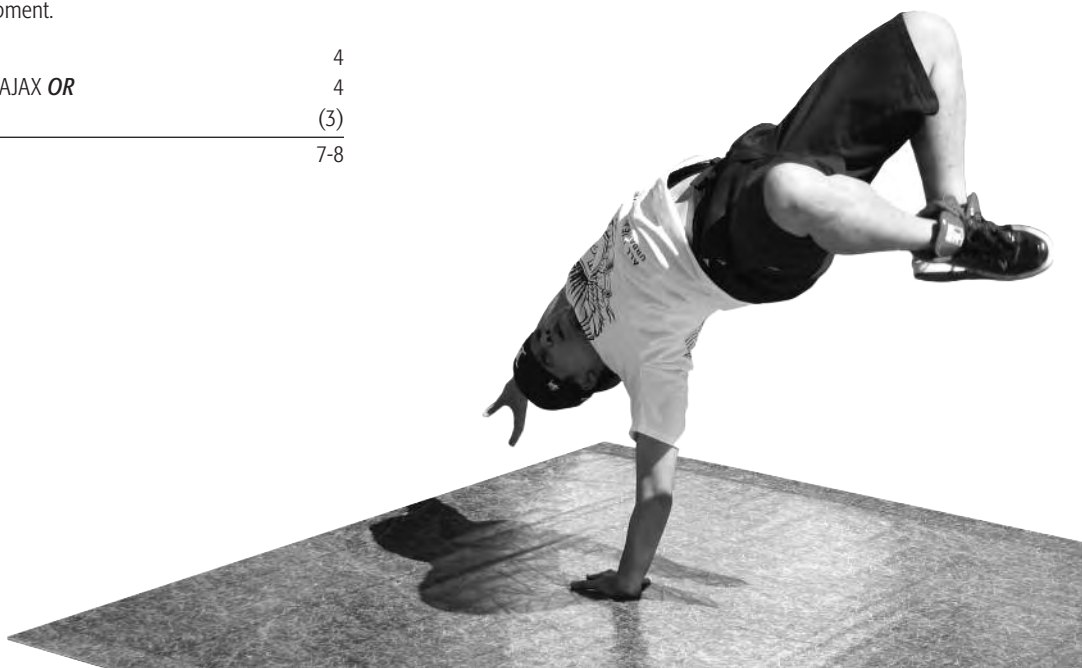


Photo courtesy of Jacqlyn Vetter.



## JAZZ DANCE TEACHER/CHOREOGRAPHER

The student will focus on teaching styles and choreography. Each student will have the opportunity to mentor with a dance faculty and learn various teaching styles. The student will also learn theatre technology and lighting design. This will enhance the student's ability to communicate with theatre technicians in the field and provide for a better expression of choreography.

This certificate signifies that the student has competent teaching skills and has adequate experience in theatrical stage craft and lighting design necessary to communicate expressed choreography in the professional theatrical field.

TD-121C	Dance Rehearsal and Performance	4
TD-121L	Dance Rehearsal and Performance Lab	0
TD-142A	Introduction to Jazz Dance <b>AND</b>	2
TD-142B	Intermediate Jazz Dance <b>AND</b>	2
TD-142C	Advanced Jazz Dance <b>OR</b>	2
TD-142B	Intermediate Jazz Dance (taken twice) <b>AND</b>	(4)
TD-142C	Advanced Jazz Dance	(2)
TD-160L	Production Lab	0
TD-149	Choreography for Production	2
TD-152	Introduction to Lighting	3
TD-161	Stagecraft Lab (Theatre, Television, Dance)	1
		16

## JOURNALISM

Upon completion of the Journalism certificate, students will have gained a basic knowledge of the newspaper, magazine, public relations, and advertising fields. Writing, visualization, and story-telling are the basic skills of all media work. The Journalism certificate covers these and more.

BA-129	Introduction to Advertising	3
JOUR-101A	Newswriting	3
JOUR/ART-145	Digital Photojournalism	2
JOUR/BRDC-155	Mass Media and Society	3
JOUR-172	Newspaper Writing and Editing Staff	3
		14

## LEADERSHIP COMMUNICATION\*

This certificate provides students with leadership and communication skills useful in their communities and careers.

SPCH-101	Introduction to Public Speaking	3
SPCH-102	Small Group Communication/Critical Thinking <b>OR</b>	3
SPCH-104	Critical Thinking/Persuasion <b>OR</b>	(3)
SPCH-106	Critical Thinking/Argumentation and Debate	(3)
SPCH-103	Interpersonal Communication <b>OR</b>	3
SPCH-105	Intercultural Communication	(3)
SPCH-107	Leadership Communication	3
SPCH-110A1	Forensics Workshop <b>OR</b>	1
SPCH-110A2	Forensics Workshop <b>OR</b>	(2)
SPCH-110A3	Forensics Workshop <b>OR</b>	(3)
SPCH-112A1	Argumentation and Debate Workshop <b>OR</b>	(1)
SPCH-112A2	Argumentation and Debate Workshop <b>OR</b>	(2)
SPCH-112A3	Argumentation and Debate Workshop <b>OR</b>	(3)
SPCH-114A1	Oral Interpretation Workshop <b>OR</b>	(1)
SPCH-114A2	Oral Interpretation Workshop <b>OR</b>	(2)
SPCH-114A3	Oral Interpretation Workshop <b>OR</b>	(3)
SPCH-116	Listening Techniques	(1)

13-15

\*Students must earn a B grade or better in each of the required courses to be eligible for this certificate, and all required courses must be taken at Ohlone College.

## LINUX+

Preparation for the current CompTIA Linux+ credential. Linux+ certified individuals can explain fundamental management of Linux systems from the command line, demonstrate knowledge of user administration, understand file permissions, software configurations, and management of Linux-based clients, server systems and security.

CNET-140A	Linux Installation and Configuration	2
CNET-140B	Linux System Administration	2
CNET-150	Network Operating Systems	4
		8

## LINUX/UNIX ADMINISTRATION

This program series targets both beginning and intermediate Linux/UNIX users who want to acquire advanced system administration skills and to back up those skills with a Certificate of Accomplishment.

CNET-140A	Linux Installation and Configuration	2
CNET-140B	Linux System Administration	2
CNET-142A	Linux Networking	2
CNET-142B	Linux Security	2
CNET-146	Introduction to UNIX/Linux	3
CNET-147	UNIX/Linux Shell Scripting	4
		15



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## LIVE EVENT MANAGEMENT

This certificate signifies that students have mastered the basic skills for managing the live entertainment event. Students will be prepared for entry-level stage and/or event management positions as well as advanced study.

BSM-101	Fundamentals of Supervision	3
TD-150	Technical Theatre	3
TD-159	Theatre Management	3
TD-160A	Production Lab <b>OR</b>	5
TD-160A2	Production Lab	(2)
TD-170	Survey of Entertainment Design	3
TD-179	Introduction to Stage Management	3
		15.5-17

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## MASS COMMUNICATION

The Mass Communication Certificate of Accomplishment provides students with communication skills, theory, and training required for academic and professional careers in the mass communication field including journalism, TV, radio, and public relations. This certificate also provides students with the fundamental communication skills for further study in mass communication.

BRDC-120	Introduction to Electronic Media	2
COMM-108	Visual Communication	3
JOUR-101A	Newsriting	3
JOUR-155	Mass Media and Society	3
SPCH-101	Introduction to Public Speaking	3
BRDC-123A	Radio Operations I <b>OR</b>	3
BRDC-141	Live TV Newscast <b>OR</b>	(3)
JOUR-170	Newspaper Writing and Editing Staff <b>OR</b>	(1)
JOUR-171	Newspaper Writing and Editing Staff <b>OR</b>	(2)
JOUR-172	Newspaper Writing and Editing Staff	(3)
		15-17

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## MATHEMATICS: APPLIED

The certificate in Applied Math provides students with the mathematical background required to succeed in subsequent courses in math, physics, and engineering.

MATH-101C	Calculus with Analytic Geometry	5
MATH-104	Differential Equations	5
PHYS-140	Mechanics	4
		14

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## MATHEMATICS: PURE

The certificate in Pure Math provides students with the mathematical background required to succeed in subsequent courses in math, physics, computer science, and engineering. This certificate differs from that in Applied Math due to the inclusion of Linear Algebra. Linear Algebra provides students with what is often their first taste of the theoretical math seen in upper division courses.

MATH-101C	Calculus with Analytic Geometry	5
MATH-103	Introduction to Linear Algebra	3
MATH-104	Differential Equations	5
		13

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## MICROSOFT CERTIFIED SYSTEMS ADMINISTRATOR (MCSA)

The Microsoft Certified Systems Administrator (MCSA) certification helps you advance your career by ensuring that you have the skills you need to manage and troubleshoot network environments running on the Windows operating system.

CNET-160A	Microsoft Client Operating Systems	2
CNET-162A	Microsoft Server Operating Systems	2
CNET-162B	Windows Network Infrastructure Administration	2
Choose one course from the following:		
CNET-165A	Designing a Secure Microsoft Windows Network <b>OR</b>	2
CNET-167A	Network Application Administration I – Email (Exchange 2003) <b>OR</b>	(2)
CNET-168A	Network Application Administration II – Database (SQL) (2)	(2)
		8

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## MICROSOFT CERTIFIED SYSTEMS ENGINEER (MCSE)

For network professionals Microsoft offers the Microsoft Certified Systems Engineer (MCSE) credential. MCSEs are qualified to effectively plan, implement, maintain, and support information systems in a wide range of computing environments using the Microsoft Windows 2008 Server and the Microsoft Back Office integrated family of server products.

CNET-160A	Microsoft Client Operating Systems	2
CNET-162A	Microsoft Server Operating Systems	2
CNET-162B	Windows Network Infrastructure Administration	2
CNET-164A	Microsoft Directory Services	2

Choose any two of the following courses:

CNET-164B	Designing Microsoft Windows Directory Services Infrastructure	2
CNET-165A	Designing a Secure Microsoft Windows Network	2
CNET-165B	Microsoft Internet Security and Acceleration Server (ISA)	2
CNET-165C	Administering Security for Windows 2003	2
CNET-167A	Network Application Administration I – Email (Exchange 2003)	2
CNET-168A	Network Application Administration II – Database (SQL)	2
		12

## MODERN DANCE TEACHER/CHOREOGRAPHER

The student will focus on teaching styles and choreography. Each student will have the opportunity to mentor with a dance faculty and learn various teaching styles. The student will also learn theatre technology and lighting design. This will enhance the student's ability to communicate with theatre technicians in the field and provide for a better expression of choreography.

This certificate signifies that the student has competent teaching skills and has adequate experience in theatrical stage craft and lighting design necessary to communicate expressed choreography in the professional theatrical field.

TD-121C	Dance Rehearsal and Performance	4
TD-121L	Dance Rehearsal and Performance Lab	0
TD-144A	Introduction to Modern Dance <b>AND</b>	2
TD-144B	Intermediate Modern Dance (taken twice) <b>OR</b>	4
TD-144B	Intermediate Modern Dance (taken three times)	(6)
TD-149	Choreography for Production	2
TD-152	Introduction to Lighting	3
TD-160L	Production Lab	0
TD-161	Stagecraft Lab (Theatre, Television, Dance)	1
		16

## MULTIMEDIA

This certificate provides students with technical, artistic, and creative skills to develop graphics, animations, videos, and interactive projects.

MM-102A	Introduction to Multimedia	3
MM-104	Advanced Interactivity in Flash	3
MM-110	Digital Video for Web and DVD	4
GA/ART/BA/CS-160A	Computer Graphics I	4
		14

## MUSIC THEORY

The Music Department at Ohlone College has developed the Music Theory Certificate of Accomplishment to recognize the completion of acquired skills in the field of music theory and musicianship. Students who demonstrate the industry and passion to finish this program will be rewarded with an expanded skills-set in music theory and musicianship, the conceptual tools to apply the same techniques to other life tasks, and the continued pride of program completion.

MUS-102	Music Appreciation	3
MUS-110A	Music Theory and Harmony	3
MUS-110B	Harmony	3
MUS-111A	Musicianship	1
MUS-111B	Musicianship	1
MUS-160A	Beginning Class Piano	1
		12

## MUSIC THEORY: ADVANCED

The Music Department at Ohlone College has developed the Advanced Music Theory Certificate of Accomplishment to recognize the completion of acquired skills in the field of advanced music theory and musicianship. Students who demonstrate the industry and passion to finish this program will be rewarded with an expanded skills-set in music theory and musicianship, the conceptual tools to apply the same techniques to other life tasks, and the continued pride of program completion.

MUS-110C	Advanced Harmony	3
MUS-110D	Advanced Harmony	3
MUS-111C	Advanced Musicianship	1
MUS-111D	Advanced Musicianship	1
		8
Choose one course from the following:		3
MUS-100	Survey of the Arts <b>OR</b>	(3)
MUS-101	Introduction to Music – Western Classical Music <b>OR</b>	(3)
MUS-102	Music Appreciation	(3)
		11

## NATURAL RESOURCE CONSERVATION AND MANAGEMENT

Natural resource management and conservation is congruent with the concept of sustainable development, a scientific principle that forms a basis for sustainable global land management and environmental governance to conserve and preserve natural resources. The Certificate of Accomplishment in Natural Resource Conservation and Management is designed to educate students in the art and science of applied ecological knowledge to aid in managing natural resources, energy, and agriculture. Courses in the program dedicate portions of the class to field trips, lab exercises, and demonstrations of field techniques.

ENVS-101	Natural Resource Management	3
ENVS-105	Energy: Development and Sustainability	3
ENVS-107	Introduction to Sustainable Agriculture	3
ENVS-109	Urbanization: Towards Green Communities	3
ENVS-142	Environmental Biology	4
		16

## NETWORK TECHNICIAN

Network Technicians assist in the installation, configuration, testing, maintenance, and troubleshooting of LANs and/or WANs. They are responsible for routine tasks such as adding new accounts, assigning passwords, and keeping a variety of logs. They should have knowledge of networking fundamentals; connecting to a WAN; basic security and wireless concepts; routing and switching fundamentals; the TCP/IP and OSI models; IP addressing; WAN technologies; operating and configuring IOS devices; configuring RIPv2, static and default routing; implementing NAT and DHCP; and configuring simple networks.

CNET-105	PC Hardware and Software	4
CNET-150	Network Operating Systems	4
CNET-154	Network Technician Training	4
		12

## OFFICE COMPUTER APPLICATIONS

Upon completion of the Office Computer Applications Certificate of Accomplishment students will have a broad understanding of today's computers and information technology. Students will have the ability to use a wide variety of business software such as word processing, spreadsheet, database, presentation, and desktop publishing. In addition, students will be introduced to Windows, Accounting, and the Internet.

BA-109B	Computerized Accounting for Small Business	1.5
CAOT-101A	Computer Applications I	2
CAOT-101B	Computer Applications II	2
CAOT-101C	Computer Applications III	2
CAOT-153	Introduction to Internet	1
		8.5

## OFFICE SUPPORT

Upon completion of the Office Support Certificate of Accomplishment students will have gained a knowledge of how a business functions and human relations in business. In addition, students will have acquired basic office support skills.

BA-116	Business English and Communication	4
CAOT-101A	Computer Applications I	2
CAOT-101B	Computer Applications II	2
CAOT-110A	Beginning Keyboarding I <i>OR</i>	1
CAOT-110B	Beginning Keyboarding II <i>OR</i>	(1)
CAOT-110C	Beginning Keyboarding III	(1)
		9

## ORAL INTERPRETATION\*

This certificate provides students with vocal training that is helpful for careers in theater, business, law, and education.

SPCH-110A1	Forensics Workshop <i>OR</i>	1
SPCH-110A2	Forensics Workshop <i>OR</i>	(2)
SPCH-110A3	Forensics Workshop <i>OR</i>	(3)
SPCH-112A1	Argumentation and Debate Workshop <i>OR</i>	(1)
SPCH-112A2	Argumentation and Debate Workshop <i>OR</i>	(2)
SPCH-112A3	Argumentation and Debate Workshop <i>OR</i>	(3)
SPCH-114A1	Oral Interpretation Workshop <i>OR</i>	(1)
SPCH-114A2	Oral Interpretation Workshop <i>OR</i>	(2)
SPCH-114A3	Oral Interpretation Workshop	(3)
SPCH/TD-130	Oral Communication of Literature	3
SPCH/TD-132	Voice and Diction	3
		7-9

\*Students must earn a B grade or better in each of the required courses to be eligible for this certificate, and all required courses must be taken at Ohlone College.

## PAINTING

The Painting Certificate of Accomplishment signifies that students have received exposure to the basic studio painting techniques and experiences with regard to color, composition, and subject matter. This certificate will give students a broad understanding of the art of painting.

ART-106A	Descriptive Drawing	3
ART-111A	Painting – Color and Composition	3
ART-111B	Painting	3
ART-112	Watercolor	3
		12

## PALEOBIOLOGY/NATURAL HISTORY

This Certificate of Accomplishment signifies that students have received basic knowledge in natural sciences and skills, which facilitate paraprofessional employment such as geological/biological field assistant and field naturalist. It also provides a good foundation for continued study in a broad variety of scientific fields including Biology, Geology, and Paleontology.

ANTH-101	Physical Anthropology	4
BIOL-130	Introduction to Biology	4
GEOL-103	Paleontology and Dinosaurs	3
GEOL-103L	Earth History and Paleontology Laboratory	1

Choose one from the following:

GEOG-101	Physical Geography <i>OR</i>	4
GEOL-101	Introduction to Geology	(4)

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## PHLEBOTOMY

The Health Sciences and Environmental Studies Division offers a certificate program in phlebotomy that meets all of the Department of Health Services regulations (AB 1557) that became effective in January 2002. This program is approved by the Department of Health Services for the courses that include theory and lab practice plus a 108-hour externship. No transfer courses from other institutions are accepted for this certificate. Completion of this certificate allows students to sit for the A.S.P.T. exam as required by California State Bill AB 1557. All courses must be passed at Ohlone College with at least a grade of C to earn the certificate.

AH-110	Medical Terminology	4
AH-117A	Basic Phlebotomy Training	2
AH-117B	Phlebotomy Skills Lab	.5
AH-117C	Advanced Phlebotomy Training	1.5
AH-117D	Phlebotomy Externship	2

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## PHOTOGRAPHY

The Photography Certificate of Accomplishment signifies that students have acquired skills in fundamental processes of photography including traditional and digital work processes with emphasis on creative expression. This certificate helps students develop concepts and skills that will enable them to develop creatively in the fine arts.

ART-131	History of Photography	3
ART-133A	Black and White Photography <i>OR</i>	3
ART-133B	Intermediate Black and White Photography	(3)
ART-138A	Beginning Photoshop <i>OR</i>	3
ART-138B	Intermediate Photoshop	(3)
ART-139A	Beginning Digital Photography <i>OR</i>	3
ART-139B	Intermediate Digital Photography	(3)
		12

## PHYSICAL SCIENCE

The Certificate of Accomplishment in Physical Science is awarded for studies of the physical world from the very small to the infinite. Upon completion of this certificate students will have investigated such phenomena as light, energy, the states of matter, chemical reactions, the formation of planet earth, and its place in the universe. This certificate provides an excellent foundation for further studies in science education and other fields.

PHYS-108	Survey of Physics	3
Choose one course from the following:		
CHEM-101A	General Chemistry <i>OR</i>	5
CHEM-106A	Principles of Chemistry <i>OR</i>	(4)
CHEM-108	Survey of Chemistry	(3)
Choose one group from the following:		
GEOL-101	Introduction to Geology <i>OR</i>	4
GEOL-102	Introduction to Oceanography <i>AND</i>	(3)
GEOL-102L	Oceanography Laboratory	(1)
Choose one group from the following:		
ASTR-101A	General Astronomy of the Solar System <i>AND</i>	3
ASTR-102	General Astronomy Laboratory	1
<i>OR</i>		
ASTR-101B	General Astronomy Beyond the Solar System <i>AND</i>	(3)
ASTR-102	General Astronomy Laboratory	(1)

14-16

## PHYSICS: ADVANCED

This certificate provides students with a solid physical and mathematical foundation of the general principles and theorems of physics, as well as experience with measurements of important physical quantities in the fields of mechanics, electricity and magnetism, optics and thermal physics.

Upon completion of this certificate students will be very well prepared to engage in continued and fundamental studies in the fields of engineering, physics, mathematical physics, or astronomy. The certificate also prepares students to work in various research institutions and companies as research assistant or on internships.

MATH-101C	Calculus with Analytic Geometry	5
PHYS-140	Mechanics	4
PHYS-141	Electricity and Magnetism	4
PHYS-142	Optics, Heat, and Modern Physics	4

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## PHYSICS: INTRODUCTORY

This certificate provides students with a solid foundation in the general principles of physics, as well as experience with a wide variety of mechanical and electrical measurement techniques. In addition, students will gain a deeper and concrete understanding of the properties of materials and matter in the solid, liquid, and gaseous state and of the experimental processes involved in the measurement and analysis of these properties.

This certificate presents students with material that forms the necessary basis for continued study in many fields of science, in particular the biosciences and the earth and environmental sciences. The certificate also prepares students for paraprofessional employment in the form of research internships with various city, county, state, and private agencies and various technician positions in the fields of electrical and environmental technology.

BIOT-122	Introduction to Nanotechnology	3
PHYS-108	Survey of Physics	3
PHYS-120	Introduction to Physics I	4
PHYS-121	Introduction to Physics II	4

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## PIANO PERFORMANCE

The Music Department at Ohlone College has developed the Piano Performance Certificate of Accomplishment to recognize the completion of acquired skills in the field of piano performance. Students who demonstrate the industry and passion to finish this program will be rewarded with an expanded skills-set of piano technique, the conceptual tools to apply the same techniques to other life tasks, and the continued pride of program completion.

Complete the following courses:

MUS-103	Fundamentals of Music	3
MUS-166A	Applied Music	1
MUS-166B	Applied Music	1
		<hr/>
		5

Complete any four of the following piano courses:

MUS-160A*	Beginning Class Piano	(1)
MUS-160B*	Class Piano	(1)
MUS-160C*	Class Piano	(1)
MUS-160D*	Class Piano	(1)
MUS-160E*	Piano Repertoire	(1)
MUS-160F*	Piano Repertoire	(1)
		<hr/>
		4

\*Students may test out of this course using Credit by Examination. Credit by Examination can only be used to complete two out of the four required piano courses. At least two semesters of class piano must be completed in residence.

Complete any one of the following courses:

MUS-101	Introduction to Music – Western Classical Music <b>OR</b>	(3)
MUS-102	Music Appreciation <b>OR</b>	(3)
MUS-121	The History of Jazz	(3)
		<hr/>
		12

## REAL ESTATE SALES AGENT

Students may subsequently complete the Certificate of Accomplishment in Real Estate Sales Broker Associate and the Certificate of Achievement in Real Estate Sales Broker. A person entering the real estate field in the State of California must qualify as a sales agent before practicing in sales, mortgage sales, or business sales.

RE-117	Computer Applications in Real Estate	3
RE-121	Real Estate Principles	3

Choose a minimum of two courses from the following

BA-102A	Principles of Economics-Macroeconomics	3
BA-102B	Principles of Economics-Microeconomics	3
BA-106	Applied Accounting	3
RE-122	Real Estate Practice	3
RE-124	Legal Aspects of Real Estate <b>OR</b>	3
BA-141A	Business Law	(3)
RE-126	Real Estate Finance	3
RE-128	Real Estate Appraisal	3
RE-149	Real Estate Property Management	3
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		12

## REAL ESTATE SALES BROKER ASSOCIATE

After completing the certificate for Real Estate Sales Agent, a person wishing to attain the status of a Real Estate Broker should progress by earning a certificate for the Real Estate Sales Broker Associate and then completing the Real Estate Sales Broker Certificate of Achievement.

RE-122	Real Estate Practice	3
RE-124	Legal Aspects of Real Estate <b>OR</b>	3
BA-141A	Business Law	(3)
RE-126	Real Estate Finance	3
		<hr/>
		9

Choose a minimum of two courses from the following:

BA-102A	Principles of Economics-Macroeconomics	3
BA-102B	Principles of Economics-Microeconomics	3
BA-106	Applied Accounting	3
RE-128	Real Estate Appraisal	3
RE-149	Real Estate Property Management	3
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		15

## RENEWABLE ENERGY AND SUSTAINABLE DEVELOPMENT

Students completing this program will examine strategies to efficiently and cleanly utilize our planet's natural resources to produce energy, food, and urban habitats. This program focuses on living and growing sustainably without degrading the environment so that future generations of all species may thrive.

This Certificate of Accomplishment signifies that students have completed coursework in biological, human, socioeconomic, and political principles as they relate to and are influenced by energy. The student will acquire knowledge and skills in the design and operation of energy systems, energy policy, with an emphasis on non-renewable and renewable energy systems. These skills may assist or enhance their work in areas such as energy management, the design of small to medium size energy systems, sustainable development and renewable energy research. The courses include an emphasis on a scientific understanding of the environment, social and economic concepts, and an awareness of the behaviors that protect or damage the earth and its resources. On completion of this certificate, students will have the ability to better understand their relationship with the planet and obtain an understanding of how their behavior (including energy and natural resource use) affects the environment they inhabit. This certificate also provides an excellent background for the various careers in the fields of environmental studies, environmental sciences, public policy, and energy management.

ENVS-104	Solar Photovoltaic Design and Installation	3
ENVS-105	Energy: Development and Sustainability	3
ENVS-106	Wind Energy: Design and Development	3
ENVS-107	Introduction to Sustainable Agriculture	3
ENVS-109	Urbanization: Towards Green Communities	3
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		15

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## SCULPTURE

The Sculpture Certificate of Accomplishment signifies that students have received exposure to the contemporary forms of sculpture, glass design, casting, kiln work, sandblasting, lamination, and fabrication. This certificate provides a firm foundation in the field of art sculpture.

ART-105A	Glass Art and Design	3
ART-116A	Basic Sculpture	3
ART-116B	Advanced Sculpture	3
ART-121A	Introductory Ceramics I	3
		12

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## SOCIOLOGY

This certificate will provide students with an academic foundation in the area of sociology.

SOC-101	Introduction to Sociology	3
SOC-102	Social Problems of a Diverse Society	3
SOC-105	Marriage and Family	3
		9

Choose two courses from the following: 6

ANTH-102	Cultural Anthropology	(3)
PS-103	International Relations	(3)
PSY-101	General Psychology	(3)
PSY-108	A Survey of Human Development	(3)
		15

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## SPEECH AND COMMUNICATION STUDIES\*

This certificate provides students with competent communication skills used in both academic and professional settings.

SPCH-101	Introduction to Public Speaking	3
SPCH-110A1	Forensics Workshop <b>OR</b>	1
SPCH-110A2	Forensics Workshop <b>OR</b>	(2)
SPCH-110A3	Forensics Workshop <b>OR</b>	(3)
SPCH-112A1	Argumentation and Debate Workshop <b>OR</b>	(1)
SPCH-112A2	Argumentation and Debate Workshop <b>OR</b>	(2)
SPCH-112A3	Argumentation and Debate Workshop <b>OR</b>	(3)
SPCH-114A1	Oral Interpretation Workshop <b>OR</b>	(1)
SPCH-114A2	Oral Interpretation Workshop <b>OR</b>	(2)
SPCH-114A3	Oral Interpretation Workshop <b>OR</b>	(3)
SPCH-116	Listening Techniques	(1)
		4-6

(continued on next column)

Choose two courses from the following:		6
COMM-100	Introduction to Communication Theory	(3)
SPCH-102	Small Group Communication/Critical Thinking	(3)
SPCH-103	Interpersonal Communication	(3)
SPCH-104	Critical Thinking/Persuasion	(3)
SPCH-105	Intercultural Communication	(3)
SPCH-106	Critical Thinking/Argumentation and Debate	(3)
SPCH-107	Leadership Communication	(3)
SPCH-108	Gender Communication	(3)
SPCH/BA-115	Career Communication	(3)
SPCH-122	Family Communication	(3)
SPCH/TD-130	Oral Communication of Literature	(3)
SPCH/TD-132	Voice and Diction	(3)

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\*Students must earn a B grade or better in each of the required courses to be eligible for this certificate, and all required courses must be taken at Ohlone College.

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## STAGE CRAFT

This certificate signifies that students have mastered the basic skills of stagecraft and television production and have a solid basis for future study in scenic design.

ID-155A	Architectural Drafting for Interior Design	3
TD-150	Technical Theatre	3
TD-153	Scenic Painting	3
TD-161	Stagecraft Lab <b>OR</b>	1
TD-162	Stagecraft Lab <b>OR</b>	(2)
TD-163	Stagecraft Lab <b>OR</b>	(3)
TD-164	Stagecraft Lab	(4)
TD-170	Survey of Entertainment Design	3

13-16

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## TAP DANCE TEACHER/CHOREOGRAPHER

The student will focus on teaching styles and choreography. Each student will have the opportunity to mentor with a dance faculty and learn various teaching styles. The student will also learn theatre technology and lighting design. This will enhance the student's ability to communicate with theatre technicians in the field and provide for a better expression of choreography.

This certificate signifies that the student has competent teaching skills and has adequate experience in theatrical stage craft and lighting design necessary to communicate expressed choreography in the professional theatrical field.

TD-121C	Dance Rehearsal and Performance	4
TD-121L	Dance Rehearsal and Performance Lab	0
TD-143A	Introduction to Tap <b>AND</b>	2
TD-143B	Intermediate Tap <b>AND</b>	2
TD-143C	Advanced Tap Dance <b>OR</b>	2
TD-143B	Intermediate Tap (taken twice) <b>AND</b>	(4)
TD-143C	Advanced Tap Dance	(2)
TD-160L	Production Lab	0
TD-149	Choreography for Production	2
TD-152	Introduction to Lighting	3
TD-161	Stagecraft Lab (Theatre, Television, Dance)	1

16

## THEATRICAL AND TV LIGHTING TECHNICIAN

This certificate signifies that students have mastered the basic skills of lighting and production for the stage and television. Successful completion of this certificate will provide a solid basis for future study in lighting design.

BRDC-152	Film and Video Production	4
TD-152	Introduction to Lighting	3
TD-160A	Production Lab <b>OR</b>	.5
TD-160A2	Production Lab	(2)
TD-170	Survey of Entertainment Design	3
TD-171	3D Entertainment Design for Lighting	3
		13.5-15

## 3D MODELING AND ANIMATION

This certificate provides students with technical and aesthetic skills needed for animation and 3D modeling.

MM-102A	Introduction to Multimedia	3
MM-115	3D Animation	3
MM-116	3D Modeling	3
MM-117	Advanced 3D Modeling and Animation	3
		12

## VIDEO GAME DEVELOPMENT

This certificate prepares students with artistic and technical skills for entry-level positions in the game Software Development industry, with emphasis on the following roles: Game and Interactive Software Tester, Game Artist, Game Designer.

MM-114	Textures for 3D	3
MM-115	3D Animation	3
MM-116	3D Modeling	3
MM-118	Introduction to Video Game Design	2
MM-119	Video Game Development (must be completed twice)	6
		17

## VOCAL MUSIC PERFORMANCE

The Music Department at Ohlone College has developed the Vocal Performance Certificate of Accomplishment to recognize the completion of acquired skills in the field of vocal performance. Students who demonstrate the industry and passion to finish this program will be rewarded with an expanded skills-set of vocal technique, the conceptual tools to apply the same techniques to other life tasks, and the continued pride of program completion.

MUS-160A	Beginning Class Piano	1
MUS-162A	Class Voice – Beginning	1
MUS-162B	Class Voice – Beginning	1
MUS-162C	Class Voice – Intermediate	2
MUS-162D	Class Voice – Intermediate	2
MUS-162E	Vocal Repertoire	2
MUS-162F	Vocal Repertoire	2
MUS-166C	Applied Music	1
MUS-166D	Applied Music	1
		13

Choose three units from the following courses (courses may be repeated): 3

MUS-356	Chamber Singers	(1)
MUS-367	Women's Chorus	(1)
MUS-368	Men's Chorus	(1)
MUS-394	Madrigals	(1)
		16

## VOCAL MUSIC PERFORMANCE: ADVANCED

The Music Department at Ohlone College has developed the Advanced Vocal Performance Certificate to recognize the completion of acquired skills in the field of advanced vocal performance. Students who demonstrate the industry and passion to finish this program will be rewarded with an expanded skills-set of vocal technique, the conceptual tools to apply the same techniques to other life tasks, and the continued pride of program completion.

MUS-160A	Beginning Class Piano	1
MUS-162E	Vocal Repertoire	2
MUS-162F	Vocal Repertoire	2
MUS-166C	Applied Music	1
MUS-166D	Applied Music	1
MUS-356, 367, 368, or 394	Choral Ensembles**	3
		10

\*\*Take 3 classes for a total of 3 units.

"I came to Ohlone and discovered that I could make a difference, not only in my own life but in the lives of others."

*Kevin Feliciano*

*Anne E. Golseth Excellence in Student Leadership  
Scholarship Recipient*

Future goals: Become a Certified Public Accountant

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## WEB DELIVERY

This is the second of three Web Certificates, which together prepare students for a broad and specific readiness in dynamic Web technology, from administration to development and interface. Web Delivery specializes on programming languages currently driving the data on the Web.

Choose 16 units from the following courses:

CS-104A	Introduction to .NET Programming	4
CS-104B	Advanced .NET Programming	4
CS-122	C#.NET Programming	4
CS-149	PERL Programming	4
CS-170	Java Programming	4
CS-172	Servlets and JSP	4
CS-176	Introduction to PERL CGI Programming Development	4
		16




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## WEB DESIGN

This certificate provides students with knowledge, skills, and hands-on experience using industry standard software to create web sites that are attractive, accessible, and functional. The curriculum emphasizes design principles applied to layouts, graphics, animations, and interactive applications for the Web.

MM-102A	Introduction to Multimedia	3
MM-104	Advanced Interactivity in Flash	3
MM-105	Web Site Design	4
MM-106	Advanced Web Site Design	3
		13

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## WEB INFRASTRUCTURE

This is the first of three Web Certificates, which together prepare students for a broad and specific readiness in dynamic Web technology, from administration to development and interface. Web Infrastructure specializes on Web server administration, the backbone of the Web.

CNET-140A	Linux Installation and Configuration	2
CNET-140B	Linux System Administration	2
CNET-150	Network Operating Systems	4
CNET-160A	Microsoft Client Operating Systems	2
CNET-162A	Microsoft Server Operating Systems	2
Choose one of the following courses:		3-4
CS-104D	Web Services for .NET	(4)
CNET-137	Introduction to SQL	(4)
CNET-157	TCP/IP and Internetworking	(3)
		15-16

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## WEB PROGRAMMING

This Certificate of Accomplishment addresses open-source technologies currently driving the data on the Web such as XHTML, XML, JavaScript, AJAX, PERL, PHP, and mysql. This certificate declares proficiency in the following Web technologies: XHTML, XML, JavaScript, AJAX, PERL or PHP, and mysql.

CS-145	PHP Programming with MySQL <b>OR</b>	4
CS-149	PERL Programming	(4)
CS-162	XHTML	4
CS-175	From JavaScript to AJAX	4
CS-178	XML	3
		15

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## WORK READINESS

Many Deaf students are interested in coming to Ohlone to gain the necessary skills for entry-level employment. For those students with limited academic skills, Ohlone offers a three-semester work-study Certificate of Accomplishment. At the completion of these courses students will be awarded a Certificate of Accomplishment, along with a positive letter of reference for their employer.

### First Semester

DEAF-140A	Lifeskills Mathematics I	2
DEAF-141A	Workplace Communication I	3
DEAF-143	Deaf Vocational Awareness	2
		7

### Second Semester

DEAF-140B	Lifeskills Mathematics II	2
DEAF-141B	Workplace Communication II	3
DEAF-146	Work Experience Seminar	2
		7

### Third Semester

DEAF-145B	Job Seeking Strategies for Deaf Students	3
		17