



The award winning Ohlone Forensics Team. Photo courtesy of College Relations.

CHAPTER 7 CURRICULUM GUIDES

ASSOCIATE DEGREE: GENERAL MAJORS

A student may indicate a major in one of the following five general areas. Complete a minimum of 20 units selected from the departments below.

BUSINESS (AA)	LIBERAL ARTS (AA)	FINE ARTS (AA)
Business Administration	Art	Art
Accounting (BA-101A, B)*	Theatre and Dance	Theatre and Dance
Economics (BA-102A, B)*	English	Music
Computer Studies	Foreign Languages	
Mathematics	Mathematics	
	Music	
	Philosophy	
	Social Sciences (see list below)	
	Speech	

*Required for Business Majors

NATURAL SCIENCE (AA)	SOCIAL SCIENCE (AA)
Anthropology (101)	Anthropology
Astronomy	Economics
Biology	Geography
Chemistry	History
Computer Studies	Political Science
Geography (101)	Psychology
Geology	Sociology
Health (101)	
Mathematics	
Physical Science	
Physics	

TRANSFER DEGREES

Transfer degrees are associate degrees that are designed to prepare students for a baccalaureate major by fulfilling many of the lower division major and general education requirements at the California State University (CSU) and University of California (UC) campuses.

ART

AA Degree: Transfer Major

The Associate Degree 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 AA Degree 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 AA Degree:

- Complete the Major Field and Supporting Courses with a 2.0 grade point average.
- Complete Plan A, B, or C General Education requirements. These 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

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-131A	Fine Art Photography: The Early Years	2
ART-131B	Fine Art Photography: The 2nd Century	2
ART-133A	Black and White Photography	3
ART-134A	Basic Color Photography	3
ART-139A	Digital Photography	2
ART-150A	Interior Design Concepts	3
ART-160A	Computer Graphics I	4
ART-161A	Digital Graphics I	2
Total Required Units:		26-28

BIOLOGY**AS Degree: Transfer Major**

The Associate of Science Transfer Degree 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 AS Degree 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 AS 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.

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Requirements for AS Degree:

- Complete the Major Field courses with a 2.0 grade point average.
- Complete Plan A, B, or C General Education requirements. These 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 Analytical Geometry	5
PHYS-120*	Introduction to Physics I	4
PHYS-121*	Introduction to Physics II	4
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*PHYS-140 + 141 + 142 may be substituted for PHYS-120 + 121.

BUSINESS ADMINISTRATION**AA Degree: Transfer Major**

The Associate Degree 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 AA 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 AA Degree:

- Complete the Major Field courses with a 2.0 grade point average.
- Complete Plan A, B, or C General Education requirements. These 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

BA-101A	Principles of Accounting	5
BA-101B	Principles of 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	Elements of Statistics and Probability	5
MATH-167	Calculus for Business and Social Science	5
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CHEMISTRY

AS Degree: Transfer Major

The Associate of Science Transfer Degree in Chemistry offered by Ohlone College is designed to prepare students for studying Chemistry at most universities. The core courses required in the AS Degree 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 AS 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 AS Degree:

- Complete the Major Field courses with a 2.0 grade point average.
- Complete Plan A, B, or C General Education requirements. These 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
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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)

COMPUTER ENGINEERING

AS Degree: Transfer Major

The Associate of Science Degree 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 CS, ENGI, Math and Physics required in this A.S. 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 AS Degree:

- Complete the Major Field courses with a 2.0 grade point average.
- Complete Plan A, B, or C General Education requirements. These 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 ENGI-101 and ENGI-130 at Ohlone College.

MAJOR FIELD

CS-102	Introduction to Computer Programming Using C++	4
CS-113	Discrete Mathematics	3
CS-116	C++ Programming: An Object-Oriented Language <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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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)
CS-101L	Computer Applications	(2)
MATH-188	Pre-Calculus	

Some colleges and universities require additional courses such as:

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

COMPUTER SCIENCE

AS Degree: Transfer Major

The Associate of Science Degree 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, Math, and Physics required for this AS Degree will fulfill the lower division major requirements at many universities. This program will enable students to develop a strong foundation in 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 AS 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.

Requirements for AS Degree:

- Complete the Major Field courses with a 2.0 grade point average.
- Complete Plan A, B, or C General Education requirements. These 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	C++ Programming: An Object-Oriented Language	4
CS-118	Introduction to Assembly Language Programming	4
CS-124	Advanced 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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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 courses are recommended:

CS-101	Introduction to Computers and Information Technology	(3)
CS-101L	Computer Applications	(2)
MATH-188	Pre-Calculus	(5)

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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 is a prerequisite for PHYS-141.

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 Visual Basic.NET Programming (CS-104A, CS-104B, CS-104C, CS-104D); Java (CS-170, CS-171, CS-172); Perl (CS-176); PL/SQL (CS-137); Applied Programming in Visual C++ (CS-121); XML (CS-178); TCP/IP and Networking (CS-157); Data Communications (Network+) (CS-152); UNIX Shell Programming (CS-147).

ENGINEERING

AS Degree: Transfer Major

The Associate of Science Transfer Degree in Engineering offered by Ohlone College is designed to prepare students for studying Engineering at most universities. The core courses required in the AS Degree 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 AS 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.

Requirements for AS Degree:

- Complete the Major Field courses with a 2.0 grade point average.
- Complete Plan A, B, or C General Education requirements. These 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	C++ Programming: An Object-Oriented Language	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

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Select two (2) of the following Engineering courses:	7-8
ENGL-120	Engineering Mechanics–Statics (3)
ENGL-130	Electric Circuit Analysis (4)
ENGL-140	Materials Engineering (4)
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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)
ENGL-115	Engineering Communication (4)
MATH-103	Introduction to Linear Algebra (3)

ENGLISH

AA Degree: Transfer Major

The Associate Degree 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 AA Degree:

- Complete the Major Field, Supporting, and Elective courses with a 2.0 grade point average.
- Complete Plan A, B, or C General Education requirements. These 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

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-105B	English Literature: From Romanticism to Modernism	3
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
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Photo courtesy of Julie Houle.

ELECTIVES

Select any one of the following courses, for a total of three units:

ENGL-101C	Critical Thinking and Composition	3
ENGL-104	The Short Story	3
ENGL-105B	English Literature: From Romanticism to Modernism	3
ENGL-106	Censorship and Literature	3
ENGL-107	Literature and Film	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-127	Autobiography: Writing Journals and Memoirs	3
ENGL-129	Psychology and Literature	3
ENGL-130	American Stories: Multicultural Autobiography and Memoir	3
ENGL-135	Emerging Voices: Literature Reflecting the Diversity of the U.S.	3

Courses may not be double-counted to apply towards Supporting Courses and Electives requirements.

Total Required Units: 20

RECOMMENDED COURSE

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

EXERCISE SCIENCE OPTION IN ATHLETIC TRAINING

AS Degree: Transfer Major

The Associate of Science Degree in Exercise Science with an Option in 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 of Science Degree in Exercise Science with an option in 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 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 AS Degree:

- Complete the Major Field courses with a 2.0 grade point average.
- Complete Plan A, B, or C General Education requirements. These 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

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	Health Science	3
PE-240	Theory of Physical Education, Fitness, and Sport	3
PE-257	Prevention and Care of Athletic Injuries	4
PE-258	Exercise Prescription	3
PE-381	Clinical Experiences in Sports Medicine I	1
PE-382	Clinical Experiences in Sports Medicine II	2
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GEOLOGY

AS Degree: Transfer Major

The Associate of Science Transfer Degree in Geology offered by Ohlone College is designed to prepare students for studying Geology at most universities. The core courses required in the AS Degree 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 AS degree program 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 AS Degree:

- Complete the Major Field courses with a 2.0 grade point average.
- Complete Plan A, B, or C General Education requirements. These 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	(1)
<i>OR</i>		
GEOL-103	Paleontology and Dinosaurs <i>AND</i>	(3)
GEOL-103L	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)
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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	Elements of Statistics and Probability	(5)

MATHEMATICS

AS Degree: Transfer Major

The Associate of Science Transfer Degree in Mathematics offered by Ohlone College is designed to prepare students for studying Mathematics at most universities. The core courses required in the AS Degree in Mathematics 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 mathematics, physics, and computer studies. 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 math and science.

Since some curriculum requirements may vary among transfer universities, it is imperative that students entering Ohlone's AS degree program in Mathematics 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 AS Degree:

- Complete the Major Field courses with a 2.0 grade point average.
- Complete Plan A, B, or C General Education requirements. These 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 MATH-101B, MATH-101C, MATH-103, and MATH-104 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
MATH-103	Introduction to Linear Algebra	3
MATH-104	Differential Equations	5
PHYS-140	Mechanics	4

Select two of the following courses: 6-10

CHEM-101A	General Chemistry	(5)
ENGI-120	Engineering Mechanics-Statics	(3)
MATH-159	Elements of Statistics and Probability	(5)
MATH-163	Discrete Mathematics for Computers	(3)
PHYS-141	Electricity and Magnetism	(4)
PHYS-142	Optics, Heat, and Modern Physics	(4)

Select one of the following courses: 4

CS-102	Introduction to Computer Programming Using C++	(4)
CS-104A	Visual Basic.NET Programming	(4)
CS-104B	Advanced Visual Basic.NET Programming	(4)

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RECOMMENDED COURSES

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

ENGI-130	Electric Circuit Analysis	(4)
ENGI-140	Materials Engineering	(4)
MATH-111	Introduction to Matlab	(.5)

MUSIC

AA Degree: Transfer Major

The Associate Degree 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 of 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.

Requirements for AS Degree:

- Complete the Major Field and Emphasis courses with a 2.0 grade point average.
- Complete Plan A, B, or C General Education requirements. These 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

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
MUS-160C	Class Piano	1
MUS-160D	Class Piano	1

Select one of the following courses: 3

MUS-101	Introduction to Music-Western Classical Music <i>OR</i>	(3)
MUS-102	Music Appreciation <i>OR</i>	(3)
MUS-104	Music of World Cultures <i>OR</i>	(3)
MUS-120A	History of Trends in Music Literature <i>OR</i>	(3)
MUS-120B	History of Trends in Music Literature	(3)

EMPHASIS COURSES: Complete one of the following tracks 6-8

Vocal Track

Complete 6-8 units from the following:

MUS-162A-D	Class Voice	4
MUS-166A-B	Applied Music	2
MUS-355, 356, 358, 367, 368, 394	Choral Ensembles	2

Instrumental Track

Complete 6 units from the following:

MUS-163A-D	Woodwind Instruments	4
MUS-164A-D	Brass Instruments	4
MUS-165A-D	Percussion Instruments	4
MUS-166A-B	Applied Music	2
MUS-350, 352, 370, 371, 374	Instrumental Performing Group	1-3

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Composition Track

MUS-112A	Recording with Pro Tools	3
Complete 3 units from the following:		
MUS-112B	Pro Tools and MIDI	3
MUS-113	Studio Recording	3
MUS-114	Create a CD	2
MUS-116	Sound Reinforcement and Live Recording	3
Total Required Units:		29-31

PHYSICS

AS Degree: Transfer Major

The Associate of Science Transfer Degree in Physics offered by Ohlone College is designed to prepare students for studying Physics at most universities. The core courses required in the AS Degree 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 AS 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.

Requirements for AS Degree:

- Complete the Major Field courses with a 2.0 grade point average.
- Complete Plan A, B, or C General Education requirements. These 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 Analytical Geometry	5
MATH-101B	Calculus with Analytical Geometry	5
MATH-101C	Calculus with Analytical 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
		45

RECOMMENDED COURSES

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

MATH-159	Elements of Statistics and Probability	(5)
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SPEECH AND COMMUNICATION STUDIES

AA Degree: Transfer Major

The Associate Degree 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 AA Degree:

- Complete Major Field and Supporting Courses with a 2.0 grade point average.
- Complete Plan A, B, or C General Education requirements. These 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

SPCH-101	Introduction to Public Speaking	3
SPCH-102	Critical Thinking/Group Decision Making <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 - A3*	Forensics Workshop <i>AND/OR</i>	1-6
SPCH-112A1 - A3*	Argumentation and Debate Workshop	1-6
SPCH-132	Voice and Diction	3
		17-27

*SPCH-110A or SPCH-112A should be taken for a minimum of two units and a maximum of 12 units.

SUPPORTING COURSES

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

BRDC-141	Live TV Newscast
JOUR-155	Mass Media and Society
PSY-101	General Psychology
SOC-101	Introduction to Sociology
SPCH-115	Career Communication
SPCH-122	Family Communication
SPCH-130	Oral Interpretation of Literature
TD-110	Introduction to Acting

Recommended for transfer: MATH-159, Elements of Statistics and Probability

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ASSOCIATE DEGREES AND CERTIFICATES OF ACHIEVEMENT

Ohlone offers associate degrees in occupational majors for students interested in preparing for employment in certain fields. These programs are not designed as transfer programs, although a student who completes one of these degrees would not be prohibited from transferring. These associate degrees combine the focus of an occupational major with 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 units whereas Certificates of Achievement range between 18-46 units.

ACCOUNTING

AA Degree
and

Certificate of Achievement Program

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 AA Degree:

- a) Complete Major Field and Supporting Courses with a 2.0 grade point average.
- b) Complete Plan A, B, or C General Education requirements. These 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.

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-101A	Principles of Accounting	5
BA-101B	Principles of Accounting	5
BA-104	Computer Applications in Accounting	3
BA-105	Income Tax Principles	4
BA-107	Cost and Managerial Accounting	4
BA-123	Math for Accounting and Business	3
		24

(continued on next column)

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
BA-166	Business Ethics <i>OR</i>	3
PHIL-106	Ethics	(3)
CS-101	Introduction to Computers and Information Technology	3
CS-101L	Computer Applications	2
		24

ADMINISTRATION OF JUSTICE

AA Degree
and

Certificate of Achievement Program

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 AA Degree:

- a) Complete Major Field and Supporting Courses with a 2.0 grade point average.
- b) Complete Plan A, B, or C General Education requirements. These 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.

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

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
Major Field Electives		8
		26

Major Field Electives (choose a minimum of 8 units for Certificate of Achievement):

AJ-107 (3), AJ-115 (3), AJ-116 (3), AJ-119 (3), AJ-123 (3), AJ-131 (3), AJ-132 (2), AJ-135 (2), AJ-140 (2), AJ-141 (1), AJ-144 (3), BA/PSY-139 (3), PSY-101 (3), PSY-114 (3), SOC-101 (3), SOC-102 (3), SOC-105 (3), WEX 195 (1-4)

(continued on next page)

SUPPORTING COURSES:

Major Field Electives (choose an additional 8 units for associate degree):

AJ-107 (3), AJ-115 (3), AJ-116 (3), AJ-119 (3), AJ-123 (3), AJ-131 (3), AJ-132 (2), AJ-135 (2), AJ-140 (2), AJ-141 (1), AJ-144 (3), BA/PSY-139 (3), PSY-101 (3), PSY-114 (3), SOC-101 (3), SOC-102 (3), SOC-105 (3), WEX 195 (1-4)

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.

ADMINISTRATIVE ASSISTANT

AA Degree
and
Certificate of Achievement Program

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 AA Degree:

- Complete Major Field and Supporting Courses with a 2.0 grade point average.
- Complete Plan A, B, or C General Education requirements. These 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

BA-106	Applied Accounting	3
BA-116	Business English and Communication	4
BA-125	Introduction to Business	3
BA-141A	Business Law	3
CAOT-104	Basic Keyboarding	1
CAOT-194A	MS Office Advanced	2
CS-101L	Computer Applications	2
		18

SUPPORTING COURSES

BA-123	Math for Accounting and Business	3
BA/PSY-139	Psychology in the Workplace	3
CAOT-153	Introduction to Internet	1
CAOT-156	Microsoft Publisher	.5
CAOT-188	Desktop Publishing with QuarkXpress	2
SPCH-101	Introduction to Public Speaking	3
Major Field Elective		3
		15.5

Recommended Major Field Electives: BSM-101, BSM-102, BSM-103, BSM-106, BSM-108, CS-101, ENGL-156.

**ADMINISTRATIVE ASSISTANT
WITH SUPERVISORY FOCUS**

AA Degree
and
Certificate of Achievement Program

This curriculum is designed to prepare students for employment in business, industry, or government. The graduate often begins as an administrative assistant and later advances to executive secretary with certain managerial functions. Placement is dependent upon job availability as well as the successful completion of general entrance examinations.

Requirements for AA Degree:

- Complete Major Field and Supporting Courses with a 2.0 grade point average.
- Complete Plan A, B, or C General Education requirements. These 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.

MAJOR FIELD

BA-106	Applied Accounting	3
BA-116	Business English and Communication	4
BA-125	Introduction to Business	3
BA-141A	Business Law	3
BSM-101	Fundamentals of Supervision	3
BSM-103	Management of Human Resources	3
CAOT-104	Basic Keyboarding	1
CAOT-194A	MS Office Advanced	2
CS-101L	Computer Applications	2
		24

SUPPORTING COURSES

BA-123	Math for Accounting and Business	3
BA/PSY-139	Psychology in the Workplace	3
SPCH-101	Introduction to Public Speaking	3
Major Field Elective		3-4
		12-13

Recommended Major Field Electives: BSM-102, BSM-106, BSM-108, CS-101, ENGL-101A or ENGL-151B, ENGL-156.

AMERICAN SIGN LANGUAGE AND DEAF STUDIES

AA Degree
and
Certificate of Achievement Program

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 AA Degree:

- Complete Major Field, Major Field Electives, and Supporting Courses with a 2.0 grade point average.
- Complete Plan A, B, or C General Education requirements. These 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.

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	3
ASL-142	Deaf Culture	3
ASL-152	Advanced Fingerspelling	1
ASL-154	American Sign Language Vocabulary	2
ASL-156	Advanced Reception of ASL	3
ASL-160-161	American Sign Language Field Work	1-2

33-34

MAJOR FIELD ELECTIVES

Complete at least 3 of the following courses for 9 units:

ASL-145	Deaf History	3
ASL-150	Linguistics of ASL	3
ASL-155	ASL Literature (Folklore)	3
ASL-157	ASL Storytelling	3
ASL-158	Classifiers in ASL	3

9

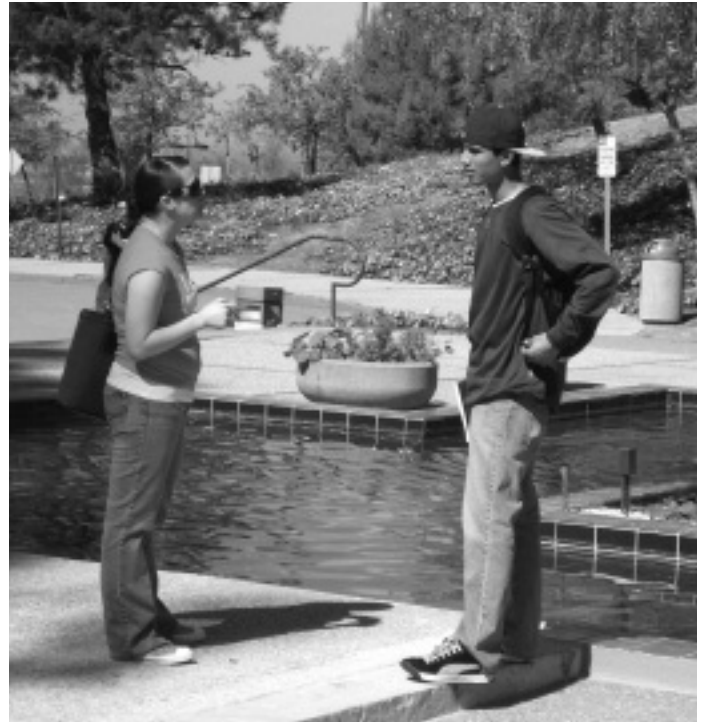


Photo courtesy of Julie Houle.

SUPPORTING COURSES

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

Complete a minimum of 3 semester units in at least 3 different areas from those listed below:

Child Growth and Development

Select three units from:

ECS-195A1, ECS-300, ECS-301, ECS-302, ECS-303, ECS-304, ECS-305, ECS-306, ECS-307A3, ECS-307A4, ECS-307A5, ECS-307B3, ECS-307B4, ECS-307B5, ECS-307C3, ECS-307C4, ECS-307C5, ECS-308, ECS-317, ECS-321, ECS-322, ECS-323, ECS-325A, ECS-325A1, ECS-327, PSY-105, PSY-106, PSY-108

Education Techniques

Select three units from:

ECS-309, ECS-310, ECS-311, ECS-312, ECS-313, ECS-314, ECS-316, ECS-328, PD/PSY-114

English Composition or Report Writing

Select three units from:

ENGL-101A, ENGL-101B, ENGL-101C, ENGL-151A, ENGL-151B

Health, Science, and Hygiene

Select three units from:

BIOL-103A, BIOL-103B, BIOL-104, BIOL-105, BIOL-106, BIOL-107, BIOL-108, BIOL-109, BIOL-130, BIOL-131D, BIOT-110A, BIOT-110B, BIOT-111, BIOT-112, BIOT-120, HLTH-101, PE-257

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

Select three units from:

ECS-324, PSY-101, PSY-102, PSY-110, PSY-112, PSY-139, SOC-101

Recreational Planning and/or Physical Education Methodology for Children

Select three units from:

PE-255, PE-258, PE-262, PE-264, PE-265, PE-266, PE-267, PE-268, PE-381, PE-382

BROADCASTING

AA Degree
and
Certificate of Achievement Program

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 AA Degree:

- Complete Major Field and Supporting Course with a 2.0 grade point average.
- Complete Plan A, B, or C General Education requirements. These 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	Newswriting	3
JOUR/BRDC-155	Mass Media and Society	3
		28

SUPPORTING COURSE

SPCH-101	Introduction to Public Speaking	3
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Photo courtesy of Julie Houle.

BUSINESS SUPERVISION/MANAGEMENT

AA Degree
and
Certificate of Achievement Program

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 AA Degree:

- Complete Major Field and Supporting Courses with a 2.0 grade point average.
- Complete Plan A, B, or C General Education requirements. These 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
BA-166	Business Ethics OR	3
PHIL-106	Ethics	(3)
CS-101	Introduction to Computers and Information Technology	3
	Major Field Electives	3
		19

Recommended Major Field Electives: BA-101A, BA-101B, BA-121, BA-122, BA-123, BA-126, BA-129, BA-160A, BA-160B, BSM-195A, CS-102

CISCO CERTIFIED NETWORK PROFESSIONAL (NETWORK+, CCNA, CCNP) COMPUTERS, NETWORKS, AND EMERGING TECHNOLOGY

AS Degree
and
Certificate of Achievement Program

The Cisco Certified Network Professional (CCNP) certificate 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 AS Degree:

- a) Complete Major Field and Supporting Courses with a 2.0 grade point average.
- b) Complete Plan A, B, or C General Education requirements. These 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.

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

CNET-150	Network Operating Systems	4
CNET-152	Data Communications (Network+)	2
CNET-155A	LAN Network Design	4
CNET-155B	Router Configuration and Routing	4
CNET-156A	Routing and Switching	2
CNET-156B	WAN Design and Support	2
CNET-157	TCP/IP and Internetworking	3
CNET-182	Advanced Routing	3
CNET-183	Remote Access Networks	3
CNET-184	Advanced Switching	3
CNET-185	Internetwork Troubleshooting	3
ENGL-156	Introduction to Report and Technical Writing <i>OR</i>	3
SPCH-115	Career Communication	(3)
		36

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	
CNET-105	PC Hardware and Software	
CNET-140A	Linux Installation and Configuration	
CNET-140B	Linux System Administration	
CNET-142A	Linux Networking	
CNET-142B	Linux Security	
CNET-146	Introduction to UNIX/Linux	
CNET-147	UNIX Shell Programming	

(continued on next column)

CNET-149	PERL Programming
CNET-158	Wireless Networks
CNET-160A	Microsoft Client Operating Systems
CNET-162A	Microsoft Server Operating Systems
CNET-162B	Windows Network Infrastructure Administration
CNET-164A	Microsoft Directory Services
CNET-164B	Designing Microsoft Windows Directory Services Infrastructure
CNET-165A	Designing a Secure Microsoft Windows Network
CNET-165B	Microsoft Internet Security and Acceleration Server (ISA)
CNET-167A	Network Application Administration I-Email (exchange)
CNET-168A	Network Application Administration II-Database (SQL)
CNET-170	Network Security
CS-102	Introduction to Computer Programming Using C++
CS-104A	Visual Basic.Net Programming
CS-170	Java Programming
CS-175	Script Technology for Web Development
CS-176	CGI Programming with PERL for Web Development

COMPUTER STUDIES

AA Degree
and
Certificate of Achievement Program

Requirements for AA Degree:

- a) Complete Major Field courses from one of the two options indicated below with a 2.0 grade point average.
- b) Complete Plan A, B, or C General Education requirements. These 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.

Requirements for Certificate of Achievement:

- a) Complete one of the Major Field options 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

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*	C++ Programming: An Object-Oriented Language	4
CS-118*	Introduction to Assembly Language Programming	4
CS-124*	Advanced Programming with Data Structures <i>OR</i>	4
CS-170	Java Programming	(4)
CS-152	Data Communications (Network+)	2
Major Field Electives		3

(continued on next page)

Recommended Major Field Electives: CNET-160A, CS-121, CS-146. (Courses may not be taken for duplicate credit.) *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.

Option 2 – Computer Programming (Internet/Web Programming)

CS-101	Introduction to Computers and Information Technology	3
CS-104A	Visual Basic.NET Programming	4
CS-104B	Advanced Visual Basic.NET Programming	4
CS-113/MATH-163	Discrete Mathematics for Computers <i>OR</i>	3
MATH-156	Math for Liberal Arts <i>OR</i>	(3)
MATH-166	Finite Mathematics	(4)
CS-149	PERL Programming <i>OR</i>	4
CS-176	CGI Programming with PERL for Web Development	(3)
CS-152	Data Communications (Network+)	2
CS-170	Java Programming	4
CS-171	Advanced Java Programming	4
CS-175	Script Technology for Web Development	4
Major Field Electives		3

34-35

Recommended Major Field Electives: CNET-160A, CS-102, CS-146, CS-149, CS-175, CS-176, CS-177. (Courses may not be taken for duplicate credit.)

DESKTOP SUPPORT TECHNICIAN (A+, NETWORK+, MCP) COMPUTERS, NETWORKS, AND EMERGING TECHNOLOGY

AS Degree
and
Certificate of Achievement Program

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 AS Degree:

- Complete Major Field and Supporting Courses with a 2.0 grade point average.
- Complete Plan A, B, or C General Education requirements. These 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 column)

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 (Network+)	2
CNET-158	Wireless Networks	4
CNET-160A	Microsoft Client Operating Systems	2
CNET-161A	Supporting Users on XP	2
CNET-161B	Supporting Applications on XP	2
CNET-162A	Microsoft Server Operating Systems	2
ENGL-156	Introduction to Report and Technical Writing <i>OR</i>	3
SPCH-115	Career Communication	(3)
		25

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
CNET-140A	Linux Installation and Configuration
CNET-140B	Linux System Administration
CNET-142A	Linux Networking
CNET-142B	Linux Security
CNET-146	Introduction to UNIX/Linux
CNET-147	UNIX Shell Programming
CNET-149	PERL Programming
CNET-155A	LAN Network Design
CNET-155B	Router Configuration and Routing
CNET-156A	Routing and Switching
CNET-156B	WAN Design and Support
CNET-162B	Windows Network Infrastructure Administration
CNET-164A	Microsoft Directory Services
CNET-164B	Designing Microsoft Windows Directory Services Infrastructure
CNET-165A	Designing a Secure Microsoft Windows Network
CNET-165B	Microsoft Internet Security and Acceleration Server (ISA)
CNET-167A	Network Application Administration I-Email (Exchange)
CNET-168A	Network Application Administration II-Database (SQL)
CNET-170	Network Security
CNET-182	Advanced Routing
CNET-183	Remote Access Networks
CNET-184	Advanced Switching
CNET-185	Internetwork Troubleshooting
CS-102	Introduction to Computer Programming Using C++
CS-104A	Visual Basic.Net Programming
CS-170	Java Programming
CS-175	Script Technology for Web Development
CS-176	CGI Programming with PERL for Web Development

EARLY CHILDHOOD STUDIES

AA Degree
and
Certificate of Achievement Program

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.

Requirements for AA Degree:

- Complete Major Field and Supporting Courses with a 2.0 grade point average.
- Complete Plan A, B, or C General Education requirements. These 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	Introduction to Early Childhood Studies	4
ECS-301	Early Childhood Growth and Development	3
ECS-302	Introduction to Early Childhood Curriculum	4
ECS-303	Child, Family, and Community	3
ECS-304	Observation and Assessment of Young Children	4
ECS-305	Health and Safety Practices in Programs for Young Children	3
ECS-306	Guidance and Discipline of Young Children	3
ECS-307A - C	Practicum Working with Young Children	3-5
		27-29

(continued on next column)



Photo courtesy of Julie Houle.

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-304	Observation and Assessment of Young Children
ECS-308	Administration of Programs for Young Children
ECS-309	Cultural Diversity in Programs for Young Children
ECS-310	Music and Movement Curriculum for Young Children
ECS-311	Art for the Young Child
ECS-312	The Development of Literacy in Early Childhood Education
ECS-313	Science and Math Curriculum for Young Children
ECS-314	Literature for the Young Child
ECS-316	Children with Special Needs in Programs for Young Children
ECS-317	Infant and Toddler Development and Care
ECS-319	Work Experience Seminar
ECS-320	Introduction to Family Child Care Homes
ECS-321	Supervision in Early Childhood Programs
ECS-322	Mentoring and Supervision in Early Childhood Programs
ECS-323	Advanced Training in Infant-Toddler Care
ECS-324	Parenting
ECS-327	School Age Child Development
ECS-328	Curriculum for the School Age Child
ECS-330	Second Helping for Family Childcare Providers

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.

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	Cultural Diversity in Programs for Young Children	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 Young 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

ENTERTAINMENT DESIGN AND TECHNOLOGY

AA Degree
and
Certificates of Achievement Program

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 AA Degree:

- Complete Major Field courses and one of the six Options with a 2.0 grade point average.
- Complete Plan A, B, or C General Education requirements. These 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
TD-180	Television Series Production	(3)
CS-152	Data Communications	2
CS-180	Network Operating Systems	4
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
WEX-195	Internship	1-3
Welding Competency*	***	
		19-24

*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 Completion from a certified professional program.

Option 2: Costuming

ART-106A	Descriptive Drawing	3
BRDC-142	Live TV Studio Production <i>OR</i>	3
TD-180	Television Series Production	(3)
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
WEX-195	Internship	1-3
		18-23

Option 3: Audio Technician

BRDC-132/MUS-113	Studio Recording	3
BRDC-142	Live TV Studio Production <i>OR</i>	3
TD-180	Television Series Production	(3)
CS-152	Data Communications	2
MUS-112A	Recording with Pro Tools	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
WEX-195	Internship	1-3
		19-24

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
WEX-195	Internship	1-3
		19.5-24.5

Option 5: Theatrical and TV Lighting Technician

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-180	Television Series Production <i>OR</i>	3
BRDC-142	Live TV Studio Production	(3)
WEX-195	Internship	1-3
		17-22

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
WEX-195	Internship	1-3
		13-18

GRAPHIC ARTS/COMPUTER GRAPHICS

AA Degree
and
Certificate of Achievement Program

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 AA Degree:

- Complete Major Field and Supporting Course with a 2.0 grade point average.
- Complete Plan A, B, or C General Education requirements. These 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-134A	Basic Color Photography <i>OR</i>	(3)
ART-139A	Digital Photography	(2)
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
		33-34

SUPPORTING COURSE

JOUR-146-148	Photography/Graphic Arts Newspaper Staff	1-3
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INTERIOR DESIGN

AA Degree
and
Certificate of Achievement Program

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 AA Degree:

- Complete Major Field and Supporting Courses with a 2.0 grade point average.
- Complete Plan A, B, or C General Education requirements. These 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-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
ID/ART-159A	Applied Design: Residential Lighting <i>AND</i>	(1)
ID/ART-159B	Applied Design: Color for the Home	(1)
		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

INTERPRETER PREPARATION PROGRAM

AA Degree
and
Certificate of Achievement Program

The 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 (1 year of college-level work) with a cumulative GPA of 2.7 or higher.
 - e. Completion of Deaf Culture and ASL Structure (ASL Linguistics) with a cumulative GPA of 2.7 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 and Special Services by mid-April. The exact deadline is provided online at http://www.ohlone.edu/instr/div_deaf/ipp/#eligibility

Requirements for AA Degree:

- a) Complete Major Field courses with a grade of C or better.
- b) Complete Plan A, B, or C General Education requirements. These 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.

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

INT-106	ASL Discourse	3
INT-107	Interpreter Orientation	3
INT-110	ASL-English/English-ASL Translation	2
INT-112	Applied Linguistics for Interpreters	3
INT-115	Interpreting Preparation Skills	2
INT-120	Consecutive Interpreting: English/ASL	3
INT-121	Consecutive Interpreting: ASL/English	3
INT-145	Practicum: Deaf Mentorship	5
INT-160	Simultaneous Interpreting: English/ASL	3
INT-161	Simultaneous Interpreting: ASL/English	3
INT-173	Interpretation in Specialized Settings	3
INT-175	Specialized Interpreting Technique	2
INT-180	Ethics, Role, Responsibility	3
INT-181	Transliteration	3
INT-190	Interpreting Internship	5

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(continued on next column)

The courses listed above are part of the special application only curriculum for the Interpreter Preparation Program (IPP.) Other courses are open to students not in the Interpreter Preparation Program and are offered regularly. Please refer to a current Ohlone Class Schedule or the Ohlone College Deaf Center Web page at http://www.ohlone.edu/instr/div_deaf/ipp/.

JOURNALISM

AA Degree
and
Certificate of Achievement Program

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 campus community.

Requirements for AA Degree:

- a) Complete Major Field courses with a 2.0 grade point average.
- b) Complete Plan A, B, or C General Education requirements. These 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.

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

ART-133A	Black and White Photography <i>OR</i>	3
JOUR-175	Magazine Writing and Editing Staff	(3)
BA-129	Introduction to Advertising	3
GA/CAOT-188	Desktop Publishing with QuarkXpress	2
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 (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)

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MICROSOFT SYSTEMS ENGINEER (NETWORK+, MCP, MCSE) COMPUTERS, NETWORKS, AND EMERGING TECHNOLOGY

AS Degree
and

Certificate of Achievement Program

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 AS Degree:

- Complete Major Field and Supporting Courses with a 2.0 grade point average.
- Complete Plan A, B, or C General Education requirements. These 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 <i>OR</i>	3
SPCH-115	Career Communication	(3)
		27

(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	
CNET-105	PC Hardware and Software	
CNET-140A	Linux Installation and Configuration	
CNET-140B	Linux System Administration	
CNET-142A	Linux Networking	
CNET-142B	Linux Security	
CNET-147	UNIX Shell Programming	
CNET-149	PERL Programming	
CNET-155A	LAN Network Design	
CNET-155B	Router Configuration and Routing	
CNET-156A	Routing and Switching	
CNET-156B	WAN Design and Support	
CNET-158	Wireless Networks	
CNET-165B	Microsoft Internet Security and Acceleration Server (ISA)	
CNET-167A	Network Application Administration I-Email (Exchange)	
CNET-168A	Network Application Administration II-Database (SQL)	
CNET-170	Network Security	
CNET-182	Advanced Routing	
CNET-183	Remote Access Networks	
CNET-184	Advanced Switching	
CNET-185	Internetwork Troubleshooting	
CS-102	Introduction to Computer Programming Using C++	
CS-104A	Visual Basic.NET Programming	
CS-170	Java Programming	
CS-175	Script Technology for Web Development	
CS-176	CGI Programming with PERL for Web Development	

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Photo courtesy of College Relations.

MULTIMEDIA

AA Degree
and
Certificate of Achievement Program

Upon completion of the AA degree or Certificate of Achievement in Multimedia, students will have developed interactive multimedia projects integrating graphics, text, sound, animation, and video for World Wide Web and CD-ROM. Jobs in the multimedia field include programmer, Web developer, producer, multimedia project manager, production assistant, writer, designer, graphic artist, and interface designer.

Jobs for multimedia professionals are mainly in the fields of education and training, sales and marketing, advertising and public relations, and entertainment. The pay for multimedia professionals is above average. Multimedia development is a growing field and employment for both contractors and full time employees will grow.

Requirements for AA Degree:

- a) Complete Major Field and Supporting Courses with a 2.0 grade point average.
- b) Complete Plan A, B, or C General Education requirements. These 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.

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

ART-139A	Digital Photography <i>OR</i>	2
GA-160A	Computer Graphics I <i>OR</i>	(4)
GA-161A	Digital Graphics I	(2)
MM-102A	Multimedia I	4
MM-102B	Multimedia II	4
MM-105	Web Site Design	4
MM-160	Multimedia Portfolio Development	3
MM-195A	Work Experience Education	1
		18-20

SUPPORTING COURSES

Select ten 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-107	Introduction to Dreamweaver	.5
MM-110	Digital Video	4
MM-111	Introduction to After Effects	.5
MM-115	3D Animation	3
MM-116	3D Modeling	3
MM-117	Advanced 3D Modeling and Animation	3
MM-120	Designing an On-line Course	3
MUS-112A	Recording with Pro Tools	3
		10

NETWORK ADMINISTRATOR (NETWORK+, MCP OR UNIX, CCNA) COMPUTERS, NETWORKS, AND EMERGING TECHNOLOGY

AS Degree
and
Certificate of Achievement Program

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 AS Degree:

- a) Complete Major Field and Supporting Courses with a 2.0 grade point average.
- b) Complete Plan A, B, or C General Education requirements. These 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.

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

CNET-150	Network Operating Systems	4
CNET-152	Data Communications	2
CNET-155A	LAN Network Design	4
CNET-155B	Router Configuration and Routing	4
CNET-156A	Routing and Switching	2
CNET-156B	WAN Design and Support	2
CNET-157	TCP/IP and Internetworking	3
CNET-160A	Microsoft Client Operating Systems <i>AND</i>	2
CNET-162A	Microsoft Server Operating Systems <i>AND</i>	2
CNET-162B	Windows Network Infrastructure Administration <i>AND</i>	2
CNET-164A	Microsoft Directory Services <i>OR</i>	2
CNET-140A	Linux Installation and Configuration <i>AND</i>	(2)
CNET-140B	Linux System Administration <i>AND</i>	(2)
CNET-146	Introduction to UNIX/Linux <i>AND</i>	(3)
CNET-147	UNIX Shell Programming	(4)
ENGL-156	Introduction to Report and Technical Writing <i>OR</i>	3
SPCH-115	Career Communication	(3)
		30-33

(continued on next page)

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	
CNET-105 PC Hardware and Software	
CNET-140A Linux Installation and Configuration	
CNET-140B Linux System Administration	
CNET-142A Linux Networking	
CNET-142B Linux Security	
CNET-149 PERL Programming	
CNET-158 Wireless Networks	
CNET-164B Designing Microsoft Windows Directory Services Infrastructure	
CNET-165A Designing a Secure Microsoft Windows Network	
CNET-165B Microsoft Internet Security and Acceleration Server (ISA)	
CNET-167A Network Application Administration I-Email (Exchange)	
CNET-168A Network Application Administration II-Database (SQL)	
CNET-170 Network Security	
CNET-182 Advanced Routing	
CNET-183 Remote Access Networks	
CNET-184 Advanced Switching	
CNET-185 Internetwork Troubleshooting	
CS-102 Introduction to Computer Programming Using C++	
CS-104A Visual Basic.NET Programming	
CS-170 Java Programming	
CS-175 Script Technology for Web Development	
CS-176 CGI Programming with PERL for Web Development	

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Photo courtesy of Julie Houle.

PHYSICAL THERAPIST ASSISTANT

AS Degree

The Physical Therapist Assistant (PTA) Program is a two calendar year course of study leading to an Associate of 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. Successful completion of the PTA major field courses and supporting courses meet the Tech Tools graduation requirement.

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.

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.

Requirements for AS Degree:

- Complete Major Field and Supporting Courses with a 2.0 grade point average.
- Complete Plan A, B, or C General Education requirements. These 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

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-107A	Clinical Practicum I	1
PTA-107B	Clinical Practicum II	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-112	Clinical Affiliation	4.5

38.5

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/PE-256	Sports Performance Testing	2

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REAL ESTATE SALES BROKER

AA Degree
and
Certificate of Achievement Program

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 AA Degree:

- Complete Major Field and Supporting Courses with a 2.0 grade point average.
- Complete Plan A, B, or C General Education requirements. These 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

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
		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
		10



Photo courtesy of Julie Houle.

REGISTERED NURSE

AS Degree

The nursing program is an Associate of Science Degree program that can be completed in four semesters and one summer session 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 clients 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 (61 Broadway, New York, New York, 10006; (213) 363-5555; 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).

Requirements for AS Degree:

- Complete Major Field and Supporting Courses with a 2.0 grade point average.
- Complete Plan A, B, or C General Education requirements. These 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
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
		37

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
		19

RESPIRATORY THERAPIST

AS Degree

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.

Requirements for AS Degree:

- Complete Major Field and Supporting Courses with a 2.0 grade point average.
- Complete Plan A, B, or C General Education requirements. These 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

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) <i>OR</i>	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

(continued on next column)

SUPPORTING COURSES

AH-151	Applied Clinical Pharmacology	2
BIOL-104	Basic Human Anatomy and Physiology	4
BIOL-106	Microbiology <i>OR</i>	5
BIOL-107	Microbiology and Infectious Diseases	(3)
PHYS-108	Survey of Physics	3
PSY-105	Child Development <i>OR</i>	3
PSY-106	Adolescent Development <i>OR</i>	(3)
PSY-108	A Survey of Human Development <i>OR</i>	(3)
PSY-110	Psychology of Human Relations <i>OR</i>	(3)
PSY-114	Introduction to Paraprofessional Counseling	(3)

15-17

TECHNICAL SUPPORT SPECIALIST (A+, NETWORK+, MCP) COMPUTERS, NETWORKS, AND EMERGING TECHNOLOGY

AS Degree

and

Certificate of Achievement Program

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 AS Degree:

- Complete Major Field and Supporting Courses with a 2.0 grade point average.
- Complete Plan A, B, or C General Education requirements. These 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-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 <i>OR</i>	3
SPCH-115	Career Communication	(3)

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(continued on next page)

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	
CNET-140B Linux System Administration	
CNET-142A Linux Networking	
CNET-142B Linux Security	
CNET-147 UNIX Shell Programming	
CNET-149 PERL Programming	
CNET-155A LAN Network Design	
CNET-155B Router Configuration and Routing	
CNET-156A Routing and Switching	
CNET-156B WAN Design and Support	
CNET-158 Wireless Networks	
CNET-162B Windows Network Infrastructure Administration	
CNET-164A Microsoft Directory Services	
CNET-164B Designing Microsoft Windows Directory Services Infrastructure	
CNET-165A Designing a Secure Microsoft Windows Network	
CNET-165B Microsoft Internet Security and Acceleration Server (ISA)	
CNET-167A Network Application Administration I-Email (Exchange)	
CNET-168A Network Application Administration II-Database (SQL)	
CNET-170 Network Security	
CNET-182 Advanced Routing	
CNET-183 Remote Access Networks	
CNET-184 Advanced Switching	
CNET-185 Internetwork Troubleshooting	
CS-102 Introduction to Computer Programming Using C++	
CS-104A Visual Basic.Net Programming	
CS-170 Java Programming	
CS-175 Script Technology for Web Development	
CS-176 CGI Programming with PERL for Web Development	

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UNIX/LINUX SYSTEMS ADMINISTRATOR COMPUTERS, NETWORKS, AND EMERGING TECHNOLOGY

AS Degree
and
Certificate of Achievement Program

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 AS Degree:

- Complete Major Field and Area Specialization courses with a 2.0 grade point average.
- Complete Plan A, B, or C General Education requirements. These 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 Shell Programming	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	(4)
CNET-170 Network Security	(4)
CNET-195A1 - A4 Internship	(1-4)

AND

Programming Elective	4
CNET-137 Introduction to SQL Programming	(4)
CS-102 Introduction to Computer Programming Using C++	(4)
CS-124 Advanced Programming with Data Structures	(4)
CS-170 Java Programming	(4)

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Photo courtesy of Julie Houle.

CERTIFICATES OF COMPLETION

Certificates of Completion are awarded upon the completion of an organized course of study for a specific course, usually career or job related. Certificates of Completion consist of a maximum of 18 units and allow students to finish the program in a shorter period of time. In order to earn a Certificate of Completion students must:

- satisfactorily complete 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 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 <i>OR</i>	3
IS-120	Women of the Western World	(3)
		16

ANTHROPOLOGY: PHYSICAL

The Physical Anthropology Certificate 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
GEOL-103	Paleontology and Dinosaurs	3

17

ARCHAEOLOGY

The Certificate 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
CS-101L	Computer Applications	2
ENGL-103	Writing That Works	3
		17

Recommended Courses: (Optional)

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

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
		13

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

9

AUDIO TECHNICIAN

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

BRDC-132/MUS-113 Studio Recording	3
TD-152 Introduction to Lighting	3
TD-160A - 160A2 Production Lab	.5-2
TD-170 Survey of Entertainment Design	3
TD/BRDC-180 Television Series Production	3
	12.5-14

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
	16-18

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.

(continued on next column)

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)

Choose two units in Biology from the following:

BIOL-131D Review of Biological Concepts	1
BIOL-201 Special Projects	1
BIOL-202 Special Projects	2
BIOT-120 Introduction to Scanning Electron Microscopy (SEM)	1
	16-17

BIOLOGY: HUMAN

The Human Biology Certificate 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

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:

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

BIOTECHNOLOGY: RESEARCH ASSOCIATE/BIOTECHNICIAN

This certificate program provides students with hands on skills development in the protocols, instrumentation and equipment used in many biotechnology companies. Students will learn concepts in Molecular and Cellular Biology and laboratory safety. In addition, Ohlone's state-of-the-art biotech laboratory enables students to learn techniques such as cell transformation, cell culture using the bioreactor, polymerase chain reaction using thermocyclers, DNA sequencing using the ABI 310 Genetic Analyzer, plant/agricultural biotechnology using the green house facility, and solution & media preparation. A goal of the Research Associate/Biotechnician Certificate Program is to prepare students for entry-level and other positions in biotechnology and pharmaceutical companies.

BIOT-105	Introduction to Cell and Molecular Biology	4
BIOT-110A*	Biotechnology Lab I	3
BIOT-110B	Advanced Biotechnology Theory and Applications	3
BIOT-111*	Advanced Biotechnology Lab	2
BIOT-121	Biotechnology Careers	1
CHEM-109	Biochemistry for Health Science and Biotechnology	4
		17

Optional courses (recommended):

BIOT-112	Introduction to Bioinformatics	(2)
BIOT-120	Introduction to Scanning Electron Microscopy (SEM)	(1)
BIOT-203	Biotechnology Internship	(3)

*These courses must be taken at Ohlone College with a grade of B or better. If BIOT-105 or CHEM-109 is waived due to equivalent courses having been completed at other colleges, students will still be required to meet the 17 unit requirement by completing the appropriate number of BIOT courses listed as "Optional."

BROADCASTING: DIGITAL VIDEO AND EDITING

This certificate is for students who want to focus on shooting video for television news and editing it for air.

BRDC-136	Digital Video and Lighting	3
BRDC-137	Video Field Production	3
BRDC-138	AVID Editing	3
BRDC-139	Advanced AVID Editing	3
BRDC-141	Live TV Newscast	3
		15

BROADCASTING: ENTERTAINMENT TELEVISION

This certificate focuses on the skills needed to work on television sitcoms and drama series production.

BRDC-135	After Effects for Television	3
BRDC-136	Digital Video and Lighting	3
BRDC-137	Video Field Production	3
BRDC-138	AVID Editing <i>OR</i>	3
BRDC-134	Final Cut Pro Editing	(3)
BRDC-180	Television Series Production	3
		15

BROADCASTING: LIGHTING AND VIDEO FOR TELEVISION

This certificate is for students interested in working in the film industry and/or long-form documentary production.

BRDC-136	Digital Video and Lighting	3
BRDC-137	Video Field Production	3
BRDC-138	AVID Editing <i>OR</i>	3
BRDC-134	Final Cut Pro Editing	(3)
BRDC-139	Advanced AVID Editing	3
BRDC-180	Television Series Production	3
		15

BROADCASTING: LIVE TELEVISION PRODUCTION

This certificate is designed for students who may be considering a career in television news.

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
JOUR-155	Mass Media and Society	3
		15

BROADCASTING: MUSIC VIDEO PRODUCTION

These classes give students skills to shoot, edit, and market high quality music videos.

BRDC-135	After Effects for Television	3
BRDC-136	Digital Video and Lighting	3
BRDC-138	AVID Editing	3
BRDC-139	Advanced AVID Editing	3
BRDC-150	Music Video Production	3
		15

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	2
		9

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

BUSINESS COMMUNICATION

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

SPCH-102	Critical Thinking/Group Decision Making <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
		12

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

CISCO CERTIFIED NETWORK ASSOCIATE

Upon completion of the Cisco Certified Network Associate Certificate of Completion 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-155A	LAN Network Design	4
CNET-155B	Router Configuration and Routing	4
CNET-156A	Routing and Switching	2
CNET-156B	WAN Design and Support	2
		12

COMMERCIAL MUSIC

The Music Department at Ohlone College has developed the Commercial Music Certificate 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	Recording with Pro Tools	3
MUS-112B	Pro Tools and MIDI	3
MUS-113	Studio Recording	3
MUS-114	Create a CD	2
MUS-116	Sound Reinforcement and Live Recording	3
		17

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++ <i>OR</i>	4
CS-104A	Visual Basic.NET Programming	(4)
CS-152	Data Communications	2
		12



Photo courtesy of Julie Houle.

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 for students whether or not they possess a background in bioscience. This program is also useful for students who desire to explore this new information science in which computers help to simulate, visualize, and analyze genetic and biological information. This certificate provides an introduction to the fundamental scientific and computational concepts, methods, and tools central to the growing field of computer applications in biotechnology.

Students who complete this program will be able to do the following:

- Explain in writing the cutting-edge biological concepts and technologies in biotechnology;
- Use the main databases, tools, and methods for the storage, searching, and analysis of biological molecules;
- Solve computational problems common to bioinformatics and apply classical computer science solutions to biotechnology;
- Use the statistical analysis software systems for data analysis and manipulation with emphasis on bioinformatics tasks;
- Describe the basic fundamentals of cells, major cellular components, DNA, and proteins;
- Use basic sequence analysis techniques in bioinformatics;
- Apply fundamental algorithms in biomolecular sequence analysis to problem solving 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	SAS Programming	3
CS-132/BIOT-132	DNA Computing <i>OR</i>	1
BIOT-122	Introduction to Nanotechnology	(3)

11-13

COMPUTER PROGRAMMING

Upon completion of the Computer Programming Certificate students will be capable of writing high-level language programs in procedural and event-driven languages and will be able to do some object-oriented programming as well.

CS-102	Introduction to Computer Programming Using C++	4
CS-104A	Visual Basic.NET Programming	4
CS-116	C++ Programming: An Object-Oriented Language <i>OR</i>	4
CS-170	Java Programming <i>OR</i>	(4)
CS-171	Advanced Java Programming	(4)
CS-118	Introduction to Assembly Language Programming <i>OR</i>	4
CS-124	Advanced Programming with Data Structures	(4)

16

COMPUTER STUDIES PROFICIENCY

This certificate prepares students with an introduction to office skills.

CAOT-134A	Beginning Microsoft Access	.5
CAOT-153	Introduction to Internet	1
CAOT-156	Microsoft Publisher	.5
CAOT-164	Introduction to FrontPage	.5
CAOT-172A	Beginning Word	.5
CAOT-187	PowerPoint Presentations	.5
CAOT-193A	Beginning Excel	.5
CS-101	Introduction to Computers and Information Technology	3
		7

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 - 160A2	Production Lab	.5-2
		14.5-16

DATA COMMUNICATIONS AND INTERNETWORKING

This certificate prepares students with an introduction to office and computer program data structures in C++ programming skills.

CS-101	Introduction to Computers and Information Technology	3
CS-101L	Computer Applications	2
CS-102	Introduction to Computer Programming Using C++	4
CS-152	Data Communications	2
		11

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	Script Technology for Web Development	4
CS-176	CGI Programming with PERL for Web Development	3
		10

DATABASE ADMINISTRATION

This certificate prepares students in Oracle database administration.

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

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

DESKTOP PUBLISHING

Upon completion of the Desktop Publishing Certificate of Completion program students will be capable of using desktop publishing software to design and create printed documents and graphics. In addition, they will acquire basic skills for making presentations.

CAOT-187	PowerPoint Presentations	.5
CAOT-188	Desktop Publishing with QuarkXpress	2
GA-160A	Computer Graphics I	4
GA-160B	Computer Graphics II	4
GA-161A	Digital Graphics I	(2)
		8.5-10.5

DESKTOP SUPPORT (A+, SERVER+, MCP)

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-150	Network Operating Systems	4
CNET-160A	Microsoft Client Operating Systems	2
CNET-162A	Microsoft Server Operating Systems	2
		12

DIGITAL ART

The Digital Art Certificate of Completion 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.

ART-139A	Digital Photography	2
ART-160A	Computer Graphics I	4
ART-161A	Digital Graphics I	2
ART-160B	Computer Graphics II <i>OR</i>	4
ART-161B	Digital Graphics II <i>AND</i>	(2)
ART-139B	Intermediate Digital Photography	(2)
		12

DRAWING

The Drawing Certificate of Completion 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 <i>OR</i>	3
ART-107B	Life Drawing	(3)
ART-108	Perspective Drawing	3
		12

EARTH AND ENVIRONMENTAL SCIENCES

This Certificate of Completion 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	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 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-110L	Music Theory and Harmony Performance Attendance Lab	0
MUS-111A	Musicianship	1
MUS-112A	Recording With Pro Tools	3
MUS-112B	Pro Tools and MIDI	3
		13

*Students may test out of this course using credit by exam. Credit by exam 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

ENGLISH AS A SECOND LANGUAGE

The ESL Certificate of Completion is awarded to students after they finish a minimum of twelve units (12) in the Ohlone College ESL Program. These units include work in all English skills: speaking, listening, reading, writing, and grammar. Students can use the ESL Certificate as proof to their employer that they have completed ESL course work and can also include the ESL Certificate on their resume when applying for jobs so that they can show prospective employers they have completed work on their English skills. Finally, the certificate is a sign of personal achievement.

ESL-182	Integrated English Skills for Non-Native Speakers, Level II	6
ESL-184RW	Reading and Writing, Level IV	4
SPCH/ESL-151	Introduction to Speech Communication Skills <i>OR</i>	3
SPCH/TD-132	Voice and Diction	(3)
		13

FINE ARTS

The Fine Arts Certificate of Completion 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)	
		12-13

FITNESS INSTRUCTOR

The Fitness Instructor Certificate of Completion 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 (formerly PE-251)	Fitness for Life	3
KIN-256/PTA-119 (formerly PE-256)	Sports Performance Testing <i>OR</i>	2
HLTH-101	Health Science	(3)
KIN-257 (formerly PE-257)	Prevention and Care of Athletic Injuries	4
KIN-258 (formerly PE-258)	Exercise Prescription	3
KIN-382 (formerly PE-382)	Clinical Experiences in Sports Medicine 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 <i>OR</i>	6
SPCH-112A3	Argumentation and Debate Workshop	(6)
SPCH/TD-132	Voice and Diction	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-121	Introduction to Geographic Information Systems (GIS)	2
GEOG-122	Environmental GIS	2
GEOG-123	GIS Projects	2
Choose one course or combination of courses from the following:		3-5
ANTH-102	Cultural Anthropology	(3)
ANTH-105	Field Archaeology	(3)
BIOL-108	Human Ecology	(3)
GEOG-101	Physical Geography <i>AND</i>	(4)
GEOG-104	The World's Nations	(3)
GEO-101	Introduction to Geology <i>AND</i>	(4)
RE-122	Real Estate Practice	(3)
SOC-102	Social Problems of a Diverse Society	(3)
		9-11

GEOGRAPHY: CULTURAL

This Certificate of Completion 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.

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

GEOGRAPHY: PHYSICAL

The Physical Geography Certificate 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	3
BIOL-140	Sierra Nevada Natural History	(3)
		15

GEOLOGY

This Certificate of Completion 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	Paleontology Laboratory	1
		14

GLASS

The Glass Certificate of Completion 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

GRAPHIC DESIGN

The Graphic Design Certificate of Completion 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

INTERCULTURAL COMMUNICATION

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

SPCH-105	Intercultural Communication	3
SPCH-122	Family Communication <i>OR</i>	3
SPCH-103	Interpersonal Communication	(3)
SPCH-110A1 - A3	Forensics Workshop <i>OR</i>	1-3
SPCH-112A1 - A3	Argumentation and Debate Workshop	(1-3)
		7-9

INTERIOR DESIGN BASICS

This Certificate of Completion 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

INTERIOR DESIGN COMMUNICATIONS

This Certificate of Completion 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
		15

INTERIOR DESIGN TECHNOLOGY

This Certificate of Completion 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

INTERNET APPLICATIONS DEVELOPMENT

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

CS-170	Java Programming	4
CS-171	Advanced Java Programming	4
CS-175	Script Technology for Web Development <i>OR</i>	4
CS-178	XML	(3)
		11-12

INTERPERSONAL COMMUNICATION

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

SPCH-102	Critical Thinking/Group Decision Making <i>OR</i>	3
SPCH-104	Critical Thinking/Persuasion	(3)
SPCH-103	Interpersonal Communication	3
SPCH-110A1 - A3	Forensics Workshop <i>OR</i>	1-3
SPCH-112A1 - A3	Argumentation and Debate Workshop	(1-3)
		7-9

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	J2EE and EJB	4
CS-178	XML	3
		15

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 <i>AND</i>	2
TD-142B	Intermediate Jazz Dance <i>AND</i>	2
TD-142C	Advanced Jazz Dance <i>OR</i>	2
TD-142B	Intermediate Jazz Dance (taken twice) <i>AND</i>	(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 Staff	3
		14

LEADERSHIP COMMUNICATION

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

PD-160	Student Leadership in Higher Education	2
SPCH-101	Introduction to Public Speaking	3
SPCH-102	Critical Thinking/Group Decision Making <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 <i>OR</i>	3
SPCH-105	Intercultural Communication	(3)
SPCH-110A1 - A3	Forensics Workshop <i>OR</i>	2-3
SPCH-112A1 - A3	Argumentation and Debate Workshop	(2-3)
		13-14

LINUX ADMINISTRATION

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-157	TCP/IP and Internetworking	3
		14

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 - 160A2	Production Lab	.5-2
TD-170	Survey of Entertainment Design	3
TD-179	Introduction to Stage Management	3
		15.5-17

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

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

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 <i>AND</i>	2
TD-144B	Intermediate Modern Dance (taken twice) <i>OR</i>	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

Upon completion of a certificate in Multimedia students will have developed an interactive multimedia project that will integrate graphics, text sound, animation, and video for the World Wide Web and CD-ROM.

MM-102A	Multimedia I	4
MM-102B	Multimedia II	4
MM-110	Digital Video	4
GA/ART/BA/CS-160A	Computer Graphics I <i>OR</i>	4
GA/ART/CAOT-161A	Digital Graphics I <i>OR</i>	(2)
ART-139A/CS-169A/ GA-169A	Digital Photography	(2)
		14-16



Photo courtesy of Julie Houle.

MUSIC THEORY: ADVANCED

The Music Department at Ohlone College has developed the Advanced Music Theory Certificate 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-110L	Music Theory and Harmony Performance Attendance Lab	0
MUS-111C	Advanced Musicianship	1
MUS-111D	Advanced Musicianship	1

Choose one pair of courses from the following:

MUS-100	Survey of the Arts <i>AND</i>	3
MUS-100L	Performance Attendance Lab <i>OR</i>	0
MUS-101	Introduction to Music-Western Classical Music <i>AND</i>	(3)
MUS-101L	Performance Attendance Lab <i>OR</i>	(0)
MUS-102	Music Appreciation <i>AND</i>	(3)
MUS-102L	Performance Attendance Lab	(0)
		11

MUSIC THEORY: INTRODUCTORY

The Music Department at Ohlone College has developed the Introductory Music Theory Certificate 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-110A	Music Theory and Harmony	3
MUS-110B	Harmony	3
MUS-110L	Music Theory and Harmony Performance Attendance Lab	0
MUS-111A	Musicianship	1
MUS-111B	Musicianship	1

Choose one pair of courses from the following:

MUS-100	Survey of the Arts <i>AND</i>	3
MUS-100L	Performance Attendance Lab <i>OR</i>	0
MUS-101	Introduction to Music-Western Classical Music <i>AND</i>	(3)
MUS-101L	Performance Attendance Lab <i>OR</i>	(0)
MUS-102	Music Appreciation <i>AND</i>	(3)
MUS-102L	Performance Attendance Lab	(0)
		11

.NET PROGRAMMING I

The Computer Studies certificate in .NET Programming prepares students to develop Windows applications and Web Services and applications. Successful completion of the courses provides students with the foundation for the Microsoft MCS D/MCAD certification.

CAOT-145	Microsoft Visual Basic for Applications	3
CS-104A	Visual Basic.NET Programming <i>OR</i>	4
CS-122	C#.NET Programming	(4)
CS-104B	Advanced Visual Basic.NET Programming	4
CS-178	XML	3
		14

.NET PROGRAMMING II

The Computer Studies certificate in .NET Programming prepares students to develop Windows applications and Web Services and applications. Successful completion of the courses provides students with the foundation for the Microsoft MCS D/MCAD certification.

CS-104C	ASP.NET Programming	4
CS-104D	Web Services for .NET	4
CS-162	XHTML <i>OR</i>	4
CS-175	Script Technology for Web Development <i>OR</i>	(4)
CS-126	Internet Security Programming	(4)
CS-180A	Microsoft Client Operating Systems	2
		14

OFFICE COMPUTER APPLICATIONS

Upon completion of the Office Computer Applications Certificate of Completion 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-109A	Computerized Accounting for Personal Finance <i>OR</i>	1.5
BA-109B	Computerized Accounting for Small Business	(1.5)
CAOT-134A	Beginning Microsoft Access	.5
CAOT-153	Introduction to Internet	1
CAOT-172A	Beginning Word	.5
CAOT-187	PowerPoint Presentations	.5
CAOT-188	Desktop Publishing with QuarkXPress	2
CAOT-193A	Beginning Excel	.5
CAOT-193B	Intermediate Excel	.5
CAOT-194A	MS Office Advanced <i>OR</i>	2
CS-101L	Computer Applications	(2)
		9

OFFICE SUPPORT

Upon completion of the Office Support Certificate of Completion 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-110A, B, or C	Beginning Keyboarding I, II, or III	1
CAOT-172A	Beginning Word	.5
CAOT-172B	Intermediate Word	.5
CAOT-187	PowerPoint Presentations	.5
CAOT-193A	Beginning Excel	.5
		7

ORAL INTERPRETATION

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

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

PAINTING

The Painting Certificate of Completion 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 Completion 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	Paleontology Laboratory	1

Choose one from the following:

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

16-17

PHLEBOTOMY

The Health Sciences 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 NCCT 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	2
AH-111	Medical Terminology	2
AH-117A	Basic Phlebotomy Training	2
AH-117B	Phlebotomy Skills Lab	.5
AH-117C	Advanced Phlebotomy Training	1.5
AH-117D	Phlebotomy Externship	2
		10

PHOTOGRAPHY

The Photography Certificate of Completion signifies that students have acquired skills in fundamental processes of photography including color and design 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-133A	Black and White Photography <i>OR</i>	3
ART-133B	Intermediate Black and White Photography	(3)
ART-134A	Basic Color Photography	3
ART-139A	Digital Photography	2
ART-139B	Intermediate Digital Photography	2
		10



With his parents and Coach Paul Moore looking on, Chris Stage signs his letter of intent to play baseball at Texas A&M, Kingsville. *Photo courtesy of College Relations.*

PHYSICAL SCIENCE

The Certificate 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)
		14-17

PHYSICAL THERAPIST AIDE

To earn this certificate students must be accepted into the PTA program and complete at Ohlone College the following courses, totaling 15 units, with a grade of C or above, or credit in each course.

PTA-102	Pathology	3
PTA-103	Kinesiology I	3
PTA-104	Kinesiology II	3
PTA-105A	Therapeutic Exercise I	3
PTA-106	Orthopedics	2
PTA-107A	Clinical Practicum I	1
		15

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

17

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.

MATH-181	Trigonometry	3
PHS-135	Physical Science	4
PHYS-120	Introduction to Physics I	4
PHYS-121	Introduction to Physics II	4
		15

PIANO PERFORMANCE

The Music Department at Ohlone College has developed the Piano Performance Certificate 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 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

Complete four semesters of the following course:

MUS-160L	Performance Attendance Lab	0
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Complete the following:

MUS-103	Fundamentals of Music	3
		7

Students who passed Fundamentals of Music using credit by exam must select and complete one of the following options as a substitute.

MUS-100	Survey of the Arts <i>AND</i>	3
MUS-100L	Performance Attendance Lab	0
	<i>OR</i>	
MUS-101	Introduction to Music-Western Classical Music <i>AND</i>	(3)
MUS-101L	Performance Attendance Lab	(0)
	<i>OR</i>	
MUS-102	Music Appreciation <i>AND</i>	(3)
MUS-102L	Performance Attendance Lab	(0)
	<i>OR</i>	
MUS-125	History of Rock and Roll: Music and Culture Since the 1970's	(3)

*Students may test out of this course using credit by exam. Credit by exam 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.

REAL ESTATE SALES AGENT

Students may subsequently complete the Certificate of Completion 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 <i>OR</i>	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
		12

REAL ESTATE SALES BROKER ASSOCIATE

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 before completing the Real Estate Sales Broker Certificate of Achievement.

RE-122	Real Estate Practice	3
RE-124	Legal Aspects of Real Estate <i>OR</i>	3
BA-141A	Business Law	(3)
RE-126	Real Estate Finance	3
Choose a minimum of two courses from the following (minimum 6 units):		
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
		15

SCULPTURE

The Sculpture Certificate of Completion 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

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
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

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 - A3	Forensics Workshop <i>OR</i>	1-3
SPCH-112A1 - A3	Argumentation and Debate Workshop	(1-3)
Choose two courses from the following:		
SPCH-102	Critical Thinking/Group Decision Making <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-122	Family Communication	3
SPCH/TD-130	Oral Interpretation of Literature	3
SPCH/TD-132	Voice and Diction	3
		10-12

SQL DATABASE ADMINISTRATOR

The skills learned in this program are for individuals who derive physical database designs, develop logical data models, create physical databases, configure and manage security, monitor and optimize databases, and install and configure SQL Server.

CNET-162A	Microsoft Server Operating Systems	2
CNET-162B	Windows Network Infrastructure Administration	2
CNET-168A	Network Application Administration II-Database (SQL)	2
CS-104A	Visual Basic.NET Programming	4
CS-104B	Advanced Visual Basic.NET Programming	4
CNET-168B	Designing and Implementing SQL 2000	2
		16

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 - 164	Stagecraft Lab	1-4
TD-170	Survey of Entertainment Design	3
		13-16

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 <i>AND</i>	2
TD-143B	Intermediate Tap <i>AND</i>	2
TD-143C	Advanced Tap Dance <i>OR</i>	2
TD-143B	Intermediate Tap (taken twice) <i>AND</i>	(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.

TD-152	Introduction to Lighting	3
TD-160A-160A2	Production Lab	.5-2
TD-170	Survey of Entertainment Design	3
TD-171	3D Entertainment Design for Lighting	3
TD/BRDC-180	Television Series Production	3
		12.5-14

3D MODELING AND ANIMATION

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

MM-102A	Multimedia I	4
MM-115	3D Animation	3
MM-116	3D Modeling	3
MM-117	Advanced 3D Modeling and Animation	3
		13

VB PROGRAMMING

This certificate prepares students with an introduction to office and Visual Basic.NET programming skills.

CS-101	Introduction to Computers and Information Technology	3
CS-101L	Computer Applications	2
CS-104A	Visual Basic.NET Programming	4
CS-152	Data Communications	2
		11

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 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-103	Fundamentals of Music	3
*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
**MUS-356, 367, 368, or 394	Choral Ensembles	3
		<hr/> 14

*Students may test out of Fundamentals by passing an exam.

**Students must take 3 classes for a total of 3 units.

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
		<hr/> 10

*Take 3 classes for a total of 3 units.

WEB CONTENT

This is the third 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 Content specializes on the user interface aspect of the Web.

CS-162	XHTML	4
CS-178	XML	3
Choose 9-10 units from the following courses:		9-10
MM-102A	Multimedia I	(4)
CS-175	Script Technology for Web Development	(4)
CS-179	Dynamic Web with ColdFusion	(3)
MM-103A	Introduction to Flash: Animation <i>AND</i>	(.5)
MM-103B	Intermediate Flash: Interactivity	(.5)
		<hr/> 16-17

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	Visual Basic.NET Programming	4
CS-104B	Advanced Visual Basic.NET Programming	4
CS-104C	ASP.NET Programming	4
CS-121	Applied Programming in Visual C++	4
CS-122	C#.NET Programming	4
CS-149	PERL Programming	4
CS-170	Java Programming	4
CS-171	Advanced Java Programming	4
CS-172	Servlets and JSP	4
CS-176	CGI Programming with PERL for Web Development	3
		<hr/> 16

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 5-8 units from the following courses:		3-4
CS-104D	Web Services for .NET	(4)
CNET-137	Introduction to SQL Programming	(4)
CNET-157	TCP/IP and Internetworking	(3)
		<hr/> 17-20

WEB PAGE DESIGN

Upon completion of the Web Page Design Certificate students will have developed and designed Web sites.

MM-102A	Multimedia I	4
MM-104	Advanced Interactivity in Flash	3
MM-105	Web Site Design	4
MM-162	XHTML	4
		<hr/> 15

WINDOWS MCSA

Upon completion of this program students will be prepared for Microsoft certifications as an MCSA (Microsoft Certified Systems Administrator). The MCSA credential certifies that students have the skills to successfully implement, manage, and troubleshoot the ongoing needs of Microsoft Windows 2000-based operating environments, including Windows.NET Server. An MCSA candidate should have six to twelve months of experience working with a desktop operating system, a network operating system, and an existing network infrastructure. MCSA candidates are required to pass three core exams and one elective exam. Following are the sequence of Ohlone courses that will prepare students for certification and identify the core and elective Microsoft exams that will lead to certification:

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-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
		<hr/> 8

WINDOWS 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 2003 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-167A	Network Application Administration I-Email (Exchange)	2
CNET-168A	Network Application Administration II-Database (SQL)	2
		<hr/> 12

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 3-semester work-study Certificate of Completion. At the completion of these courses students will be awarded a Certificate of Completion, 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
		<hr/> 7

Second Semester

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

Third Semester

DEAF-145B	Job Seeking Strategies for Deaf Students	3
		<hr/> Total Units: 17



Photo courtesy of College Relations.