Announcement of Course & Course Numbers

COURSES

Credit Courses: Courses numbered 001-399 are graded courses authorized by the Governing Board of Solano Community College. All courses are not offered every year. Courses offered depend on prospective enrollment, the availability of instructors and physical facilities. Prospective students should consult the current Schedule of Classes for information on course offerings for a specific semester.

Noncredit Courses: The courses numbered 500-599 are offered on a noncredit basis. Regular attendance and participation are required. No grades or college credit are issued. Contact the Admissions and Records office or see the Schedule of Classes for current offerings.

CO/PREREQUISITES AND ADVISORIES

It is the intent of Solano Community College to guide students into courses in which they will have the best opportunity for academic success. Therefore, many courses have corequisites, prerequisites or advisories indicated in their descriptions.

Co/Prerequisites: Course corequisites and prerequisites ensure that the student has the minimum level of knowledge and/or skills to be successful in the specific course or program. The skills, concepts, and proficiencies learned in the prerequisite are not taught in the subsequent course. Corequisite and prerequisite information for a course, if any, appears in the "Prerequisite" area of the catalog description. For registration purposes, if a student is currently enrolled in a prerequisite course, that student may enroll in a subsequent course **contingent** on successful completion of the prerequisite. If the student is unsuccessful in the prerequisite, he/she will be **dropped** automatically from the subsequent course.

Corequisite: There are two types of corequisites. The first is a course or equivalent preparation that **must** be taken concurrently with another course. The second is a course or equivalent preparation that may be completed before or taken concurrently with another course. Both types of corequisites are listed as such under "Prerequisites," but the second type is followed by the parenthetical phrase "may be taken concurrently." A student's enrollment in a course with a corequisite is blocked until the requirements of the corequisite are satisfied.

Prerequisite: A course or equivalent preparation that **must** be completed **before** enrolling in another course. A student's enrollment in a course with a prerequisite is blocked until the requirements of the prerequisite are satisfied.

Advisory: A course or equivalent preparation that will broaden or deepen a student's learning experience in a subsequent course. A student's enrollment in a course with an advisory is not blocked for lack of the advisory skills. Advisories are recommendations made to enhance or deepen the student's learning experience in a course. While the advisory skills and proficiencies are not required in order for a student to be successful in the course, advisories should be taken seriously. For specific information, students should consult their counselor or faculty advisor.

Solano Community College has established recommended minimum English and math standards for Associate Degree-level courses across the disciplines to advise students of the levels of writing, reading, and math skills they should have in order to have the most beneficial learning experience. Advisory information for a course appears in the "Course Advisory" area of the catalog description. The recommended **minimum** skill level in English in an Associate Degree-level course (SCC minimum English standard) is eligibility for enrollment in ENGL 310D. The recommended **minimum** skill level in mathematics in an Associate Degree-level course (SCC minimum Math standard) is eligibility for enrollment in elementary algebra (MATH 330).

Verification of a Co/Prerequisite: Students desiring to enroll in a course or program that specifies a co/prerequisite course and who have completed such a course at an institution other than Solano Community College must submit documentation to verify this completion. This documentation (unofficial or official transcript or report card) must be presented to a counselor, faculty advisor, division dean or Office of Admissions and Records.

Announcement of Course & Course Numbers

Challenging a Co/Prerequisite. A student has the right to challenge a course co/prerequisite based on the following grounds: the co/prerequisite has not been established in accordance with the District process for establishing co/prerequisites; the co/prerequisite is either unlawfully discriminatory or is being applied in an unlawfully discriminatory manner; the prerequisite course has not been made "reasonably available" and the required completion of it will cause a delay of one or more terms in attaining the goal specified in the student's authorized Individualized Education Plan (IEP); or the student has the knowledge or ability to succeed in the course or program despite not meeting the co/prerequisite. In the challenge process, **the burden of proof is on the student**. In order to file a challenge, students must submit a "Petition to Challenge a Course Pre/Corequisite," available at the Admissions and Records office. If the challenge is upheld, the student will be allowed to enroll, contingent on the availability of space in the course; if denied, the student will not be allowed to enroll or, if already enrolled, will be dropped automatically from the class. Refer to the form for more detailed information on the requirements and procedures for processing this petition.

COURSE NUMBERING SYSTEM

The following numbering system indicates transferability, credit or noncredit status and other related information. For specific transfer information, students should consult a counselor and refer to the catalog of the prospective transfer institutions.

COURSE NUMBERS

001-049	Qualify for the A.A./A.S. Degree; transfer to the University of California system and the California State Universities.
050-099	Qualify for the A.A./A.S. Degree and transfer to the California State Universities.
100-199	Qualify for the A.A./A.S. Degree but, generally, do not transfer to four-year institutions. Some courses may be used to meet requirements in certain majors at some four-year institutions.
200-299	Vocational, credit courses which DO NOT apply to the A.A./A.S. Degree and do not transfer to four-year institutions.
300-399	Credit courses which DO NOT apply to the A.A./A.S. Degree. Exception: One English course one level below English 001 which may be applied to the Associate Degree as an elective and one elementary algebra course which may be used as an elective. These courses do not transfer to four-year institutions.
400-499	Upper division courses that apply to the B.S. Degree.
500-599	Non-credit courses.
600-799	Community Service courses. These courses are not for credit and usually charge a fee.

Some sequentially-numbered courses continue through two or more semesters and must often be taken in sequence. Check course prerequisites for appropriate course sequence.

The college reserves the right to cancel any class which does not meet the minimum enrollment requirements and whenever there are unexpected staffing or facility situations that cannot be satisfactorily resolved.

Course Identification Numbering System (C-ID)

The Course Identification Numbering System (C-ID) is a statewide numbering system that is different from the course numbers assigned by individual California Community Colleges. A C-ID Designator next to a course means that the course is comparable in content and scope to a similar course offered by participating California colleges and universities. Thus, if a catalog lists a C-ID Designator for a course, students can be assured that the course will be accepted at another California Community College that offers a course with the same C-ID Designator.

The C-ID Numbering System is particularly useful for students attending more than one California Community College since C-ID Designators are often applied to courses students need to prepare for transfer.

Below is the list of Solano Community College courses that currently have a C-ID designator.

Solano Community College		C-ID Designator	Solano Community College		C-ID Designator
ACCOUNTING			**CHILD DEVELOPMENT AND FAMILY STUDIES**		
ACCT 001	Financial Accounting	ACCT 110	CDFS 038	Child Growth	
ACCT 002	Managerial Accounting	ACCT 120		and Development	CDEV 100
			CDFS 050	Child Family and Community	CDEV 110
ANTHROPOLOGY			CDFS 053	Teaching in a Diverse Society	ECE 230
ANTH 001	Introduction to		CDFS 054	Health, Safety and Nutrition	ECE 220
	Biological Anthropology	ANTH 110	CDFS 062	Principles & Practices of	
ANTH 002	Introduction to			Teaching Young Children	ECE 120
	Cultural Anthropology	ANTH 120	CDFS 063	Introduction to Curriculum	ECE 130
ANTH 007	Introduction to Archaeology	ANTH 150	CDFS 064	Observation and Assessment	ECE 200
			CDFS 065	Practicum in Early	
ART				Childhood Education	ECE 210
ART 001	Art History	ARTH 110			
ART 002	Art History	ARTH 120	**CHEMISTRY**		
ART 003A	Arts of Asia	ARTH 130	CHEM 001	General Chemistry	CHEM 110
ART 003B	Arts of Africa, Oceania,		CHEM 001 +	General Chemistry I	
	and the Americas	ARTH 140	CHEM 002	General Chemistry II	CHEM 120S
ART 004	Life Drawing	ARTS 200	CHEM 003	Organic Chemistry for Science	
ART 006	Design Principles in			Majors I, with Lab	CHEM 150
	2-Dimensions	ARTS 100	CHEM 003 +	Organic Chemistry I	
ART 007	Design-Color	ARTS 270	CHEM 004	Organic Chemistry II	CHEM 160S
ART 008	Design Principles in		CHEM 010	Intermediate Chemistry	CHEM 101
	3-Dimensions	ARTS 101	CHEM 011	Basic Organic Chemistry &	
ART 010	Art Appreciation	ARTH 100		BioChemistry	CHEM 102
ART 011	Survey of Modern Art	ARTH 150			
ART 014	Introduction to Drawing	ARTS 110	**COMPUTER INFORMATION SCIENCE**		
ART 015	Intermediate Drawing	ARTS 205	CIS 001	Introduction to Computer	
ART 016	Beginning Painting	ARTS 210		Science	BUS 140
			CIS 020	Assembly Programming	CIS 142
BIOLOGY			CIS 021	Discrete Structures	COMP 152
BIO 002	Cell and Molecular Biology	BIOL 190	CIS 022	Programming Concepts	
BIO 003	Evolution, Ecology &			and Methodology I	COMP 122
	Biodiversity	BIOL 140	CIS 023	Data Structures and	
BIO 004	Human Anatomy with Lab	BIOL 110B		Algorithms	CIS 130
BIO 005	Human Physiology with Lab	BIOL 120B	**CRIMINAL JUSTICE**		
			CJ 001	Introduction to	
BIOTECHNOLOGY				Criminal Justice	AJ 110
BIOT 001	Introductory Biology	BIOT 101X	CJ 002	Concepts of Criminal Law	AJ 120
			CJ 011	Community and the Justice	
BUSINESS				System	AJ 160
BUS 005	Introduction to Business	BUS 110	CJ 051	Criminal Investigation	AJ 140
BUS 018	Legal Environment of Business	BUS 120	CJ 053	Legal Aspects of Evidence	AJ 124
			CJ 056	Juvenile Procedures	AJ 220

Course Identification Numbering System (C-ID)

Solano Community College		C-ID Designator
COMMUNICATION STUDIES		
COMM 001	Public Speaking	COMM 110
COMM 002	Introduction to Persuasion	COMM 190
COMM 006	Argumentation and Debate	COMM 120
COMM 008	Group Communication	COMM 140
COMM 012	Intercultural Communication	COMM 150
COMM 015	Oral Interpretation of Literature	COMM 170
COMM 050	Forensics (Speech & Debate)	COMM 160B
EDUCATION		
EDUC 001 +	Introduction to Elementary	
OCED 090	Classroom Teaching	EDUC 200
ECONOMICS		
ECON 001	Principles of Macroeconomics	ECON 202
ECON 002	Principles of Microeconomics	ECON 201
ENGINEERING		
ENGR 017	Circuit Analysis Lab	ENGR 260L
ENGR 026	Mathematics and Engineering Problem Solving Using Matlab	ENGR 220
ENGLISH		
ENGL 001	College Composition	ENGL 100
ENGL 002	Argumentative Writing and Critical Thinking Through Literature	ENGL 110
ENGL 004	Critical Thinking and Composition: Language in Context	ENGL 105
ENGL 006	Introduction to Creative Writing	ENGL 200
ENGL 030	Survey of American Literature 1	ENGL 130
ENGL 031	Survey of American Literature 2	ENGL 135
ENGL 040	Survey of British Literature 1	ENGL 160
ENGL 041	Survey of British Literature 2	ENGL 165
GEOGRAPHY		
GEOG 001	Introduction to Physical Geography	GEOG 110
GEOG 001L	Physical Geography, Laboratory	GEOG 111
GEOG 002	Introduction to Human Geography	GEOG 120
GEOG 004	World Regional Geography	GEOG 125
GEOG 006	California Geography	GEOG 140
GEOG 010	Introduction to Geographic Information Systems and Techniques, with Lab	GEOG 155
GEOLOGY		
GEOL 001	Physical Geology	GEOL 100

Solano Community College		C-ID Designator
GEOL 002	Physical Geology Laboratory	GEOL 100L
GEOL 005	Geology of California	GEOL 200
GEOL 010	Introduction to Geographic Information Systems and Techniques, with Lab	GEOG 155
HISTORY		
HIST 002	World History to 1500	HIST 150
HIST 003	World History since 1500	HIST 160
HIST 004	Western Civilization I	HIST 170
HIST 005	Western Civilization II	HIST 180
HIST 017	United States History to 1877	HIST 130
HIST 018	United States History from 1865	HIST 140
JOURNALISM		
JOUR 001	Introduction to Reporting and Newswriting	JOUR 110
JOUR 011	Introduction to Mass Communications	JOUR 100
JOUR 060	Lower Division Student Media Practicum I	JOUR 130
JOUR 061	Lower Division Student Media Practicum II	JOUR 131
KINESIOLOGY		
KINE 020A	Introduction to Kinesiology	KIN 100
KINE 020S	First Aid and CPR	KIN 101
MATHEMATICS		
MATH 011	Introduction to Statistics	MATH 110
MATH 020	Single Variable Calculus I Early Transcendentals	MATH 210
MATH 021	Single Variable Calculus II Early Transcendentals	MATH 220
MATH 022	Analytic Geometry and Calculus III	MATH 230
MATH 023	Ordinary Differential Equations	MATH 240
MATH 040	Introduction to Linear Algebra	MATH 250
MUSIC		
MUSC 001	Music Theory I	MUS 120
MUSC 001	Musicianship I	MUS 125
MUSC 002	Music Theory II	MUS 130
MUSC 002	Musicianship II	MUS 135
MUSC 003	Music Theory III	MUS 140
MUSC 003	Musicianship III	MUS 145
MUSC 004	Music Theory IV	MUS 150
MUSC 004	Musicianship IV	MUS 155
MUSC 005	Music Fundamentals	MUS 110
MUSC 008	Music Appreciation	MUS 100
MUSC 009	Large Ensemble	MUS 180
MUSC 010	Large Ensemble	MUS 180
MUSC 011	Symphonic Band	MUS 180

Course Identification Numbering System (C-ID)

Solano Community College		C-ID Designator
MUSC 014	Large Ensemble	MUS 180
MUSC 015	Large Ensemble	MUS 180
MUSC 016	Large Ensemble	MUS 180
MUSC 017	Large Ensemble	MUS 180
MUSC 020	Large Ensemble	MUS 180
MUSC 021	Chorus	MUS 180
MUSC 024	Large Ensemble	MUS 180
MUSC 025	Large Ensemble	MUS 180
MUSC 026	Large Ensemble	MUS 180
MUSC 040A	Applied Music	MUS 160
MUSC 040B	Applied Music	MUS 160
MUSC 040C	Applied Music	MUS 160
MUSC 040D	Applied Music	MUS 160

NUTRITION

NUTR 010	Introduction to Nutrition Science	NUTR 110

PHOTOGRAPHY

PHOT 056	Photojournalism and Documentary Photography	JOUR 160

PHYSICS

PHYS 002	General Physics (Non-Calculus)	PHYS 105
PHYS 004	General Physics (Non-Calculus)	PHYS 110
PHYS 006	Physics for Science and Engineering: A	PHYS 205
PHYS 007	Physics for Science and Engineering: B	PHYS 210
PHYS 008	Physics for Science and Engineering: C	PHYS 215

POLITICAL SCIENCE

PLSC 001	Introduction to American Government and Politics	POLS 110
PLSC 002	Introduction to Comparative Government and Politics	POLS 130
PLSC 003	Introduction to International Politics	POLS 140
PLSC 004	Introduction to Political Science	POLS 150
PLSC 006	Introduction to Political Theory	POLS 120

PSYCHOLOGY

PSYC 001	Introductory Psychology	PSY 110
PSYC 002	Biological Psychology	PSY 150
PSYC 004	Research Methods in Behavioral Science	PSY 200
PSYC 005	Abnormal Psychology	PSY 120
PSYC 006	Developmental Psychology	PSY 180

Solano Community College		C-ID Designator
PSYC 012	Introduction to Gender	SOCI 140
PSYC 030	Introduction to Social Psychology	PSY 170

SOCIOLOGY

SOC 001	Introduction to Sociology	SOCI 110
SOC 002	Social Problems	SOCI 115

SOCIAL JUSTICE STUDIES

SJS 001	Introduction to Social Justice	SJS 110
SJS 002	Introduction to Race and Ethnicity	SOCI 150

SPANISH

SPAN 001	First Semester Spanish	SPAN 100
SPAN 002	Second Semester Spanish	SPAN 110
SPAN 003	Third Semester Spanish	SPAN 200
SPAN 004	Fourth Semester Spanish	SPAN 210

THEATRE ARTS

THEA 001	Acting I	THTR 151
THEA 002	Acting II	THTR 152
THEA 003	Stagecraft	THTR 171
THEA 006	Introduction to Theatre	THTR 111
THEA 008	Stage Makeup	THTR 175
THEA 009	Script Analysis	THTR 114
THEA 020	Introduction to Stage Lighting	THTR 173
THEA 021	Introduction to Theatre Design	THTR 172
THEA 024A	Rehearsal and Performance in Production – Comedy	THTR 191
THEA 024B	Rehearsal and Performance in Production – Drama	THTR 191
THEA 024C	Rehearsal and Performance in Production – Classical	THTR 191
THEA 024D	Rehearsal and Performance in Production – Musical	THTR 191
THEA 032A	Fundamentals of Costume Design	THTR 174
THEA 032C	Fundamentals of Costume Design – Classical	THTR 174
THEA 032D	Fundamentals of Costume Design – Musical	THTR 174
THEA 047A	Technical Theatre in Production – Comedy	THTR 192
THEA 047B	Technical Theatre in Production – Drama	THTR 192
THEA 047C	Technical Theatre in Production – Classical	THTR 192
THEA 047D	Technical Theatre in Production – Musical	THTR 192

NOTE: This list will change periodically.
Consult a counselor or visit http://www.c-id.net or http://www.assist.org
for the most current list of Solano Community College courses with C-ID agreement.

P.A.C.E.

PATHWAYS FOR ACADEMIC AND CAREER EXCELLENCE

WHAT IS P.A.C.E.?

Navigating a college catalog can be frustrating if you don't know what you are looking for.

◆ P.A.C.E. empowers the exploration of Solano College's nearly 130 certificates and degrees according to your career goals!

◆ P.A.C.E. provides easy-to-understand questions to guide you to the program that is right for you!

◆ P.A.C.E. allows for meaningful exploration of program choices while making sure you take the courses you need, even if you change programs!

◆ P.A.C.E. includes our Associate Degrees for Transfer which guarantee admission to the California State University System, and which prepare students for transfer to four-year institutions, including the University of California. P.A.C.E. provides easy-to-reference recommended course sequences, so you know which courses you need now to complete your degree at Solano College!

GET STARTED NOW, AND SET YOUR P.A.C.E. TODAY AT SOLANO COMMUNITY COLLEGE!

SOLANO COLLEGE
GUIDED PATHWAYS

SOLANO
COMMUNITY COLLEGE

P.A.C.E.
PATHWAYS FOR ACADEMIC AND CAREER EXCELLENCE

SET YOUR PACE AT SOLANO!

BUSINESS AND MANAGEMENT

- Do you want to lead or manage? Enjoy numbers and details? Like detail tasks?
- Programs include: Accounting, Business, Marketing, Web Development, and more!

EDUCATION, BEHAVIORAL SCIENCE, AND THE SOCIAL WORLD

- Do you question and explore physical, biological, or cultural happenings?
- Programs include: Anthropology, Criminal Justice, History, Psychology, and more!

HEALTH AND HUMAN SERVICES

- Do you want to help, teach, counsel, or cure people?
- Programs include: EMT and Fire Technology; Human Services, Nursing, Social Justice, Sports Medicine, and more!

INDUSTRIAL AND APPLIED TECHNOLOGY

- Do you want to work hands-on with objects, machines, tools, plants, or animals? Looking for vocational training?
- Programs include: Airframe and Powerplant Maintenance, Automotive, Drafting, Mechatronics, Theater Technician, Welding, and more!

SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS

- Do you desire to observe, evaluate, and analyze? Interested in math and/or thinking analytically to solve complex problems?
- Programs include: Astronomy, Biology, Biotechnology/Biomanufacturing, Horticulture, Mathematics, Physics, and more!

VISUAL, PERFORMANCE, AND LANGUAGE ARTS

- Do you express yourself creatively? Do you like to enlighten, help, or teach?
- Programs include: American Sign Language and Foreign Languages, Art and Graphic Design, Communications and Sports Broadcasting, English, Music, Theater, and more!

SOLANO COLLEGE GUIDED PATHWAYS

SOLANO COMMUNITY COLLEGE

BUSINESS AND MANAGEMENT

A PATHWAY FOR ACADEMIC AND CAREER EXCELLENCE (P.A.C.E.) AT SOLANO COMMUNITY COLLEGE

ARE YOU THE KIND OF PERSON WHO…

- …desires to influence, lead or manage to reach your personal or organizational goals and/or economic gain?
- …enjoys facts, numbers, and details?
- …likes to carry out tasks in detail or to follow through on others' instructions?
- …is interested in learning about how to turn your ideas into a sustainable business?

EXPLORE OUR PROGRAMS

- Account Clerk
- Accounting
- Administrative Assistant
- Business*
- Business Insurance: Property and Casualty
- Computer Applications Specialist
- Computer Programming
- Cosmetology
- Database Specialist
- Economics*
- Insurance Specialist
- Management
- Marketing

- Medical Front Office Clerk
- Medical Office and Coding Specialist
- Microcomputer Applications
- Microsoft Office Master
- Microsoft Office Specialist
- Real Estate
- Retail Management
- Small Business Management
- Soft Skills for Technicians
- Web Developer
- Web Development and Administration
- Web Programmer

*an asterisk indicates a program with a recommended course sequence

SOLANO COLLEGE
GUIDED PATHWAYS

SOLANO
COMMUNITY COLLEGE

EDUCATION, BEHAVIORAL SCIENCE, AND THE SOCIAL WORLD

A PATHWAY FOR ACADEMIC AND CAREER EXCELLENCE (P.A.C.E.) AT SOLANO COMMUNITY COLLEGE

ARE YOU THE KIND OF PERSON WHO...

- ...desires to question and explore physical, biological, or cultural happenings?
- ...enjoys using your skills with words to serve people?
- ...likes to observe, learn, analyze, evaluate, or solve problems?
- ...is interested in how social systems and society works?

EXPLORE OUR PROGRAMS

- Anthropology, Sociocultural*
- Archaeology
- Art History*
- Associate Teacher (CDFS)
- Computer Forensics (Criminal Justice)
- Corrections
- Criminal Justice*
- Early Childhood Education (CDFS)*
- Geography*
- History*
- Law Enforcement

- Liberal Studies for Education
- Political Science*
- Psychology*
- Social Justice*
- Sociology*

*an asterisk indicates a program with a recommended course sequence

SOLANO COLLEGE GUIDED PATHWAYS

SOLANO COMMUNITY COLLEGE

HEALTH AND HUMAN SERVICES

A PATHWAY FOR ACADEMIC AND CAREER EXCELLENCE (P.A.C.E.) AT SOLANO COMMUNITY COLLEGE

ARE YOU THE KIND OF PERSON WHO...

- ...desires to inform, enlighten, help, teach, counsel, or cure people?
- ...enjoys using your skills to serve people?
- ...likes to work hands-on with objects, machines, and tools and/or use your physical or athletic abilities?
- ...is interested in working in a medical environment?

EXPLORE OUR PROGRAMS

- Administrative Assistant
- Administration of Justice
- ASL-Interpreter Training (ASL)
- Associate Teacher (CDFS)
- Certified Nursing Assistant
- Corrections
- Criminal Justice*
- Dance
- Early Childhood Education (CDFS)
- Emergency Medical Technician I
- General Science* (Great for Pre-Nursing)
- Fire Technology

- Fitness Professional
- Human Services
- Kinesiology*
- Law Enforcement
- Medical Front Office Clerk
- Medical Office and Coding Specialist
- Nursing, Registered
- Nutrition and Dietetics
- Psychology*
- Social Justice*
- Sports Medicine/Fitness Science
- Wellness and Self-Development

*an asterisk indicates a program with a recommended course sequence

SOLANO COLLEGE GUIDED PATHWAYS

SOLANO COMMUNITY COLLEGE

INDUSTRIAL AND APPLIED TECHNOLOGY

A PATHWAY FOR ACADEMIC AND CAREER EXCELLENCE (P.A.C.E.) AT SOLANO COMMUNITY COLLEGE

ARE YOU THE KIND OF PERSON WHO...

- ...desires to work hands-on with objects, machines, tools, plants, or animals?
- ...enjoys work and play outside, including use your physical or athletic abilities?
- ...likes to follow directions to organize, plan, and complete a project or task?
- ...is interested in attaining employment as soon as possible?

EXPLORE OUR PROGRAMS

- Airframe and Powerplant Maintenance Technician
- Airframe Maintenance Technician
- Automotive Technician
- Automotive Transmissions and Transaxles
- Biomanufacturing
- Biotechnology
- Corrections
- Cosmetology
- Costuming
- Drafting and Design Technician
- Electrical and Body Systems
- Emergency Medical Technician

- Fire Technology
- Industrial Technician (Welding)
- Landscape Worker
- Law Enforcement
- Maintenance and Light Repair (Automotive)
- Mechatronics
- Powerplant Maintenance Technician
- Survey and Civil Drafting Technician
- Technician (Welding)
- Technical Theater
- Water and Wastewater Technology
- Welding Technician

*an asterisk indicates a program with a recommended course sequence

SOLANO COLLEGE
GUIDED PATHWAYS

SOLANO
COMMUNITY COLLEGE

SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS

A PATHWAY FOR ACADEMIC AND CAREER EXCELLENCE (P.A.C.E.) AT SOLANO COMMUNITY COLLEGE

ARE YOU THE KIND OF PERSON WHO...

- ...desires to observe, learn, analyze, evaluate, or solve problems?
- ...enjoys to question and explore physical or biological happenings?
- ...likes to work hands-on with objects, machines, tools, plants, or animals?
- ...is interested in math and/or thinking analytically to solve complex problems?

EXPLORE OUR PROGRAMS

- Anthropology, Evolutionary*
- Astronomy
- Biology*
- Biomanufacturing
- Biotechnology Laboratory Asst
- Chemistry*
- Computer Forensics (Criminal Justice)
- Computer Programming
- Drafting and Design Technician
- Engineering
- General Science* (Great for Pre-Nursing)
- Geography*

- Horticulture and Plant Science
- Industrial Biotechnology
- Kinesiology*
- Mathematics*
- Mechatronics
- Microcomputer Applications
- Nursing
- Physical Science
- Physics*
- Sports Medicine/Fitness Science
- Survey and Civil Drafting Technician
- Water and Wastewater Technology

*an asterisk indicates a program with a recommended course sequence

SOLANO COLLEGE GUIDED PATHWAYS

SOLANO COMMUNITY COLLEGE

VISUAL, PERFORMANCE, AND LANGUAGE ARTS

A PATHWAY FOR ACADEMIC AND CAREER EXCELLENCE (P.A.C.E.) AT SOLANO COMMUNITY COLLEGE

ARE YOU THE KIND OF PERSON WHO...

- ...desires to express yourself creatively and using imagination or intuition?
- ...enjoys feeling free to be inventive without limits?
- ...likes to inform, enlighten, help, or teach, using your skills with words and physicality to serve people?
- ...is interested in self-expression and thinking critically on the world in which we live?

EXPLORE OUR PROGRAMS

- ASL-Interpreter Training (ASL)
- Art History*
- Dance
- Graphic Design and Illustration
- Studio Arts*
- English*
- Sports Broadcasting
- Foreign Language
- Communication Studies*
- Instrumental (Music)
- Spanish*

- French*
- Film and Television
- Journalism
- Music*
- Photography
- Theater Arts*
- Theory-Composition (Music)
- Vocal (Music)

*an asterisk indicates a program with a recommended course sequence

SOLANO COLLEGE
GUIDED PATHWAYS

SOLANO
COMMUNITY COLLEGE

RESOURCES

Looking for how to apply to Solano Community College?

- See page # for more information

Feeling lost or overwhelmed? Need help getting started? Make an appointment with one of our Counselors!

- Visit us in person, or call to make an appointment!
- Main Campus (Fairfield): Building 400, Room 404; or call (707) 864-7101
- Vacaville Center: Check-in at the front desk; or call (707) 863-7836
- Vallejo Center: Check-in at the front desk; or call (707) 642-8188
- Travis AFB: Visit 530 Hickam Avenue, Building 249, C-BAY; or call (707) 863-7878
- More information, and online booking is available at **solano.edu/counseling**

Need help with our application process? Reach out to our admissions staff!

- Visit, call, or email, so we can answer all of your questions.
- Admissions is located on the first floor of Building 400 of the Main Campus (Fairfield)
- Or, call at (707) 646-2053 or email at **admissions@solano.edu**

Visit our Career Center to learn more about your career choices!

- Visit in-person at Building 400, Room 403, of the Main Campus (Fairfield)
- Or, call at (707) 864-7124 or email at **CareerCenter@solano.edu**

Our Disability Services Program is here to help you!

- Visit in-person at Building 400, Room 404, of the Main Campus (Fairfield)
- Or, call at (707) 864-7136

Are you a Veteran? Contact our Veterans Affairs Center (VAC)

- Visit in-person at Building 2700, Room 2750 of the Main Campus (Fairfield)
- Or, call at (707) 864-7105 or email at **Veterans@solano.edu**

SOLANO COLLEGE
GUIDED PATHWAYS

SOLANO
COMMUNITY COLLEGE

Accounting

Accounting

Program Description
In recent years, accounting has been one of the fastest growing professions, and the monetary rewards for the individual just entering the field and those achieving corporate positions are among the highest. Accountants deal with the financial condition of a company, an individual, or an organization. An accountant is an analyst who is employed because of expertise in financial matters.

Certificate of Achievement and Associate in Science Degree
A Certificate of Achievement can be obtained upon completion of the 29-unit major with a minimum grade of C in each course. The Associate in Science Degree can be obtained by completing a total of 60 units, including the required courses in the major, general education requirements, and electives. All courses in the major must be completed with a minimum grade of C or a P if the course is taken on a Pass/No Pass basis.

Program Outcomes
Students who earn the Accounting Associate Degree or transfer with a focus on accounting will be able to:
1. Demonstrate the use of the accounting cycle to prepare the income statement, statement of owner's equity, and balance sheet while applying the generally accepted accounting principles and concepts.
2. Analyze and evaluate managerial decisions using basic managerial accounting concepts and theory.

Students who earn the Accounting Certificate will be able to:
1. Demonstrate the use of the accounting cycle to prepare the income statement, statement of owner's equity, and balance sheet while applying the generally accepted accounting principles and concepts.

REQUIRED COURSES...**Units**
ACCT 001 Principles of Accounting - Financial 4
ACCT 002 Principles of Accounting - Managerial 4
ACCT 050 Computer Accounting...................................... 3
ACCT 176 Intermediate Accounting 3
ACCT 177 Cost Accounting 3
ACCT 183 Principles of Income Tax 3

CIS 001 Introduction to Computer Science 3
or
CIS 050 Microcomputer Applications 3

CIS 066 Microsoft Word... 3
CIS 073 Microsoft Excel... 3
   Required Major Total units.. 29

CSU General Education or IGETC Pattern units....37-39
Total Degree Units CSU GE or IGETC 66-68

Solano General Education.. 21
Electives (as needed to reach 60 units)........................... 10
   Total Degree Units Solano GE.................................... 60

* 0 units may be double counted toward both the major area of emphasis and CSU General Education or IGETC Pattern. Consult with a counselor for more information on completing this degree.

This is a Gainful Employment Program. For additional information, please visit ***http://www.solano.edu/gainful_employment/*** *and select* "Accounting."

Account Clerk Job-Direct Low Unit Certificate
All courses in the major must be completed with a minimum grade of C.

REQUIRED COURSES...**Units**
ACCT 001 Principals of Accounting-Financial 4
BUS 100 Work Readiness 1.5
CIS 073 Microsoft Excel.. 3
OT 162 Ten-Key 1
   Total units... 9.5

Accounting

ACCT 001   Principles of Accounting - Financial   4.0 Units
Course Advisory: Eligible for ENGL 001 and MATH 330.
Transferable to UC/CSU
Hours: 64-72 lecture.
A study and analysis of accounting as an information system, its importance and use by external users such as investors, creditors, and others making decisions. The course covers the accounting cycle, application of the generally accepted accounting principles, financial reporting, and statement analysis, including issues relating to the valuation of assets, liabilities, and equity, the recognition of revenue and expenses, cash flow, internal controls, ethics, and International Financial Reporting Standards. *(C-ID ACCT 110)*

ACCT 002   4.0 Units
Principles of Accounting - Managerial
Prerequisite: ACCT 001 with a minimum grade of C.
Course Advisory: Working knowledge of Excel.
Transferable to UC/CSU
Hours: 64-72 lecture.
A study and analysis of how managers use accounting information in decision-making, planning, directing operations, and controlling, to include the following: terms and concepts; job order cost accounting; process cost accounting; departmental accounting; product analysis; pricing decisions; flexible budgeting; standard cost analysis; cost-volume-profit analysis; preparation of operational, capital and financial budgets; and analysis of financial reporting in manufacturing and service environments. *(C-ID ACCT 120)*

ACCT 050   Computer Accounting   3.0 Units
Prerequisite: ACCT 001.
Transferable to CSU
Hours: 48-54 lecture.
A hands-on course covering a complete computerized accounting system. Topics include a review of basic accounting concepts, preparation of business reports and graphs, and the creation of an accounting system for a company.

ACCT 176   Intermediate Accounting   3.0 Units
Prerequisite: ACCT 001 with a minimum grade of C.
Course Advisory: Working knowledge of Excel.
Hours: 48-54 lecture.
Accounting theory as applied to common issues faced by accountants in today's businesses. Lecture, group-study, and computer-based study emphasize the conceptual framework, the four major financial statements, footnotes, and present-value concepts. The class helps prepare the student for an entry-level position in a professional accounting career.

ACCT 177   Cost Accounting   3.0 Units
Prerequisite: ACCT 002 with a minimum grade of C.
Hours: 48-54 lecture.
A comprehensive study and analysis of manufacturing costs as they apply to planning, controlling, and determining unit costs, inventory valuation, and income.

ACCT 180   Introduction To Accounting   3.0 Units
Course Advisory: SCC minimum English and Math standards.
Hours: 48-54 lecture.
A study and analysis of the accounting cycle for a merchandising business and professional enterprises, payroll accounting, accruals and deferrals, accounting systems, error correction, and financial reporting.

ACCT 183   Principles Of Income Tax   3.0 Units
Course Advisory: SCC minimum English and Math standards.
Hours: 48-54 lecture
A comprehensive study and analysis of the principles of federal income tax applied to individual, partnership, informational, and corporate tax returns.

Advanced Manufacturing

Mechatronics

Program Description
Mechatronics is the study of electronics, mechanics, electrical, and computers to produce a well-rounded technician capable of handling the complex maintenance and operations tasks demanded by modern manufacturing, transportation, communication, and other industries. The modularization of electro-mechanical devices no longer requires in-depth specialization of a single field of study as more emphasis is placed on troubleshooting and replacement skills for maintenance and generalized knowledge of how systems work together for operations and purchasing and planning.

Individuals with well-rounded knowledge of how electronic, mechanical, electrical, and computer systems work are in high demand in the grouping manufacturing, transportation, communication, and other industries in and around Solano County. Workers in these industries have traditionally been trained in only one of the trades, becoming specialists. The new trend is to train generalists with basic knowledge of all aspects of the industry. The modularization of electro-mechanical devices no longer requires in-depth specialization of a single field of study as more emphasis is placed on troubleshooting and replacement skills for maintenance and generalized knowledge of how systems work together for operations and purchasing and planning.

Opportunities exist throughout the greater San Francisco Bay area to the Sacramento Valley. Companies are using high tech equipment and systems automation for everything from maintenance to manufacturing to services to research and development. Work may be with a private firm, business under government contract, or civil service. Workers may work in one of the highly automated factories in the area or be called upon to provide services at businesses, hospitals, or even homes. Some graduates with a degree or certificate can expect to earn a starting salary in excess of $2000 per month. Extensive experience and further education may more than double this amount.

Certificate of Achievement and Associate in Science Degree
A Certificate of Achievement can be obtained upon completion of the 39-40-unit major. The Associate in Science Degree can be obtained by completing the 39-40-unit major, and general education requirements.

Program Outcomes
Students who complete the Mechatronics Certificate of Achievement/Associate Degree will be able to:
1. Demonstrate ability to work in a team to solve problems, exhibit key occupational soft skills (on-time, attendance, appropriate use of technology, professional communication) and promote a professional attitude.
2. Demonstrate safe work habits around mechanical and electrical industrial equipment.
3. Troubleshoot and solve basic problems involving electrical wiring, connections, and distribution at both the component level (0-24 V) and at the industrial level (100-400 V).
4. Troubleshoot and solve basic problems involving mechanical and fluid power systems.
5. Demonstrate proficiency in relating and integrating math and science concepts with basic systems found in industry.
6. Demonstrate proficiency in integrating computer use with industrial machinery and control systems.

REQUIRED COURSES .... **Units**
CIS 001 Introduction to Computer Science 3
IT 101 Introduction to Mechatronics 3
IT 151 Vocational Mathematics 3
MT 120 Principles of Analog Electronics 3
MT 122 Principles of Digital Electronics 3
MT 130 Principles of Mechanical Power Systems 3
MT 132 Principles of Fluid Power Systems 3
MT 140 Principles of Industrial Electrical Systems 3
MT 142 Principles of Electrical Machinery 3
MT 162 Robotic Manufacturing Systems 3
MT 164 Programmable Logic Controllers 3
6 -7 units from List A 6-7
Required Major Total Units 39-40

List A: (select 6-7 units) .... **Units**
DRFT 045 Introduction to Computer-Aided
     Drafting (CAD) 4
DRFT 050 Basic Drafting 1.5
DRFT 079 Blueprint Reading 3
DRFT 151 3D Modeling with Fusion 360 .... 1.5
IT 050 Alternative Energy Technologies 3
IT 120 Electrical Safety 3
IT 140 Industrial Materials 3
IT 174 Making Things 4 – Basic Electronics 1
OCED 070 Occupational Soft Skills 1.5
OCED 090 Occupational Work Experience 1-6

Solano General Education 21
Electives (as needed to reach 60 units) 0
Total Degree Units Solano GE 60-61

This is a Gainful Employment Program. For additional information, please visit
http://www.solano.edu/gainful_employment/ and select "Mechatronics."

Advanced Manufacturing

Industrial Technology

IT 050   Alternative Energy Technologies   3.0 Units
Course Advisory: SCC minimum English and Math standards.
Transferable to CSU
Hours: 48-54 lecture.
Introduces the topics of power generation, transmission, and consumption of both conventional and alternative energy sources. Students will be exposed to an in-depth analysis of the design and use of fossil fuel based systems and then compare those systems to alternatives. Energy use in transportation, industrial, commercial, and residential applications will be examined.

IT 101   Introduction to Mechatronics   3.0 Units
Course Advisory: SCC minimum English and Math standards.
Hours: 32-36 lecture, 48-54 lab.
Provides an understanding of how mechatronic technology in our lives works using only basic science and math concepts. This course explores basic mechatronic systems commonly found in industry and focuses on their principles of operation, histories, and relationships to one another. Topics will include an exploration of and science behind basic mechanics, fluid power, electrical power, and control systems. Students will learn about these mechatronic technologies through lecture, classroom discussion, and laboratory experiments and projects.

IT 110   Modern Welding   3.0 Units
Course Advisory: SCC minimum English standard.
Hours: 32-36 lecture, 48-54 lab.
Acquaints the student with MIG and TIG welding methods and knowledge necessary to weld in all positions utilizing the mild steel, low hydrogen electrodes, metal inert gas and tungsten inert gas techniques.

IT 111   Modern Welding   3.0 Units
Prerequisite: IT 110.
Hours: 32-36 lecture, 48-54 lab.
Aquaints the student with MIG and TIG welding methods and knowledge necessary to weld in all positions utilizing the mild steel, low hydrogen electrodes, metal inert gas and tungsten inert gas techniques.

IT 120   Electrical Safety   1.0 to 3.0 Units
Course Advisory: SCC minimum English and Math standards.
Hours: 16-54 lecture.
A survey of the proper use, handling, and hazards associated with electrical and electronic equipment. The student will be introduced to the current generally accepted (National Electrical Safety Code) safety practices and procedures associated with power transmission, industrial, and consumer electrical and electronic equipment. This is an Open Entry/Open Exit course. Students may take this course up to the maximum number of units over multiple semesters.

IT 130   Fundamentals of Wire Cabling   1.0 Unit
Course Advisory: SCC minimum English and Math standards.
Hours: 16-18 lecture, 16-18 lab.
Presents the principles and practices of copper cable wiring technology. Includes instruction in the design, installation, and maintenance of copper wiring systems for intelligent control systems, lighting and appliance control devices, communication, and networking. Also includes instruction in household and institutional power wiring.

IT 132   Fundamentals of Fiber Optics   1.0 Unit
Course Advisory: SCC minimum English and Math standards.
Hours: 16-18 lecture, 16-18 lab.
Presents the principles and practices of fiber optics and optoelectronic technology. Includes instruction in the design, installation, and maintenance of fiber optic cabling and control systems and optoelectronic control systems for computer communication and networking systems.

IT 134   1.0 Unit
Fundamentals of Wireless Communication
Course Advisory: SCC minimum English and Math standards.
Hours: 16-18 lecture, 16-18 lab.
Presents the principles and practices of wireless communication technology. Includes instruction in the design, installation, and maintenance of wireless communication and network systems. Emphasis is placed on system reliability, security, and cost containment concerns.

IT 140   Industrial Materials   3.0 Units
Course Advisory: SCC minimum English standard.
Hours: 32-36 lecture, 48-54 lab.
A broad overview of the characteristics and comparative qualities of naturally occurring, alloyed and man-made materials used in industry. Testing and practical use of materials are required.

Advanced Manufacturing

IT 151   Vocational Mathematics   3.0 Units
Course Advisory: SCC minimum English and Math standards.
Hours: 48-54 lecture.
Focuses on mathematical functions, plane and solid geometry, measurement systems, algebra, and trigonometry applied to specific vocational areas.

IT 171   Making Things 1 - 3D Technology   1.0 Unit
Course Advisory: SCC minimum English and Math standards.
Hours: 16-18 lecture, 8-9 lab.
A hands-on course using 3-Dimensional Computer Aided Drafting (CAD) tools to create objects with a 3D printer and Computer Numeric Controlled (CNC) machine. Students will gain a basic understanding of design to product workflow as well as the basics of 3D printing and CNC machines, including applications and use in industry.

IT 172   Making Things 2 - 2D Technology   1.0 Unit
Course Advisory: SCC minimum English and Math standards.
Hours: 16-18 lecture, 8-9 lab.
A hands-on course using 2-Dimensional Computer Aided Drafting (CAD) tools to create objects with a laser cutter and vinyl cutter. Students will gain a basic understanding of safety, design, and project workflow as well as the basics of each machine's uses in industry.

IT 173   Making Things 3 - Tool Use and Safety   1.0 Unit
Course Advisory: SCC minimum English and Math standards.
Hours: 16-18 lecture, 8-9 lab.
Introduction to Maker Space terminology and safety standards for hand and power tools in a laboratory setting. Students learn proper usage and applications of common hand and power tools pertinent to Maker Space laboratory and some industrial settings.

IT 174   Making Things 4 - Basic Electronics   1.0 Unit
Course Advisory: SCC minimum English and Math standards.
Hours: 16-18 lecture, 8-9 lab.
A hands-on introduction to basic electronics and microcontrollers used in a Maker Space environment. Students will learn basic soldering techniques, electronic terminology and circuitry, and simple programming of devices such as Arduino and Raspberry Pi.

IT 175   Maker Space Technology Lab   3.0 Units
Prerequisite: A minimum grade of C in IT 171, IT 172, IT 173, and IT 174;
*   DRFT 045 or DRFT 145 with a minimum grade of C or may be taken*
*   concurrently; DRFT 058 or DRFT 151 with a minimum grade of C or*
*   may be taken concurrently.*
Hours: 16-18 lecture, 96-108 lab.
The full range use of Maker Space equipment to create and design projects in the Maker Space laboratory. An emphasis will be given to multiple tooled projects (3D printing and electronics or laser cutting and woodworking, for example). Students will create designs using instructor-given parameters, plan projects and analyze results.

Advanced Manufacturing

Maintenance Technology

MT 120   Principles of Analog Electronics   3.0 Units
Course Advisory: SCC minimum English and Math standards.
Hours: 32-36 lecture, 48-54 lab.
Introduces the topic of analog electronics as it applies to mechatronics. Studies include an introduction to DC and AC circuitry as well as advanced electronic components, instruments used in the operation, installation, and troubleshooting of electronic systems, schematic diagrams, and breadboarding. Students will construct several kits as part of the class.

MT 121   Electronics   4.0 Units
Course Advisory: SCC minimum English and Math standards.
Hours: 40-45 lecture, 72-81 lab.
Introduces the topics of analog and digital electronics. Studies include an introduction to DC and AC circuitry as well as specific analog and digital electronic components, circuits, and instruments used in the operation, installation, and troubleshooting of electronic systems.

MT 122   Principles of Digital Electronics   3.0 Units
Course Advisory: SCC minimum English and Math standards.
Hours: 32-36 lecture, 48-54 lab.
Introduces the topic of digital electronics as it applies to mechatronics. Studies include an introduction to digital numbering systems, digital codes and logic, registers, memories, Boolean Algebra, and integrated circuits as well as advanced topics in computerized control systems. Students will construct several kits as part of the class.

MT 130   3.0 Units
Principles of Mechanical Power Systems
Course Advisory: SCC minimum English and Math standards.
Hours: 32-36 lecture, 48-54 lab.
Introduces the topic of mechanical power systems and mechanical power transmission as it applies to mechatronics. Studies include mechanical theory, mechanical power, thermal systems, hand tools, precision measuring instruments, and mathematics applied to mechanical power systems. Includes studies in manufacturing technology using modern manufacturing equipment and software simulators.

MT 132   Principles of Fluid Power Systems   3.0 Units
Course Advisory: SCC minimum English and Math standards.
Hours: 32-36 lecture, 48-54 lab.
Introduces the topic of hydraulic and pneumatic systems as they apply to mechatronics. Studies include fluid power systems theory, pumps, actuators, accumulators, filters, meters, valves, control devices, and mathematics applied to fluid power systems. Includes studies in manufacturing technology using modern manufacturing equipment and software simulators.

MT 140   3.0 Units
Principles of Industrial Electrical Systems
Course Advisory: SCC minimum English and Math standards.
Hours: 32-36 lecture, 48-54 lab.
Introduces the topic of DC, single-phase and three-phase AC circuits as they apply to mechatonics. Introduces commerical/industrial electrical installations that meet National Electrical Code requirements. Students will complete labs and wiring projects. Lab, electrical and worksite safety is emphasized.

MT 142   Principles of Electrical Machinery   3.0 Units
Prerequisite: MT 120 or MT 140 with a minimum grade of C
Hours: 32-36 lecture, 48-54 lab.
Introduces the topic of electrical machinery as it applies to mechatronics. Studies include direct-current and alternating-current generators, alternators, transmission equipment, and motors. Students will complete labs and electrical machinery projects. Lab, electrical and worksite safety is emphasized.

MT 162   Robotic Manufacturing Systems   3.0 Units
Course Advisory: SCC minimum English and Math standards.
Hours: 32-36 lecture, 48-54 lab.
Presentation of physical principles applied to automated manufacturing systems. Students will develop solutions to manufacturing problems using robots, programmable logic controllers (PLC) and computer numerical control (CNC) manufacturing machines. Students will also apply safety-oriented work habits to the completion of laboratory projects while working individually and in groups.

Advanced Manufacturing

MT 163   **3.0 Units**
Advanced Robotics Manufacturing Systems
Prerequisite: MT 162 with a minimum grade of C.
Hours: 32-36 lecture, 48-54 lab.

Advanced programming, vision recognition systems, PLC and HMI integration, and hardware concepts associated with industrial robots. Students in this course will program several robots to work together and with other common automation systems to increase the efficiency and throughput of industrial automation processes. Robot safety procedures including Dual Check Safety (DCS) and other industry standards will be emphasized throughout the course.

MT 164   Programmable Logic Controllers   3.0 Units
Course Advisory: SCC minimum English and Math standards.
Hours: 32-36 lecture, 48-54 lab.

Introduces the student to process control via Programmable Logic Controllers (PLC's). Content includes the popular Allen-Bradley PLC systems and the most common command instructions for the RSLogix 5, RSLogix 500, RSLogix 5000, Micrologix 1000, SLC5 and SLC 500 as well as ControlLogix processors. Troubleshooting and electrical safety are emphasized.

MT 165   **3.0 Units**
Advanced Programmable Logic Controllers
Prerequisite: MT 164 with a minimum grade of C.
Hours: 32-36 lecture, 48-54 lab.

For PLC (Programmable Logic Controllers) programmers, electricians, maintenance and instrumentation technicians, automation students and professionals that have some experience with basic PLC programming. Topics include Tag-Based programming with ControlLogix PLCs along with the RSLogix 5000 programming suite, process control methods, variable frequency drives, SCADA (Supervisory Control and Data Aquisition), and HMI's (Human Machine Interface).

MT 166   CNC Programming   3.0 Units
Prerequisite: DRFT 151 with a minimum grade of C.
Course Advisory: SCC minimum English and Math standards.
Hours: 32-36 lecture, 48-54 lab.

Operational and theory of Computer Numerical Control (CNC) machinery, with a focus on skill building, safety practices and maintenance to work as an operator. Includes integration of Computer-Aided Design and Computer-Aided Manufacturing (CAM) as well as manual programming techniques.

Aeronautics

Airframe Maintenance Technician

Program Description
Practical and theoretical knowledge in basic maintenance techniques, plus the special requirements of either airframe or powerplant work. Upon satisfactory completion of the required courses, the student is eligible to take the Federal Aviation Administration written oral and practical examination for airframe or powerplant license.

Certificate of Achievement and Associate in Science Degree
A Certificate of Achievement can be obtained upon completion of the 41-unit major. An Associate in Science Degree can be obtained upon completion of the units required for the 41-unit Airframe major and general education requirements.

A combination Airframe & Powerplant Maintenance Technician Certificate of Achievement can be obtained upon completion of the 41-unit airframe major An Associate in Science Degree can be obtained upon completion of the 62-unit Airframe and Powerplant courses and general education requirements.

The Federal Aviation administration (FAA) requires 1150 hours (four full semesters) of instruction to complete the Airframe curriculum (An additional 750 hours, two full semesters for Airframe and Powerplant). All courses in the major must be completed with a minimum grade of C or a P if the course is taken on a Pass/No Pass basis.

Program Outcomes
Students who complete the Airframe Maintenance Technician or Airframe & Powerplant Maintenance Technician Certificate of Achievement/Associate Degree will be able to:
1. Demonstrate proficient, entry-level aviation maintenance skills in airframe and powerplant with emphasis on aircraft engines, aircraft structures, and aircraft systems.
2. Have a working knowledge to inspect, maintain, service and repair aircraft electrical, engine (piston and turbine), airframe structure, flight control, hydraulic, pneumatic, fuel, navigation and instrument systems and other aircraft components specified by Federal Aviation Regulation Part 147.
3. Obtain the knowledge and skills to pass oral, practical and written Federal Aviation Administration (FAA) examination in general and airframe/powerplant subjects.

REQUIRED COURSES..**Units**
AERO 055 Aviation Maintenance
   Technician General I 10
AERO 102 Airframe Maintenance I................................. 10
AERO 103 Aviation Maintenance
   Technician General II 10
AERO 105 Airframe Maintenance II............................... 10
AERO 118 FAA Airframe Test Review
   & Qualification 1
   Required Major Total units.. 41

**Combined Airframe & Powerplant Maintenance Technician Requied Courses
(In addition to the 41.0 Units listed above)**............. **Units**
AERO 106 Powerplant Maintenance I 10
AERO 107 Powerplant Maintenance II............................ 10
AERO 119 FAA Powerplant Test Review
   & Qualification 1
   Required Major Total units.. 21

Solano General Education... **21**
Electives (as needed to reach 60 units)............................ **0**
   Total Degree Units Airframe 62
   Total Degree Units Airframe/Powerplant 83

These programs are Gainful Employment Programs. For additional information, please visit
http://www.solano.edu/gainful_employment/ and select "Aeronautics Airframe Maintenance Technician,"
or "Aeronautics Airframe & Powerplant Maintenance Technician."

Aeronautics

Powerplant Maintenance Technician

Program Description
Practical and theoretical knowledge in basic maintenance techniques, plus the special requirements of either powerplant or airframe & powerplant work. Upon satisfactory completion of the required courses, the student is eligible to take the Federal Aviation Administration written, oral, and practical examination for powerplant or airframe & powerplant license.

Certificate of Achievement and Associate in Science Degree
A Certificate of Achievement can be obtained upon completion of the 41-unit major. An Associate in Science Degree can be obtained upon completion of the units required for the 41-unit Powerplant major and general education requirements.

A combination Airframe & Powerplant Maintenance Technician Certificate of Achievement can be obtained upon completion of the 41-unit Powerplant major and 21-unit Airframe courses. An Associate in Science Degree can be obtained upon completion of the 62-unit Airframe and Powerplant courses and general education requirements.

The Federal Aviation Administration (FAA) requires 1150 hours (four full semesters) of instruction to complete the Powerplant curriculum (An additional 750 hours, two full semesters for Airframe and Powerplant). All courses in the major must be completed with a minimum grade of C or a P if the course is taken on a Pass/No Pass basis.

Program Outcomes
Students who complete the Powerplant Maintenance Technician or Airframe & Powerplant Maintenance Technician Certificate of Achievement/ Associate Degree will be able to:
1. Demonstrate proficient, entry-level aviation maintenance skills in powerplant or airframe and powerplant with emphasis on aircraft engines, aircraft structures, and aircraft systems.
2. Have a working knowledge to inspect, maintain, service and repair aircraft electrical, engine (piston and turbine), airframe structure, flight control, hydraulic, pneumatic, fuel, navigation and instrument systems and other aircraft components specified by Federal Aviation Regulation Part 147.
3. Obtain the knowledge and skills to pass oral, practical and written Federal Aviation Administration (FAA) examination in general and airframe/powerplant subjects.

REQUIRED COURSES...Units
AERO 055 Aviation Maintenance Technician
   General I 10
AERO 103 Aviation Maintenance Technician
   General II.. 10
AERO 106 Powerplant Maintenance I 10
AERO 107 Powerplant Maintenance II............................ 10
AERO 119 FAA Powerplant Test Review
   & Qualification 1
   Total units.. 41

**Combined Airframe & Powerplant Maintenance
Technician Certificate or Degree Required Courses
(In addition to 750 hours, 2 semesters)**..................... **Units**
AERO 102 Airframe Maintenance I.................................. 10
AERO 105 Airframe Maintenance II................................. 10
AERO 118 FAA Airframe Test Review
   & Qualification 1
   Total Units 21

Solano General Education.. **21**
Electives (as needed to reach 60 units)........................... **0**
   Total Degree Units Powerplant 62
   Total Degree Units Airframe/Powerplant 83

These programs are Gainful Employment Programs. For additional information, please visit
http://www.solano.edu/gainful_employment/ and select "Aeronautics Powerplant Maintenance Technician"
or "Aeronautics Airframe & Powerplant Maintenance Technician."

Aeronautics

AERO 055   **10.0 Units**
Aviation Maintenance Technician General I
Course Advisory: SCC Minimum English and Math standards.
Transferable to CSU
Hours: 80-90 lecture, 240-270 lab.
Presents the fundamentals necessary for the advanced study in Aeronautics. It will define the history of aviation and powerplant operation, and the study of flight: aircraft weight and balance, ground operation and servicing, mathematics, maintenance forms and records, basic physics, maintenance publication, and mechanic privileges and limitation. Safety is stressed throughout the course. In addition, this course is a study of the methods and processes used in the production of an aircraft, including shop safety. The course includes fundamentals in the use of hand tools and power equipment, aircraft drawings, cleaning, corrosion control; and the processes used by the manufacturers for aircraft construction.

AERO 102   Airframe Maintenance I   10.0 Units
Course Advisory: SCC minimum English standard.
Hours: 80-90 lecture, 240-270 lab.
Presents the application of fundamental methods, techniques, and practices used in aircraft inspection, maintenance, and repair. The course includes fundamentals of shop safety, wood structures, fabric covering, finishes, composite structures, plastics, sheet-metal structures, welding, assembly and rigging, and airframe inspection.

AERO 103   **10.0 Units**
Aviation Maintenance Technician General II
Course Advisory: SCC minimum English standard.
Hours: 80-90 lecture, 240-270 lab.
A study of fluid control systems and components with emphasis on design, maintainability, testing and system repair. The course includes the fundamentals of hydraulic fluids, fluid carrying lines and fittings, inspection, servicing and testing of pneumatic and hydraulic systems. The course also presents theory and application of direct and alternating current as related to aircraft electrical components and systems.

AERO 105   Airframe Maintenance II   10.0 Units
Course Advisory: SCC minimum English standard.
Hours: 80-90 lecture, 240-270 lab.
A detailed study of the fundamentals of fabrication, maintenance, and repair of aircraft airframe systems. The course includes study of all basic systems which include: landing gear, hydraulic, pneumatic, cabin atmospheric control, flight instrumentation, communication, navigation, fuel storage and delivery, ice and rain detection, prevention and removal as well as fire detection and protection systems.

AERO 106   Powerplant Maintenance I   10.0 Units
Course Advisory: SCC minimum English and Math standards.
Hours: 80-90 lecture, 240-270 lab.
Designed to acquaint the student with reciprocating engines. The course includes study in the fundamentals of basic engine design, types and materials of construction, nomenclature, repair, overhaul and servicing, maintainability and reliability concepts.

AERO 107   Powerplant Maintenance II   10.0 Units
Course Advisory: SCC minimum English and Math standards.
Hours: 80-90 lecture, 240-270 lab.
Presents a study of the theory, operation, maintenance and repair of the turbine engine and related systems. It gives the student practical "hands on" experience that will satisfy future employment and FAA requirements.

AERO 118   **0.5 to 1.5 Units**
FAA Airframe Test Review and Qualification
Course Advisory: SCC minimum English and Math standards.
Hours: 24-81 lab.
Taken during the final semester of a student's enrollment in the Aeronautics program. The course consists of a comprehensive oral, practical, and written examination of all material covered in the Airframe Program for the purpose of verifying the students' readiness to pass the Federal Aviation Administration Airframe Examinations. Students may take this course up to the maximum number of units over multiple semesters. This is an Open Entry/Open Exit course.

Aeronautics

AERO 119   0.5 to 1.5 Units
FAA Powerplant Test Review & Qualification
Course Advisory: SCC minimum English and Math standards.
Hours: 24-81 lab.

Taken during the final semester of a student's enrollment in the Aeronautics program. The course consists of a comprehensive oral, practical, and written examination of all material covered in the Powerplant Program for the purpose of verifying the students readiness to pass the Federal Aviation Administration Powerplant Examinations. Students may take this course up to the maximum number of units over multiple semesters. This is an Open Entry/ Open Exit course.

AERO 150   0.5 to 1.5 Units
FAA Special Projects and Course Enhancement
Course Advisory: SCC minimum English and Math standards; Any Solano
    College Aeronautics course (AERO 055-119); or previous training/
    experience in aeronautics.
Hours: 24-81 lab.

Designed to give Aeronautics students a chance to make up time lost for FAA certificate and/or to work on special projects required by FAA to bring students in line with new FAA FAR Part 66 requirements. Students may take this course up to the maximum number of units over multiple semesters. This is an Open Entry/Open Exit course.

AERO 151   0.5 to 1.5 Units
FAA Special Projects - Powerplant Enhancment
Course Advisory: SCC minimum English and Math standards.
Hours: 24-81 lab.

Designed to give Aeronautics students a chance to make up time lost for FAA certificate and/or to work on special projects required by FAA to bring students in line with new FAA FAR Part 66 requirements. Students may take this course up to the maximum number of units over multiple semesters. This is an Open Entry/Open Exit course.

American Sign Language

ASL/English Interpreter Training

Program Description
The ASL program provides a foundation of interpreting skills for students seeking to transfer to a four-year institution in order to become an interpreter. The coursework presents American Sign Language in a cross-cultural context, addressing the ethics and standards expected of a professional interpreter.

Certificate of Achievement and Associate in Arts Degree
A Certificate of Achievement can be obtained upon successful completion of the 27-unit major. The Associate in Arts degree can be obtained upon completion of 60 units, including the major, general education requirements, and electives. All courses in the major must be completed with a minimum grade of C or a P if the courses is taken on a Pass/No Pass basis.

Program Outcomes
Students who complete the ASL/English Interpreter Training Certificate of Achievement/Associate Degree will be able to:
1. Sign effectively, using appropriate skills, in working with the Deaf and Hard of Hearing.
2. Demonstrate an understanding of Deaf culture, and the ethics and standards of professional ASL environment.

REQUIRED COURSES..**Units**
ASL 001 American Sign Language 1 3
ASL 002 American Sign Language 2 3
ASL 003 American Sign Language 3 3
ASL 004 American Sign Language 4 3
ASL 005 American Deaf Culture.. 3
ASL 006 Linguistics of American Sign Language............. 3
ASL 052 Fingerspelling, Classifiers, and Numbers.......... 3
ASL 053 Introduction to American Sign Language
    Interpreting 3
ASL 054 ASL Interpreting Field Work............................... 2
OCED 090 Occupational Work Experience 1
    Required Major Total Units 27

CSU General Education or IGETC Pattern units....37-39
Total Degree Units CSU GE or IGETC 64-66

Solano General Education.. 21
Electives (as needed to reach 60 units)........................... 12
    Total Degree Units Solano GE.................................... 60

* 0 units may be double counted toward both the major area of emphasis and CSU General Education or IGETC Pattern. Consult with a counselor for more information on completing this degree.

These programs are Gainful Employment Programs. For additional information, please visit
http://www.solano.edu/gainful_employment/ and select "ASL/English Interpreter Training."

American Sign Language

ASL 001   American Sign Language 1   **3.0 Units**
Transferable to UC/CSU
Hours: 48-54 lecture.
Introduction to the culture and language of the deaf in this country. The course includes the acquisition of Fingerspelling skills and basic functional vocabulary of ASL. In addition to fluency in these two separate skills, the student will acquire basic knowledge of ASL syntax and nonverbal aspects of ASL, a history of the deaf in the country and deaf education, variations in Manual Communication, and the Culture of the Deaf. There will be both written and signed examinations, a research project, homework assignments, and individual examinations to demonstrate competency in both expressive and receptive ASL. Students will be expected to acquire a vocabulary of approximately 500 words (signs) and be proficient in Fingerspelling.

ASL 002   American Sign Language 2   **3.0 Units**
Prerequisite: ASL 001 with a minimum grade of C.
Transferable to UC/CSU
Hours: 48-54 lecture.
Emphasis on vocabulary expansion, introduction to ASL idiomatic expressions and information regarding the ethics and process of becoming a sign language interpreter. Assessment of competency is accomplished through written and communicative examinations. Some interaction with the deaf population is required.

ASL 003   American Sign Language 3   **3.0 Units**
Prerequisite: ASL 002 with a minimum grade of C.
Transferable to UC/CSU
Hours: 48-54 lecture.
A focus on the grammatical structure of American Sign Language and how it has been influenced throughout history, by society, and other cultures in America. Students will develop their vocabulary, not through rote memorization, but through emphasis on receptive and expressive modes of communication; they will learn how to develop their own styles.

ASL 004   American Sign Language 4   **3.0 Units**
Prerequisite: ASL 003 with a minimum grade of C.
Transferable to UC/CSU
Hours: 48-54 lecture.
An advanced course designed to increase vocabulary, examine the use of semantic and body classifiers, expand and develop conversational signing ability through the use of appropriate grammar structures and storytelling. Popular Deaf culture stories are learned through the development of storytelling techniques. The rich heritage of Deaf people is studied through biographies of those who are famous for their contribution.

ASL 005   American Deaf Culture   **3.0 Units**
Course Advisory: SCC minimum English standard.
Transferable to UC/CSU
Hours: 48-54 lecture.
Exploration of American Deaf Culture with historical and cultural overview of the American Deaf community and its language, American Sign Language (ASL). Fundamental sociological and anthropological theories will be discussed. Students will be given an opportunity to study and understand the following: minority group dynamics, attitudes and behavioral characteristics of the oppressed and oppressors, and the liberation movements. Analysis of the relationship of ASL to the history of the American Deaf community will be conducted.

ASL 006   **3.0 Units**
Linguisitcs of American Sign Language
Prerequisite: ASL 002 with a minimum grade of C.
Transferable to UC/CSU
Hours: 48-54 lecture.
Applies knowledge of linguistics (e.g., phonetics, phonology, syntax, semantics) to signed languages, especially ASL. Students will learn about aspects of the language that are specific to signing, such as using three-dimensional space as grammatical tools. Students will compare ASL to other signed languages to further explore how these linguistic aspects differ between signed languages.

ASL 052   **3.0 Units**
Fingerspelling, Classifiers, and Numbers
Prerequisite: ASL 001 with a minimum grade of C (may enroll
*   concurrently).*
Transferable to CSU
Hours: 48-54 lecture.
Solidifies fingerspelling, numbers, and classifiers to the point where they can reliably be leveraged in an expressive and receptive manner. The focus of the course is on recognition and use of fingerspelling, numbers, and classifiers in different contexts.

ASL 053   **3.0 Units**
Introduction to American Sign Language Interpreting
Prerequisite: ASL 002 with a minimum grade of C.
Transferable to CSU
Hours: 48-54 lecture.
Introduction to professional conduct, variety of interpreter work settings, and interactions with the populations served.

ASL 054   ASL Interpreting Field Work   **2.0 Units**
Prerequisite: ASL 003 with a minimum grade of C.
Corequisite: OCED 090.
Transferable to CSU
Hours: 32-36 lecture.

Prepares students for the profession of ASL interpreting by providing field work in which students can observe different scenarios and apply skills learned in the classroom. Weekly seminars will explore how ASL interpreters learn discourse mapping, a systematic approach for analyzing texts to produce successful, effective interpretations. Through a co-requisite of OCED 090 students will work in a real world environment to practice the techniques discussed in class.

Anthropology for Transfer (AA-T)

CAREER PATHS:

Anthropologist

Archaeologist

Post-Secondary Teacher

Curator

Additional Career Paths and related data, including state-by-state wage info and growth in the field, can be found at www.onetonline.org.

This program map represents one possible pathway. See a counselor to create a customized education plan. Map is for the 2019-2020 catalog year.

SOLANO
COMMUNITY COLLEGE

Anthropology
Associate in Arts for Transfer
GE Pattern: IGETC
Program Total Units: 60.5

For more information please contact:
(707) 864-7251

---

1 FIRST SEMESTER

Total Recommended Units: 15

ENG 001	**4 units**
College Composition (IGETC 1A)	
LR 010	**1 units**
Introduction to Library Research	
MATH 011	**4 units**
Statistics (IGETC 2/ ANTH List A)	
ANTH 002	**3 units**
Cultural Anthropology (IGETC 4)	
Transferable Elective	**3 units**
(Course #001-049) Suggested: COUN 007	

2 SECOND SEMESTER

Total Recommended Units: 15.5

ANTH 001	**3 units**
Physical Anthropology (IGETC 5B)	
ANTH 001L	**1.5 units**
Physical Anthropology Lab (IGETC 5C/ ANTH List B)	
IGETC 1B	**4 units**
Suggested: ENGL 002 or ENGL 004	
IGETC 3B/Am Inst Grp 2	**3 units**
Suggested: HIST 017 or 18 or 028 or 029 or 037 for Am Inst Requirement	
IGETC 1C	**4 units**
Suggested: COMM 001 or 002 or 006	

3 THIRD SEMESTER

Total Recommended Units: 15

ANTH 007	**3 units**
Archaeology (IGETC 4)	
SOC 001	**3 units**
Introduction to Sociology (IGETC 4/ ANTH List C)	
GEOL 001	**3 units**
Physical Geology (IGETC 5A/ANTH List B)	
ANTH LIST B of the ADT	**3 units**
Suggested: GEOL 002	
IGETC 3A	**3 units**
Suggested: ART 001	

4 FOURTH SEMESTER

Total Recommended Units: 15

ANTH List C of the ADT	**3 units**
Suggested: GEOL 002	
IGETC 4/Am Inst Grp 1	**3 units**
Suggested: PLSC 001 or 005 for Am Inst requirement	
IGETC 3A or 3B	**3 units**
IGETC 4	**3 units**
Suggested: PSYCH 007	
Transferable Elective	**3 units**
Course #001-049	

■ Required Courses/Courses in Discipline   ■ GE Courses/Categories

GET STARTED NOW!

▶ **Get started on your Pathway now with these recommended courses!** *Then –* See a counselor to create a **CUSTOMIZED** education plan personalized to your career and transfer goals!

▶ Required courses may change depending on a student's career and transfer goals, including requirements for cross-cultural and foreign language courses, and/or specific requirements for an individual CSU or UC.

▶ Unique transfer requirements for a specific institution can be found at **www.assist.org.**

LET US HELP YOU!

How to Apply: solano.edu/ar/apply.php

■ **Questions? Talk to a Counselor Now!**
Main Campus, Fairfield: (707) 864-7101
Vacaville Center: (707) 863-7836
Vallejo Center: (707) 642-8188
Travis AFB: (707) 863-7878
Visit online at solano.edu/counseling

■ **Contact Our Career Center to Learn Your Career Options!**
Call 707-864-7124, or email at CareerCenter@solano.edu
Visit online at solano.edu/career

■ **You Can Afford College! Learn more about Financial Aid!**
Call 707-864-7103, or email at FinancialAid@solano.edu
Visit online at solano.edu/financial_aid

■ **College is Accessible!** Contact our Disability Services Program (DSP) at 707-864-7136.

Anthropology

Associate in Arts in Anthropology for Transfer

Program Description
This program emphasizes the development and diversity of, and adaptations in, human behavior and biology. Students in this program may study a variety of anthropological subfields, including Physical, Cultural, and Archaeology. In addition to acting as a path for successful transfer to an institution offering a baccalaureate degree in Anthropology, the Associate in Arts in Anthropology for Transfer Degree provides students pursuing any baccalaureate degree with basic skills in critical analysis, application of the scientific method, and cross-cultural understanding.

Associate in Arts in Anthropology for Transfer Degree
Upon completion of the Associate in Arts in Anthropology for Transfer Degree, students will be prepared to transfer to a CSU undergraduate Anthropology program. The Associate in Arts in Anthropology for Transfer Degree will facilitate successful transfer to the CSU system, allowing students to complete baccalaureate degrees in a more timely fashion.

To earn the Associate in Arts in Anthropology for Transfer degree, students must:
1. Complete 60 semester units that are eligible for transfer to the California State University, including both of the following:
   a. The Intersegmental General Education Transfer Curriculum (IGETC) or the California State University General Education – Breadth Requirements
   b. A minimum of 18 semester units in a major or area of emphasis, as determined by the community college district.
2. Obtain a minimum grade point average of 2.0.

Program Outcomes
Students who complete the Associate in Arts in Anthropology for Transfer degree, will be able to:
1. Demonstrate an understanding of anthropology as a science, in particular with regard to major theories, methods, and applications.
2. Demonstrate an understanding of human biological diversity, and be able to discuss processes responsible for such variation.
3. Demonstrate an understanding of human cultural diversity, and be able to discuss processes responsible for such variation.

REQUIRED COURSES...**Units**
ANTH 001 Physical Anthropology..................................... 3
ANTH 001L Physical Anthropology Laboratory........... 1.5
ANTH 002 Cultural Anthropology 3
ANTH 007 Archaeology.. 3
MATH 011 Elementary Statistics 4
3-5 units from List A 3-5
3-5 units from List B..3-5

List A (select 3-5 units)
BIO 004 Human Anatomy 5
GEOL 010 Introduction to Geographic Information
   Systems.. 3
PSYC 004 Research Methods in Behavioral Science......... 3

GEOL 001 Physical Geology... 3
and
GEOL 002 Geology Laboratory... 1

List B (select 3-5 units)
Any List A courses not already used
COMM 012 Intercultural Communication 3
GEOG 002 Cultural Geography 3
PSYC 007 Cross-Cultural Psychology 3
SOC 001 Introduction to Sociology 3

Required Major Total units..................................20.5-23.5
CSU General Education or IGETC Pattern units....37-39
CSU Transferable Electives
(as needed to reach 60 transferable units)* 9.5-20.5
Total Degree units... 60

12-18 units may be double counted toward both the major area of emphasis and CSU General Education or IGETC Pattern. Consult with a counselor for more information on completing this degree.

Anthropology

ANTH 001   Physical Anthropology   3.0 Units
Course Advisory: ENGL 001 with a minimum grade of C.
General Education: Option A: Area A; Option B: Area 5B; Option C:
*   Area B2*
Transferable to UC/CSU
Hours: 48-54 lecture.

An introduction to the science of physical anthropology; covering the concepts, methods of inquiry, and scientific explanations of biological evolution and their application to the human species. Topics to be covered will include: the scientific method, genetics, principles and mechanisms of biological evolution, modern human variation and the race concept, biocultural adaptations, primate classification, comparative primate anatomy and behavior, and the fossil evidence for human evolution. *(C-ID ANTH 110)*

ANTH 001L   1.5 Units
Physical Anthropology Laboratory
Prerequisite: ANTH 001 with a minimum grade of C (may enroll
*   concurrently).*
Course Advisory: Eligibility for MATH 330.
General Education: Option A: Area A; Option B: Area 5C; Option C:
*   Area B3*
Transferable to UC/CSU
Hours: 8-9 lecture, 48-54 lab.

A laboratory introduction to familiarize students with the methods and materials of physical anthropology, and is intended to be a companion course to ANTH 001 (Physical Anthropology). This course provides hands-on experience with genetics exercises as well as the skeletal materials of modern humans, non-human primates, and fossil hominins. Other topics discussed include the scientific method, sources of biological variation (with special focus on variation in humans and non-human primates) and the forces of evolution, biological classification of the primates, and non-human primate behavior. A field trip may be required.

ANTH 002   Cultural Anthropology   3.0 Units
Course Advisory: ENGL 001 with a minimum grade of C.
General Education: Option A: Area B2; Option B: Area 4A; Option C:
*   Area D1*
Transferable to UC/CSU
Hours: 48-54 lecture.

An introduction to the anthropological study of human culture; covering anthropological concepts such as fieldwork, holism, the comparative method, cultural relativism, the nature of culture and cultural identity, and research ethics. Topics will include: subsistence patterns, political organizations including social inequality, kinship and family, communication, supernatural belief systems, gender and sexuality, art, culture change including globalization, and applied anthropology. *(C-ID ANTH 120)*

ANTH 007   Archaeology   3.0 Units
Course Advisory: ENGL 001 with a minimum grade of C; SCC minimum
*   Math standards.*
General Education: Option A: Area B2; Option B: Area 4A; Option C:
*   Area D1*
Transferable to UC/CSU
Hours: 48-54 lecture.

An introduction to the study of the concepts, theories, methods, and data of archaeology that contribute to our knowledge of human cultures. The course includes a discussion of the nature of scientific inquiry; the history and interdisciplinary nature of archaeological research; dating techniques; methods of survey, excavation, analysis, and interpretation; cultural resource management; professional ethics; and selected cultural sequences. Several key archaeological sites will be covered and will serve to illustrate central archaeological theories and methods. *(C-ID ANTH 150)*

Art History for Transfer (AA-T)

CAREER PATHS:

Art, Drama, History and/or Music Teacher

Art Therapist

Art Director

Museum Curator, Technician, or Conservator

Fine Artist

Additional Career Paths and related data, including state-by-state wage info and growth in the field, can be found at www.onetonline.org.

This program map represents one possible pathway. See a counselor to create a customized education plan. Map is for the 2019-2020 catalog year.

SOLANO COMMUNITY COLLEGE

Art History
Associate in Arts for Transfer
GE Pattern: IGETC Program
Total Units: 60-65

For more information please contact:
(707) 864-7114

1 FIRST SEMESTER

Total Recommended Units: 15

☐ **ART 001**	**3 units**	
Art History		
☐ **LIST B of the ADT**	**4 units**	
Suggested: ART 006, 007, or 008		
☐ **ENGL 001**	**4 units**	
College Composition (IGETC 1A)		
☐ **LR 010**	**1 unit**	
Introduction to Library Research and Information Competency		
☐ **IGETC 4**	**3 units**	
Suggested: PSYCH 001		

2 SECOND SEMESTER

Total Recommended Units: 16-17

☐ **ART 002**	**3 units**	
Art History		
☐ **ART 014**	**3 units**	
☐ **IGETC 1B**	**4 units**	
Suggested: ENGL 002 or 004		
☐ **IGETC 1C**	**3 units**	
Suggested: COMM 001 or 002 or 006		
☐ **IGETC 2**	**3-4 units**	
Suggested: MATH 011 or 012		

3 THIRD SEMESTER

Total Recommended Units: 15-17

☐ **ART 003A or 003B**	**3 units**	
☐ **IGETC 4**	**3 units**	
Suggested: ANTH 002 or 007		
☐ **IGETC 5A or 5B**	**3-5 units**	
with Lab		
☐ **IGETC 3B / Am Inst Grp 2**	**3 units**	
Suggested: HIST 017 or 018 or 028 or 029 or 037 for Am Inst		
☐ **Transferable Elective**	**3 units**	
Course #001-049		

4 FOURTH SEMESTER

Total Recommended Units: 15-17

☐ **ART 011 or 012**	**3 units**	
☐ **IGETC 1C**	**3-5 units**	
Suggested: Comm 001 or 002 or 006		
☐ **IGETC 5A or 5B**	**3 units**	
without Lab		
☐ **IGETC 4 / Am Inst Grp 1**	**3 units**	
Suggested: PLSC 001 or 005 for Am Inst		
☐ **Transferable Elective**	**3 units**	
Course #001-049		

🟦 Required Courses /Courses in Discipline 🟩 GE Courses /Categories

GET STARTED NOW!

▶ **Get started on your Pathway now with these recommended courses!** *Then –* See a counselor to create a **CUSTOMIZED** education plan personalized to your career and transfer goals!

▶ Required courses may change depending on a student's career and transfer goals, including requirements for cross-cultural and foreign language courses, and/or specific requirements for an individual CSU or UC.

▶ Unique transfer requirements for a specific institution can be found at **www.assist.org.**

LET US HELP YOU!

How to Apply: solano.edu/ar/apply.php

■ **Questions? Talk to a Counselor Now!**
Main Campus, Fairfield: (707) 864-7101
Vacaville Center: (707) 863-7836
Vallejo Center: (707) 642-8188
Travis AFB: (707) 863-7878
Visit online at solano.edu/counseling

■ **Contact Our Career Center to Learn Your Career Options!**
Call 707-864-7124, or email at CareerCenter@solano.edu
Visit online at solano.edu/career

■ **You Can Afford College! Learn more about Financial Aid!**
Call 707-864-7103, or email at FinancialAid@solano.edu
Visit online at solano.edu/financial_aid

■ **College is Accessible!** Contact our Disability Services Program (DSP) at 707-864-7136.

Art

Associate in Arts in Art History for Transfer (ADT: A.A.-T)

Program Description
This program provides the academic and practical experience to prepare students for a career, or further education at a four-year institution, in art history and related fields, such as museum studies, art education and administration. The Associate in Arts in Art History for Transfer provides the academic and practical experience to transfer into the CSU system to complete a baccalaureate degree that will prepare students for a career in Art History.

Associate in Arts in Art History for Transfer
Students wishing to transfer to a University of California system for an Art History B.A. should take all the art history courses in the program (ART 001, 002, 003A, 003B, 011 and 012). Students completing an Associate in Arts in Art History for Transfer degree are guaranteed admission to the CSU system, but not to a particular campus or major. Students transferring to a CSU campus that accepts the Associate in Arts in Art History for Transfer degree will be required to complete no more than 60 units after transfer to earn a bachelor's degree. The Associate in Arts in Art History for Transfer degree also prepares students for art history degree programs at CSU institutions, but does not come with the same guarantees. In all cases, students should consult with a counselor for more information on university admission and transfer requirements.

To earn the Associate in Arts in Art History for Transfer degree, students must:
1. Complete 60 semester units that are eligible for transfer to the California State University, including both of the following:
   a. The Intersegmental General Education Transfer Curriculum (IGETC) or the California State University General Education – Breadth Requirements
   b. A minimum of 18 semester units in a major or area of emphasis, as determined by the community college district.
2. Obtain a minimum grade point average of 2.0.

Program Outcomes
Students who complete the Associate in Arts in Art History for Transfer degree will be able to:
1. Students will analyze the relationship between various cultures and their art forms, linking specific works, artists, and art movements / periods to relevant historical events, cultural values, and belief systems.
2. Students will analyze issues related to the perception, scholarship, and display of artwork.
3. Students will use scholarly sources effectively and ethically to support their analyses of art.

REQUIRED COURSES...**Units**
ART 001 Art History 3
ART 002 Art History 3
ART 014 Introduction to Drawing................................... 3
3 units from List A... 3
3 units from List B 3
3 units from List C... 3

List A: Non-Western Arts History (select 3 units) 3
ART 003A Arts of Asia... 3
ART 003B Arts of Africa, Oceania, and the Americas...... 3

List B: Studio Art (select minimum of 3 units) .... **Units**
ART 004 Life Drawing.. 3
ART 006 Design Principles in 2-Dimensions 3
ART 007 Design-Color... 3
ART 008 Design Principles in 3-Dimensions 3
ART 016 Beginning Painting 3
ART 019 Figure Painting 3
ART 023 Introduction to Ceramics: Hand Building 3
ART 026 Introduction to Ceramics:
   Wheel Throwing Techniques.. 3
ART 031 Sculpture 3

ART 032 Sculpture: Human Figure 3
ART 038 Introduction to Printmaking 3
ART 039 Etching and Engraving: Line Techniques......... 3
ART 043 Printmaking: Relief Printing,
   Including Woodcut 3
ART 045A Graphic Design I 3
PHOT 030 Beginning Photography 3

List C: Modern, Contemporary, and Theory
(select 3 units) .... **Units**
ART 011 Survey of Modern Art...................................... 3
ART 012 Inside / Outside: The Cultures and Identities
   of Visual Artists in a Diverse America 3

Required Major Total Units 18
CSU General Education or IGETC Pattern units....37-39
CSU Transferable Electives
(as needed to reach 60 transferable units)* 3-5
Total Degree Units 60

* 3 units may be double counted toward both the major area of emphasis and CSU General Education or IGETC Pattern. Consult with a counselor for more information on completing this degree.

Studio Art (AA-T)

CAREER PATHS:

Art Therapist
Art Director
Art Educator
Fine Artist

Museum Curator, Technician, or Conservator
Multimedia Artist and Animator
Graphic Designer

Additional Career Paths and related data, including state-by-state wage info and growth in the field, can be found at www.onetonline.org.

This program map represents one possible pathway. See a counselor to create a customized education plan. Map is for the 2019-2020 catalog year.

SOLANO COMMUNITY COLLEGE

STUDIO ART

Associate in Arts for Transfer
GE Pattern: IGETC
Program Total Units: 61-62

For more information please contact:
(707) 864-7114

---

1 FIRST SEMESTER

Total Recommended Units: 17

ART 002 — Art History (IGETC 3A)	3 units
ART 006 — Design in 2 Dimensions	3 units
ART 008 — Design in 3 Dimensions	3 units
IGETC 4 — Suggested: PSYCH 001	3 units
ENGL 001 — College Composition (IGETC 1A)	4 units
LR 010 — Library Research	1 unit

2 SECOND SEMESTER

Total Recommended Units: 15-16

ART List A of ADT	3 units
ART List B of ADT	3 units
ART 014 — Introduction to Drawing	3 units
IGETC 4/Am Inst Grp 1 — Suggested: PLCS 001 or 005 for Am Inst requirement	3 units
IGETC 2 — Suggested: Math 011 or 012	3-4 units

3 THIRD SEMESTER

Total Recommended Units: 15

ART List B of ADT	3 units
IGETC 1C — Suggested: COMM 001, 002, or 006	3 units
IGETC 5A or 5B — Without Lab	3 units
IGETC 3B/Am Inst Grp 2 — Suggested: HIST 017 or 18 or 028 or 029 or 037 for Am Inst requirement	3 units
IGETC 3A or 3B	3 units

4 FOURTH SEMESTER

Total Recommended Units: 14

ART List B of ADT	3 units
IGETC 1B — Suggested: ENGL 002 or 004	4 units
IGETC 5A or 5B — With Lab. Whichever not taken	4 units
IGETC 4	3 units

■ Required Courses/Courses in Discipline   ■ GE Courses/Categories

---

GET STARTED NOW!

▶ **Get started on your Pathway now with these recommended courses!** *Then –* See a counselor to create a **CUSTOMIZED** education plan personalized to your career and transfer goals!

▶ Required courses may change depending on a student's career and transfer goals, including requirements for cross-cultural and foreign language courses, and/or specific requirements for an individual CSU or UC.

▶ Unique transfer requirements for a specific institution can be found at **www.assist.org.**

LET US HELP YOU!

How to Apply: solano.edu/ar/apply.php

■ **Questions? Talk to a Counselor Now!**
Main Campus, Fairfield: (707) 864-7101
Vacaville Center: (707) 863-7836
Vallejo Center: (707) 642-8188
Travis AFB: (707) 863-7878
Visit online at solano.edu/counseling

■ **Contact Our Career Center to Learn Your Career Options!**
Call 707-864-7124, or email at
CareerCenter@solano.edu
Visit online at solano.edu/career

■ **You Can Afford College! Learn more about Financial Aid!**
Call 707-864-7103, or email at
FinancialAid@solano.edu
Visit online at solano.edu/financial_aid

■ **College is Accessible!** Contact our Disability Services Program (DSP) at 707-864-7136.

Art

Associate in Arts in Studio Arts for Transfer (ADT: A.A.-T)

Program Description
This program provides the academic and practical experience to prepare students for a career, or further education at a four-year institution, in studio art. The program is designed for students to develop visual skills in a variety of art media.

Associate in Arts in Studio Arts for Transfer
The Associate in Arts in Studio Arts for Transfer is especially designed for students who plan to complete a bachelor's degree in Studio Art at a CSU campus. Students completing an Associate in Arts for Transfer degree are guaranteed admission to the CSU system, but not to a particular campus or major. Students transferring to a CSU campus that accepts the A.A. degree for Transfer will be required to complete no more than 60 units after transfer to earn a bachelor's degree. This degree also prepares students for studio art programs at other four-year institutions, but does not come with the same guarantees. In all cases, students should consult with a counselor for more information on university admission and transfer requirements.

To earn the Associate in Arts in Studio Art for Transfer degree, students must:
1. Complete 60 semester units that are eligible for transfer to the California State University, including both of the following:
   a. The Intersegmental General Education Transfer Curriculum (IGETC) or the California State University General Education – Breadth Requirements
   b. A minimum of 18 semester units in a major or area of emphasis, as determined by the community college district.
2. Obtain a minimum grade point average of 2.0.

Program Outcomes
Students who complete the Associate in Arts in Studio Arts for Transfer degree will be able to:
1. Apply appropriate materials and techniques to solve creative problems.
2. Apply composition strategies to create visually unified and compositionally effective works of art.
3. Utilize appropriate language and approaches to create, analyze and critique conceptually effective works.

REQUIRED CORE .... **Units**
ART 002 Art History 3
ART 006 Design Principles in 2-Dimensions 3
ART 008 Design Principles in 3-Dimensions 3
ART 014 Introduction to Drawing.................................... 3
One course from List A... 3
Three courses from List B.. 9

List A: (select one course)... **Units**
ART 001 Art History 3
ART 003A Arts of Asia.. 3
ART 003B Arts of Africa, Oceania, and the Americas..... 3
ART 011 Survey of Modern Art... 3

List B: (select three courses) .... **Units**
ART 004 Life Drawing.. 3
or
ART 015 Intermediate Drawing... 3
ART 005 Life Drawing - Intermediate 3
ART 007 Design-Color... 3
ART 016 Beginning Painting 3
ART 017 Intermediate Painting: Acrylic and Oil.............. 3
ART 019 Figure Painting 3
ART 021 Watercolor 3
ART 023 Introduction to Ceramics: Hand Building......... 3
or
ART 026 Introduction to Ceramics:
    Wheel Throwing Techniques....................................... 3

ART 024 Intermediate Ceramics: Hand Building............ 3
ART 031 Sculpture 3
or
ART 034 Ceramic Sculpture.. 3
ART 032 Sculpture: Human Figure 3
ART 033 Intermediate Sculpture... 3
ART 038 Introduction to Printmaking 3
ART 039 Etching and Engraving: Line Techniques.......... 3
ART 040 Etching and Engraving: Tone.............................. 3
ART 041 Etching and Engraving: Color............................. 3
ART 042 Screen Printing 3
ART 043 Printmaking: Relief Printing,
    Including Woodcut 3
ART 045A Graphic Design I 3
ART 045C Typography.. 3
ART 046 Illustration... 3
PHOT 030 Beginning Photography.................................... 3

Required Major Total Units 24
CSU General Education or IGETC Pattern Units ... 37-39
CSU Transferable Electives
   (as needed to reach 60 transferable units)* 3-5
Total Degree Units 60

* 6 units may be double counted toward both the major area of emphasis and CSU General Education or IGETC Pattern. Consult with a counselor for more information on completing this degree.

Art

Graphic Design & Illustration

Program Description
This program provides the student with sufficient academic and practical experience for entrance into the job market as a graphic artist, or for study towards the B.A. in college or professional school.

Associate in Arts Degree
The Associate in Arts Degree can be obtained by completing the 27-unit major, general education requirements, and electives. All courses in the major must be completed with a minimum grade of C or a P if the course is taken on a Pass/No Pass basis.

Program Outcomes
Students who complete the Graphic Design & Illustration Associate Degree will be able to:
1. Analyze, apply and integrate diverse visual experiences.
2. Develop and articulate with proficiency an understanding of visual and multi-cultural literacy.
3. Work independently and cooperatively to solve creative problems, applying critical thinking skills.

REQUIRED COURSES...**Units**
ART 004 Life Drawing... 3
or
ART 015 Intermediate Drawing 3

ART 006 Design Principles in 2-Dimensions 3
ART 007 Design-Color... 3
ART 014 Introduction to Drawing..................................... 3
ART 045A Graphic Design I 3
ART 045B Graphic Design II... 3
ART 045C Typography 3
ART 046 Illustration I 3
ART 046C Illustration II 3
   Required Major Total Units 27

CSU General Education or IGETC Pattern units....**37-39**
Total Degree Units CSU GE or IGETC **64-66**

Solano General Education.. **21**
Electives (as needed to reach 60 units).......................... **12**
   Total Degree Units Solano GE................................... **60**

* 0 units may be double counted toward both the major area of emphasis and CSU General Education or IGETC Pattern. Consult with a counselor for more information on completing this degree.

Art

Studio Arts with Emphasis

Program Description
The Studio Arts Degree with Emphasis offers students a strong fine arts foundation, with core courses that develop essential technical skills, aesthetic vision, historical and contemporary art context, and an understanding of the artist's role as a global citizen. Students may select an Emphasis which will allow deeper technical, aesthetic, and conceptual study within a specific medium: drawing and mixed media; painting; printmaking; sculpture; and ceramics. The Studio Arts Degree with Emphasis is designed for students seeking to further their study at an art school or at one of the University of California art departments. Students who earn this degree will also meet the requirements for the AA-T degree in Studio Arts, and should petition for the AA-T degree only if they plan to transfer to a California State University campus.

Associate in Arts Degree
The Associate in Arts Degree can be obtained upon completion of 60 units, including the 25 to 27 units in the major, general education requirements, and electives. All courses in the major must be completed with a minimum grade of C or a P if the course is taken on a Pass/No Pass basis.

Program Outcomes
Students who complete the Studio Arts with Emphasis Associate Degree will be able to:
1. Demonstrate advanced skills in selecting a broad range of appropriate materials and techniques to solve creative problems.
2. Apply advanced composition strategies to create visually unified and compositionally effective works of art.
3. Utilize appropriate language and approaches to create, analyze, and critique conceptually effective works of art at an advanced level, with breadth and depth of analysis.

REQUIRED CORE	Units
ART 002 Art History	3
ART 006 Design Principles in 2-Dimensions	3
ART 007 Design-Color	3
ART 008 Design Principles in 3-Dimensions	3
ART 014 Introduction to Drawing	3
One course from List A – Art History	3
Three courses from one of the Areas of Emphasis	7-9
Required Major Total Units	**25-27**

List A: Art History (select one course)	Units
ART 001 Art History	3
ART 011 Survey of Modern Art	3

Drawing and Mixed Media Emphasis	Units
ART 004 Life Drawing	3
ART 005 Life Drawing	3
ART 015 Intermediate Drawing	3
ART 015B Collage & Assemblage	3
ART 020 Landscape Drawing and Painting — Reflections of Nature	2-3

Painting Emphasis	Units
ART 016 Beginning Painting	3
ART 017 Acrylic and Oil Painting	3
ART 018 Advanced Intermediate Painting: Acrylic and Oil Painting	3
ART 019 Figure Painting	3
ART 021 Watercolor	3

Printmaking Emphasis	Units
ART 038 Introduction to Printmaking	3
ART 039 Etching and Engraving: Line Techniques	3
ART 040 Etching and Engraving: Tone	3
ART 041 Etching and Engraving: Color	3
ART 042 Screen Printing	3
ART 043 Printmaking: Relief Printing, Including Woodcut	3

Sculpture Emphasis	Units
ART 031 Sculpture	3
ART 032 Sculpture: Human Figure	3
ART 033 Intermediate Sculpture	3
ART 034 Ceramic Sculpture	3

Ceramics Emphasis	Units
ART 023 Introduction to Ceramics: Hand Building	3
ART 024 Intermediate Ceramics: Hand Building	3
ART 025 Ceramic Design And Decoration: Hand Building Methods	3
ART 026 Introduction to Ceramics: Wheel Throwing Techniques	3
ART 027 Intermediate Ceramics: Wheel Throwing Techniques	3
ART 028 Ceramic Design: Wheel Throwing Techniques	3
ART 029 Raku Pottery	3
ART 030C Ceramics: History, Culture, Practice	3
ART 035A Introduction to Wood-Fired Ceramics	3
ART 037 Clay and Glazes for the Ceramic Artist	3

Art

CSU General Education or IGETC Pattern units....**37-39**
Total Degree Units CSU or IGETC **62-66**

Solano General Education.. **21**
Electives (as needed to reach 60 units)............................ **12**
Total Degree Units Solano GE... **60**

** 0 units may be double counted toward both the major area
of emphasis and CSU General Education or IGETC Pattern.
Consult with a counselor for more information on completing
this degree.*

ART 001   Art History   **3.0 Units**
Course Advisory: Eligibility for ENGL 001.
General Education: Option A: Area C; Option B: Area 3A; Option C:
*   Area C1*
Transferable to UC/CSU
Hours: 48-54 lecture.
Explores the history of art in the Western World from the Paleolithic era through the Middle Ages. Focuses on the interrelation of art and culture, with a comparative study of select works of non-Western art. Field trip may be required. *(C-ID ARTH 110)*

ART 002   Art History   **3.0 Units**
Course Advisory: Eligibility for ENGL 001.
General Education: Option A: Area C; Option B: Area 3A; Option C:
*   Area C1*
Transferable to UC/CSU
Hours: 48-54 lecture.
Explores the history of Western Art through a critical analysis of Renaissance art through Post-Modern Art. Students will examine the connection between art and culture, and evaluate the historic, religious, and political influences on the artistic choices of diverse men and women of art history from the 15th century to today. Field trip may be required. *(C-ID ARTH 120)*

ART 003A   Arts of Asia   **3.0 Units**
Course Advisory: ENGL 001 and SCC minimum Math standard.
General Education: Option A: Area C; Option B: Area 3A; Option C:
*   Area C1*
Transferable to UC/CSU
Hours: 48-54 lecture.
A survey of art and architecture from India, Southeast Asia, China, Korea, and Japan from pre-history to modern times. *(C-ID ARTH 130)*

ART 003B   **3.0 Units**
Arts of Africa, Oceania, and the Americas
Course Advisory: ENGL 001 and SCC minimum Math standard.
General Education: Option A: Area C; Option B: Area 3A; Option C:
*   Area C1*
Transferable to UC/CSU
Hours: 48-54 lecture.
A survey of the arts and architecture of Africa, Oceania, and the Americas, with an emphasis on traditional arts and practices. This course will also address issues related to the scholarship and display of these arts in the Western world. *(C-ID ARTH 140)*

ART 004   Life Drawing   **3.0 Units**
Course Advisory: SCC minimum English standard.
Transferable to UC/CSU
Hours: 32-36 lecture, 64-72 lab.
A study of the human figure in action and repose using a variety of drawing materials and approaches. Students work directly from the live model to develop skills using assignments which include gesture, line drawings, tone studies and the use of color. The student submits a midterm and final portfolio for evaluation. Field trip may be required. *(C-ID ARTS 200)*

ART 005   Life Drawing - Intermediate   **3.0 Units**
Prerequisite: ART 004 with a minimum grade of C.
Transferable to UC/CSU
Hours: 32-36 lecture, 64-72 lab.
The continued study of the human figure with more advanced problems in drawing and composition. Following initial review, the student may choose an individual program of study with the approval of the instructor. Field trip may be required.

ART 006   Design Principles In 2-Dimensions   **3.0 Units**
Course Advisory: SCC minimum English standard.
Transferable to UC/CSU
Hours: 32-36 lecture, 64-72 lab.
A fundamental study of visual elements and principles of design for production of art images in 2-Dimensions using various materials in black and white. Design formats developed from historic and aesthetic precepts are employed to investigate the relationship of form and content. Field trip may be required. *(C-ID ARTS 100)*

ART 007   Design-Color   **3.0 Units**
Course Advisory: SCC minimum English standard.
Transferable to UC/CSU
Hours: 32-36 lecture, 64-72 lab.
A study of the principles of additive and substractive color in two dimensions. Various theories of color will be studied including those of Albers and Ittens. Reference to the use of color in the dominant styles of art history will be made. Students will produce a portfolio of projects in applied color and the elements of design. Field trip may be required. *(C-ID ARTS 270)*

Art

ART 008   Design Principles In 3-Dimensions   3.0 Units
Course Advisory: SCC minimum English standard.
Transferable to UC/CSU
Hours: 32-36 lecture, 64-72 lab.
The fundamental study of visual elements and principles of design for production of art objects in three dimensions using various sculpture materials and methods. Design formats developed from historic and aesthetic precepts are employed to investigate the relationships of form and content. Field trip may be required. *(C-ID ARTS 101)*

ART 010   Art Appreciation   3.0 Units
Course Advisory: Eligibility for ENGL 001.
General Education: Option A: Area C; Option B: Area 3A; Option C: Area C1
Transferable to UC/CSU
Hours: 48-54 lecture.
An introductory examination of the cultural, universal, and personal factors influencing the making and viewing of art. Including a study of style, composition, materials and techniques used in the creation of art from disparate cultures and periods of history. Field trip may be required. *(C-ID ARTH 100)*

ART 011   Survey of Modern Art   3.0 Units
Course Advisory: ENGL 001.
General Education: Option A: Area C; Option B: Area 3A; Option C: Area C1
Transferable to UC/CSU
Hours: 48-54 lecture.
A study of the art and architecture of the major modern movements and artists from the 19th and 20th centuries. Analysis of subject, form and content of paintings, photography and sculpture in lecture and audio visual presentation. Classes supplemented by field trips to current exhibitions. Written examinations and paper required. Modern Art is a capstone course designed for, but not limited to, Art History and Studio Art Majors. Field trip may be required. *(C-ID ARTH 150)*

ART 012   3.0 Units
Inside/Outside: The Cultures and Identitites of Diverse Visual Artists in the U.S.
Course Advisory: ENGL 001.
General Education: Option A: Area C, Area E; Option B: Area 3A, Cross Cultural; Option C: Area C1, SCC Graduation Requirement
Transferable to UC/CSU
Hours: 48-54 lecture.
An art survey course that examines and assesses three or more groups of culturally diverse artists, art organizations and support structures. Explores art issues related to social and historical trends in the U.S., including ways in which art may reflect and shape American attitudes towards identity (ethnic, gender, sexual, intersectional), culture and discrimination. Field trip may be required.

ART 014   Introduction To Drawing   3.0 Units
Course Advisory: SCC minimum English standard.
Transferable to UC/CSU
Hours: 32-36 lecture, 64-72 lab.
A study of drawing as a means of expression with emphasis on the potential variety of forms and materials available to the artist. Students will create representational and abstract drawings from still life, the figure, nature and imagination. Observational drawing skills and technical skills will be developed. Field trip may be required. *(C-ID ARTS 110)*

ART 015   Intermediate Drawing   3.0 Units
Course Advisory: ART 014; SCC minimum English and Math standards.
Transferable to UC/CSU
Hours: 32-36 lecture, 64-72 lab.
A basic drawing class which develops the concepts introduced in ART 014 on a more advanced level. Problems in observation and imagination and the translation of these experiences into graphic terms by exploration of line, shape, mass, space, texture, and light and shadow. Emphasis on composition and the development of a personal approach to drawing. Students will be required to submit a portfolio of assignments. Field trip may be required. *(C-ID ARTS 205)*

Art

ART 015B   Collage and Assemblage   **3.0 Units**
Course Advisory: SCC minimum English standard.
Transferable to UC/CSU
Hours: 32-36 lecture, 64-72 lab.
Explores the making of 2D and 3D collages and assemblages in a variety of media. Addresses the history and prevalence of collage thinking as an approach to art making while integrating traditional drawing and painting skills. Field trip may be required.

ART 015C   Book Making   **3.0 Units**
Course Advisory: SCC minimum English and Math standard.
Transferable to UC/CSU
Hours: 32-36 lecture, 64-72 lab.
Explores book making in a variety of formats. Discusses the history and development of the book. Students will make several books: Classic signature book bound between boards, side bound books and a variety of artist's books including altered books, boxed books, and 3 dimensional book structures like accordion books and pop-up books. Field trip may be required.

ART 016   Beginning Painting   **3.0 Units**
Course Advisory: ART 014; SCC minimum English standard.
Transferable to UC/CSU
Hours: 32-36 lecture, 64-72 lab.
An introduction to techniques and materials of painting in acrylic or oil. Designed for the student with limited experience in painting, this course includes color theory, composition, exposure to a variety of subject matters, and the development of skills for individual expression. Field trip may be required. *(C-ID ARTS 210)*

ART 017   **3.0 Units**
Intermediate Painting: Acrylic and Oil
Course Advisory: ART 016; SCC minimum English standard.
Transferable to UC/CSU
Hours: 32-36 lecture, 64-72 lab.
A study of acrylic and oil painting techniques focusing on use of color, the medium and composition. A series of painting assignments designed to develop skills in both media. Field trip may be required.

ART 018   **3.0 Units**
Advanced Intermediate Painting: Acrylic and Oil
Prerequisite: ART 017 with a minimum grade of C.
Course Advisory: SCC minimum Math standard.
Transferable to UC/CSU
Hours: 32-36 lecture, 64-72 lab.
A study of color, composition and technique in oil or acrylic painting on an intermediate level. Students may choose to build on assignments from ART 017 or develop an outline of semester assignments appropriate to their interests and skill needs. Field trip may be required.

ART 019   Figure Painting   **3.0 Units**
Course Advisory: ART 016; SCC minimum English standard.
Transferable to UC/CSU
Hours: 32-36 lecture, 64-72 lab.
A study of the human figure using a variety of painting techniques and approaches. Students work directly from the live model to develop skills in rendering and expression. Assignments include long and short observational paintings which will afford skill development in materials handling as well as compositional and thematic developments. Field trip may be required.

ART 019B   Clothed Figure   **3.0 Units**
Course Advisory: SCC minimum English standard.
Transferable to UC/CSU
Hours: 32-36 lecture, 64-72 lab.
Understanding the various properties of clothing and drapery, as used with the figure in painting and drawing. Gesture, proportion, form and color will be studied in relation to the clothed figure. Projects will include a variety of costume statements including fashion, sport, fantasy or science fiction and theatre costume. Field trip may be required.

ART 020   **2.0 or 3.0 Units**
Landscape Drawing And Painting--Reflections Of Nature
Course Advisory: SCC minimum English and Math standards.
Transferable to UC/CSU
Hours: 16-36 lecture, 48-72 lab.
A focus on the outdoors as subject matter. Frequent field trips and class exercises will introduce and expand the student's awareness and observational skills of the environment, in the tradition of Natural History as well as plein air (outdoor) art making. The student will reflect and translate these experiences into graphic terms using various media while considering line, shape, mass, space, texture, light, color and shadow. The student will focus on composition and content while developing a personal understanding of the environment. Keeping a written and visual journal will also be a component of this class. This course will examine the interrelationships of humans and their surroundings, and the aesthetic choices available with which to communicate our responses. This class will consist of regular field trips during class meetings as well as some weekend outings. Films, special lectures, various projects and assignments as well as consideration for weather conditions will make up the remaining time in the studio. Students who wish to transfer must enroll in the 3-unit section.

ART 021   **Watercolor**   **3.0 Units**
Course Advisory: SCC minimum English standard.
Transferable to UC/CSU
Hours: 32-36 lecture, 64-72 lab.
An introduction to the materials and techniques of transparent watercolor. Including basic composition, color study and an exploration of materials. Lectures, demonstrations and field study will supplement class assignments. Field trip may be required.

ART 022   **Watercolor - Intermediate**   **3.0 Units**
Prerequisite: ART 021 with a minimum grade of C.
Transferable to UC/CSU
Hours: 32-36 lecture, 64-72 lab.
A continuation of the study of basic watercolor techniques with emphasis on a more individual approach to the medium. The student and instructor develop a course of study that will focus on needs in the areas of skills and self-expression. Field trip may be required.

ART 023   **3.0 Units**
Introduction to Ceramics: Hand Building
Course Advisory: SCC minimum English standard.
Transferable to UC/CSU
Hours: 32-36 lecture, 64-72 lab.
Basic construction methods of hand building and finishing pottery. Emphasis on form, craftspersonship and creativity. Building methods include pinch technique, coil building, and slab construction. Surface techniques include texture, stencil, slip, relief, stain, and glaze. Non-traditional construction and surface techniques will also be covered. Field trip may be required.

ART 024   **3.0 Units**
Intermediate Ceramics: Hand Buiding
Prerequisite: ART 023 with a minimum grade of C.
Transferable to UC/CSU
Hours: 32-36 lecture, 64-72 lab.
A continuation of ART 023 with emphasis on expanding skills, experimentation, design, craftspersonship, and creativity. Application of basic techniques to create finished art forms. Field trip may be required.

ART 025   **3.0 Units**
Ceramic Design And Decoration: Hand Building Methods
Prerequisite: ART 024 with a minimum grade of C.
Transferable to UC/CSU
Hours: 32-36 lecture, 64-72 lab.
Emphasizes ceramic design problem-solving. Emphasis on creativity, design, honing skills, craftspersonship and experimentation. Ceramic art of the past as well as contemporary art is discussed. Loading and firing kilns, formulating glazes and mixing clay bodies are also covered. Builds on fundamental skills covered in Art 023 and Art 024. Field trip may be required.

ART 026   **3.0 Units**
Introduction to Ceramics: Wheel Throwing Techniques
Course Advisory: SCC minimum English standard.
Transferable to UC/CSU
Hours: 32-36 lecture, 64-72 lab.
Introduction to basic wheel throwing techniques. Emphasis on form, craftspersonship, and creativity. Surface techniques include texture, stencil, slip, relief, stain, and glaze. Non-traditional construction and surface techniques will also be covered. *(C-ID ARTS 230)*

Art

ART 027   **3.0 Units**
Intermediate Ceramics: Wheel Throwing Techniques
Prerequisite: ART 026 with a minimum grade of C.
Transferable to UC/CSU
Hours: 32-36 lecture, 64-72 lab.

This course is a continuation of ART 026 with emphasis on expanding skills, experimentation, design, craftspersonship, and creativity. Application of basic techniques to create finished art forms. Field trip may be required.

ART 028   **3.0 Units**
Ceramic Design: Wheel Throwing Techniques
Prerequisite: ART 027 with a minimum grade of C.
Transferable to UC/CSU
Hours: 32-36 lecture, 64-72 lab.

Emphasizes ceramic design problem-solving. Emphasis on creativity, design, honing skills, craftspersonship and experimentation. Ceramic art of the past as well as contemporary art is discussed. Loading and firing kilns, formulating glazes and mixing clay bodies are also covered. Builds on fundamental skills covered in ART 026 and ART 027. Field trip may be required.

ART 029   Raku Pottery   **2.0 or 3.0 Units**
Course Advisory: ART 023 or ART 026 (one college level ceramics course); SCC minimum English standard.
Transferable to UC/CSU
Hours: 16-36 lecture, 48-72 lab.

Covers the ancient and contemporary art of Raku. Topics include techniques of forming clay, the formulation of clay bodies and glazes for Raku, kiln construction, firing, post firing, Eastern and Western esthetics, and the history of Raku. The course will not cover basic ceramic construction techniques. Students should already be familiar with basic hand building or wheel throwing techniques. Field trip may be required. Students who wish to transfer must enroll in the 3-unit section.

ART 030A   **2.0 or 3.0 Units**
Architectural Ceramics, Murals and Tiles
Course Advisory: ART 023 or ART 026 (one college level ceramics course); SCC minimum English standard.
Transferable to UC/CSU
Hours: 16-36 lecture, 48-72 lab.

An investigation of the history, contemporary examples, materials, techniques and the vast range of artistic expression possible in architectural ceramics, ceramic murals and tiles. The course will not cover basic ceramic construction techniques. Students should already be familiar with basic hand building or wheel throwing techniques. Students should expect to incur materials and equipment costs typical of a studio art course. Field trips may be required in this course. Students who wish to transfer must enroll in the 3-unit section.

ART 030B   **3.0 Units**
Mural Painting: History, Community, Practice
Course Advisory: ENGL 001; SCC minimum Math Standard.
General Education: Option A: Area C; Option B: Area 3A; Option C: Area C1
Transferable to UC/CSU
Hours: 32-36 lecture, 64-72 lab.

An exploration of the cultural history of mural painting as well as the social and political issues related to the creation and public reception of mural paintings. Students will apply aesthetic as well as conceptual analyses to the design and creation of a full-scale mural. Through both study and practice, students will consider the importance of the community in the mural-making process. Field trips are required. Students will travel to view murals in the Bay Area. Murals may be painted at an off-campus site.

ART 030C   **3.0 Units**
Ceramics: History, Culuture, Practice
Course Advisory: SCC minimum English and Math standards.
Transferable to UC/CSU
Hours: 32-36 lecture, 64-72 lab.

Introduction to a broad spectrum of ceramic art from diverse cultures including Western/European Art, Asian/Middle Eastern Art, Meso-American Art and African Art within a technical, historical, and cultural context. Students will utilize creative problem solving skills to produce contemporary, original works of art that reinterpret the traditions presented in the course content.

ART 031   Sculpture   **3.0 Units**
Course Advisory: SCC minimum English standard.
Transferable to UC/CSU
Hours: 32-36 lecture, 64-72 lab.
Introduction to sculpture methods and materials. Emphasis on principles of three dimensional design and the interrelationship of form, content and context. Sculpture methods to be covered include modeling, mold making, welding, assemblage, and construction with a variety of materials. Various sculpture methods are practiced with attention to creative self-expression and historical context. Field trip may be required. *(C-ID ARTS 240)*

ART 032   Sculpture: Human Figure   **3.0 Units**
Course Advisory: SCC minimum English standard.
Transferable to UC/CSU
Hours: 32-36 lecture, 64-72 lab.
Study of the human form in sculpture. Students will create both realistic and abstract sculpture of the human form in a variety of materials. Field trip may be required.

ART 033   Intermediate Sculpture   **3.0 Units**
Prerequisite: A minimum grade of C in ART 031, ART 032 or ART 034.
Transferable to UC/CSU
Hours: 32-36 lecture, 64-72 lab.
Further development of concepts and skills presented in ART 031 and ART 032. Emphasis is placed on individual expression. A variety of materials, methods, and sculptural concepts are explored. Field trip may be required.

ART 034   Ceramic Sculpture   **3.0 Units**
Course Advisory: SCC minimum English standard.
Transferable to UC/CSU
Hours: 32-36 lecture, 64-72 lab.
Introduction to basic sculpture concepts, materials, and approaches with an emphasis on ceramics. Subjects to be covered include: Historic and contemporary approaches to ceramic sculpture, slab construction, coil building, mold making, extruded fabrication, modeling from the figure, introduction to ceramic color, characteristics and limitations of ceramic materials. Field trip may be required.

ART 035A   **3.0 Units**
Introduction to Wood-Fired Ceramics
Course Advisory: SCC minimum English and Math standards.
Transferable to UC/CSU
Hours: 32-36 lecture, 64-72 lab.
Covers the ancient and contemporary art of wood-fired ceramics. Topics include techniques of forming clay, the formulating of clay bodies and glazes for wood fire, kiln construction, wood firing techniques, Eastern and Western esthetics and the history of wood-fired ceramics. The course will not cover basic ceramic construction techniques. Students should already be familiar with basic hand building or wheel throwing techniques.

ART 036   **2.0 or 3.0 Units**
Ceramics Surfaces - Drawing and Painting on Clay
Course Advisory: SCC minimum English and Math standards.
Transferable to UC/CSU
Hours: 16-36 lecture, 48-72 lab.
A ceramic surface design exploration of the vast range of artistic expression possible with ceramic slips, stains, glazes and firing techniques at low, medium and high temperature ranges. The course will not cover basic ceramic construction techniques. Students should already be familiar with basic hand building or wheel throwing techniques. Field trip may be required. Students who wish to transfer must enroll in the 3-unit section.

ART 037   **2.0 or 3.0 Units**
Clay and Glazes for the Ceramic Artist
Prerequisite: A minimum grade of C in ART 023 or ART 026.
Course Advisory: SCC minimum Math standards.
Transferable to UC/CSU
Hours: 16-36 lecture, 48-72 lab.
Covers and investigates the theoretical and practical aspects of clay and glaze formulation. Topics covered include: Clay/glaze fit, glaze calculation, testing strategies, the development of color, the development of texture, kiln types, kiln temperatures and kiln atmosphere. Field trip may be required. Students who wish to transfer must enroll in the 3-unit section.

ART 038   Introduction to Printmaking   3.0 Units
Course Advisory: SCC minimum English and Math standards.
Transferable to UC/CSU
Hours: 32-36 lecture, 64-72 lab.
Explores traditional and contemporary approaches to etching (Intaglio), lithography, relief (woodcut and linoleum) and screen printing. Digital and new methods of photographic printmaking are discussed and demonstrated. This course is project oriented to enable the student to develop a portfolio of completed works in various mediums. Field trip may be required.
(C-ID ARTS 220)

ART 039   3.0 Units
Etching and Engraving: Line Techniques
Course Advisory: SCC minimum English standard.
Transferable to UC/CSU
Hours: 32-36 lecture, 64-72 lab.
History and techniques of line etching and engraving, includes dry point, sugar lift line etching, and soft ground line variations. The student is expected to produce matted prints of completed projects. Field trip may be required.

ART 040   Etching and Engraving: Tone   3.0 Units
Course Advisory: SCC minimum English standard.
Transferable to UC/CSU
Hours: 32-36 lecture, 64-72 lab.
Etching and engraving techniques such as aquatint, featherbiting, spit bite, and soft ground which produce tones that have gray and black areas defining line etchings. The student will prepare a portfolio of completed projects. Field trip may be required.

ART 041   Etching and Engraving: Color   3.0 Units
Course Advisory: SCC minimum English and Math standards.
Transferable to UC/CSU
Hours: 32-36 lecture, 64-72 lab.
Etching and engraving techniques and their history, including the use of multiple plates for each color used on the key plate. Some color plate methods covered include a la poupee, monotype, chine colle, color rollings, and viscosity printing. The student will prepare a portfolio of completed projects. Field trip may be required.

ART 042   Screen Printing   3.0 Units
Course Advisory: SCC minimum English and Math standards.
Transferable to UC/CSU
Hours: 32-36 lecture, 64-72 lab.
Screen printing techniques from paper stencils and pochoir to photographic and digital processes. Students are expected to develop a portfolio of prints that emphasizes the exploration of personal content while employing advanced screen techniques and related digital processes. The course will consist of studio production, lectures on contemporary and historical screen printing, demonstrations and critiques. Field trip may be required.

ART 042A   Commercial Screen Printing   3.0 Units
Transferable to UC/CSU
Hours: 32-36 lecture, 64-72 lab.
An introduction to the screen-printing process. Students will participate in the various functions of a design studio: producing artwork; select mesh, frames, and stencil systems; and select inks and substrates based on printing techniques. A combination of laboratory applications and theory will provide the foundation for this course. Acquisition of technical skills through the actual production of screen-printed products is a major goal of this course. Tee shirts, reusable shopping bags and aprons will be some of the merchandise the class will design and print for the Solano College community.

ART 043   3.0 Units
Print Making: Relief Printing, Including Woodcut
Course Advisory: SCC minimum English and Math standards.
Transferable to UC/CSU
Hours: 32-36 lecture, 64-72 lab.
A general introduction to printmaking - the history, development, techniques, and processes. Emphasis is on an in-depth study and application of various relief methods (embossing, collagraph, linoleum cut, woodcut, and non-traditional) along with an investigation of relevant image source and development. Field trip may be required.

ART 045A   Graphic Design I   3.0 Units
Transferable to CSU
Hours: 32-36 lecture, 64-72 lab.
A fundamental background for terminal and transfer students planning to enter the graphic design field. Instruction in the professional use of design, lettering, and illustration through solution of visual communication problems.

ART 045B   Graphic Design II   3.0 Units
Prerequisite: ART 045A with a minimum grade of C.
Course Advisory: SCC minimum English and Math standards.
Transferable to UC/CSU
Hours: 32-36 lecture, 64-72 lab.
Computer design and production methods for print and digital mediums using Adobe and other software programs for layout, illustration, typography, and animation. Graphic design principles are stressed.

ART 045C   Typography   3.0 Units
Course Advisory: ENGL 001 with a minimum grade of C.
Transferable to CSU
Hours: 32-36 lecture, 64-72 lab.
Fundamentally covers the history, theory and study of letterforms and type design, using both traditional and digital media. Studies will include typographic characteristics, the relationship between type and image, principles of legibility, visual hierarchy, and grid systems. Field trip may be required.

ART 046   Illustration I   3.0 Units
Course Advisory: SCC minimum English standard.
Transferable to UC/CSU
Hours: 32-36 lecture, 64-72 lab.
Problems in design and rendering of illustration for print and film media. Projects may include illustrations for books, magazines, advertising and film. Field trip may be required.

ART 046C   Illustration II   3.0 Units
Prerequisite: ART 046 with a minimum grade of C or equivalent as determined by portfolio review.
Transferable to UC/CSU
Hours: 32-36 lecture, 64-72 lab.
Studio illustration conception, production and finish. Students will execute illustration projects using professional procedures and equipment. Emphasis is on student creative and technical development. Written papers and portfolio review required.

ART 047   Introduction to Animation   3.0 Units
Course Advisory: SCC minimum English and Math standards.
Transferable to UC/CSU
Hours: 32-36 lecture, 64-72 lab.
Introduction to the art of animation, and its history and evolution. Student projects will facilitate and require the further development of visual literacy, esthetic principles, and critical thinking skills. Interactivity, the study of motion and linear and non-linear narrative structures will be explored. Students will gain an understanding of how animation can be used as an effective tool for storytelling, and will gain experience through group and individual animation projects. Offers an in-depth study of animation and interactive work using industry standard animation software.

ART 049   Art Honors   1.0 to 3.0 Units
Prerequisite: Completion of 24.0 units of college credit with a minimum GPA of 3.3; a minimum of 5.0 units in the discipline with a grade of 'B' or better; an ability to work independently and permission of the School Dean based on instructor availability.
Transferable to CSU
Hours: 48-162 lab by arrangement.
An independent study course designed for sophomores or students who have taken many of the basic classes and wish to continue work with an instructor in a specialized area. The student works by arrangement with the instructor on an outlined program of study. Students may take this course up to the maximum number of units over multiple semesters.

ART 060   Exhibition Design   1.0 to 3.0 Units
Course Advisory: Eligibility for ENGL 001.
Transferable to CSU
Hours: 16-54 lecture.
Fundamentals of designing exhibitions in gallery, museum, and alternative spaces. Students will gain experience developing exhibitions for the Herger Gallery (Fairfield Campus) and Centers. Topics covered include selection, design and installation of exhibitions; defining the mission of a gallery; public relations; and career opportunities. Field trip may be required.

ART 064   Monotype/Monoprint   3.0 Units
Course Advisory: SCC minimum English and Math standards.
Transferable to CSU
Hours: 32-36 lecture, 64-72 lab.
A focus on the unique print. Study will include history and development of this form in relation to print tradition. Development of press skills in single-drop and multi-drop printing is required as well as a portfolio of printing techniques including direct, indirect and combination prints. Field trip may be required.

ART 074   Kiln Design and Operation   2.0 or 3.0 Units
Course Advisory: ART 023 or ART 026 (one college level ceramics course);
*   SCC minimum English and Math standards.*
Transferable to CSU
Hours: 16-36 lecture, 48-72 lab.
Investigate into the vast range of kiln designs, their operation and the opportunities each offers for artistic expression. Kiln designs covered will include natural gas, propane, electric, raku, salt, wood, and alternative kilns. Students will be able to determine which kilns and which firing strategies are best suited to their current artistic vision. The course will not cover basic ceramic construction techniques. Students should already be familiar with basic hand building or wheel throwing techniques. Field trips may be required. Students who wish to transfer must enroll in the 3-unit section.

ART 075   Art Studio Concepts   2.0 or 3.0 Units
Course Advisory: SCC minimum English standard.
Transferable to CSU
Hours: 16-36 lecture, 48-72 lab.
Intensive study in visual arts studio. Exposure to contemporary art directions, trends and selected topics. Different studio problems will be investigated each semester. Field trips may be required. Students who wish to transfer must enroll in the 3-unit section.

ART 076A   3.0 Units
Portfolio Development - Artistic Inquiry
Course Advisory: SCC minimum English standard.
Transferable to CSU
Hours: 32-36 lecture, 64-72 lab.
An advanced course designed to serve the student in the preparation of a professional fine art portfolio consisting of a body or series of work. Emphasis is placed on: individual expression of an artistic vision; idea development; artistic inquiry; and setting and meeting artistic goals and timelines for the production of a body or series of work. The student should have the necessary skills, art making experience and motivation to work independently, with expert consultation by the instructor, on developing a coherent body of work. This course is the first in a two part course offering completed by Portfolio Development-Documentation. Student should expect to incur materials and equipment costs typical of a studio art course. Field trip may be required.

ART 076B   3.0 Units
Portfolio Development - Documentation
Course Advisory: SCC minimum English standard.
Transferable to CSU
Hours: 32-36 lecture, 64-72 lab.
An advanced course designed to serve the student in the preparation of a professional fine art portfolio consisting of a body or series of work. Emphasis is placed on: individual expression of an artistic vision; professional quality documentation and presentation of artwork; and capacity to communicate both verbally and in writing about artwork produced. The student should have the necessary skills, art making experience and motivation to work independently, with expert consultation by the instructor, on developing a coherent body of work. This course is the second in a two part course offering following Portfolio Development - Artistic Inquiry. Student should expect to incur materials and equipment costs typical of a studio art course. Field trip may be required.

Art

ART 077A   Professional Practices for Artists   3.0 Units
Course Advisory: SCC minimum English standard.
Transferable to CSU
Hours: 48-54 lecture.
Provides the skills and information to serve the student in developing a professional art career. Topics include: How to approach galleries, institutions, universities, art schools, and potential employers. Techniques for promoting art for employment or transfer to four year schools, portfolio preparation, resume writing, artist statement and biography composition, sales and pricing of art, business basics, entrepreneurship, public relations, art on the internet, planning and goal setting, contracts, taxes, grant getting, display, shipping, sustaining creativity. Evaluation of marketing and promotional concepts. Recommended for all art and design majors seeking to become professionals. Field trips may be required.

ART 077B   Art on Site   3.0 Units
Course Advisory: SCC minimum English standard.
Transferable to CSU
Hours: 48-54 lecture.
A movable feast. In this course students will visit artists, gallery owners, museum curators and art administrators on site, at their studios, galleries museums and offices. This will be a forum for students to hear first hand from artists, arts scholars and other art professionals discussing and contextualizing their work within the contemporary art field. Includes multiple lecturers by visitors and additional class lectures providing further context. Exposure to contemporary art directions, trends and job markets. This course requires extensive field trips to destinations in the greater Sacramento and Bay Area.

ART 100   2.0 or 3.0 Units
Color and Mixed Media Drawing
Course Advisory: SCC minimum English standard.
Hours: 16-36 lecture, 48-72 lab.
A focus on the use of a variety of drawing materials and techniques with special attention to color theory. Lectures, demonstrations and field study will supplement class assignments. Field trip may be required.

ART 145   Portrait Drawing and Painting   2.0 or 3.0 Units
Course Advisory: ART 014.
Hours: 16-36 lecture, 48-72 lab.
A multifaceted address of the representation of likeness portrait study. Includes anatomy and work with live models, self-portraits and portraits of others. Issues of gender, ethnic identity, youth and aging, stereotyping and caricature will be presented in historical and contemporary contexts. Portrait work will be explored in a variety of stylistic formats from observational likeness to expressionistic images to symbolic portraits. Work in a variety of media is required. Field trip may be required.

Art - Digital

ARTD 044   Introduction to Digital Design   3.0 Units
Transferable to UC/CSU
Hours: 32-36 lecture, 64-72 lab.
Introduction to digital tools used for the theory, practice and production of graphic design. Principles of color, resolution, pixels, vectors, image enhancement, layout, visual hierarchy, and typography. Emphasis on creating content for industry standards, including compliance with print and web specifications, and professional practices for presentation and communication skills.

ARTD 047C   Introduction to 3D Animation   3.0 Units
Transferable to UC/CSU
Hours: 32-36 lecture, 64-72 lab.
Introduction to the theory, history and production of 3D animation using industry standard software. The traditional principles of animation are applied and translated to the computer generated 3D (CG 3D) environment.

ARTD 144A   Design Bootcamp   1.0 Unit
Hours: 16-18 lecture, 8-9 lab.
An accelerated, in-depth course that covers the principles, practices and digital production of visual design. Topics covered include visual hierarchy, color, typography, composition, color theory, ideation, and professional practices within the industry.

Astronomy

Program Description
The Astronomy program introduces students to the physical properties and processes that govern celestial bodies in the Universe. Students may take astronomy courses to satisfy their natural sciences requirements or to transfer with a major in astronomy/astrophysics or double major in astronomy and physics to the university. Transfer level astronomy curricula stress very strong preparation in physics and mathematics. While most astronomy courses will be taken at the upper division or graduate level, exposure to lower division astronomy courses will assist in exploring the major. Students planning to transfer may need to complete additional coursework and/or select specific electives required by the transfer institution and should consult with a counselor to identify required courses at their target university. Students who pursue a B.S. degree in astronomy will be qualified to enter a teaching credential program, operate a planetarium, and assist at an observatory. With an M.S. degree, students can teach astronomy or physics at a community college, be a telescope operator at a major observatory, or work in industry. A Ph.D. qualifies students for a career in research at a university, space agency, or observatory.

Associate in Science Degree
The Associate in Science Degree in Astronomy can be obtained by completing the 39-unit major and general education requirements. All courses for the major must be completed with a minimum grade of C, or a grade of P if the course is taken on a Pass/No Pass basis.

Program Outcomes
Students who complete the Astronomy Associate Degree will be able to:
1. Explain and discuss basic astronomical phenomena including, but not limited to: gravitation, the seasons, the phases of the Moon, eclipses.
2. Apply the laws of physics to explain the properties of planets, stars, galaxies, and the Universe.
3. Explain and discuss the impact and history of scientific theories and their importance in the advancement of astronomy.
4. Demonstrate proficiency in applying scientific procedures for making observations and measurements typical of modern astronomical research.

REQUIRED COURSES	Units
ASTR 010 General Astronomy	3
ASTR 020 Astronomy Laboratory	1
MATH 020 Analytic Geometry and Calculus I	5
MATH 021 Analytic Geometry and Calculus II	5
MATH 022 Analytic Geometry and Calculus III	4
PHYS 006 Physics for Science and Engineering	5
PHYS 007 Physics for Science and Engineering	5
PHYS 008 Physics for Science and Engineering	5
6 units from List A:	6
Total Units	**39**

List A: (select 6 units)	Units
ASTR 030 The Solar System	3
ASTR 040 Stars, Galaxies, and Cosmology	3
ASTR 045 Introduction to Astrobiology and the search for Life in the Universe	3
ASTR 050 Astronomical Optics	1
CHEM 001 General Chemistry	5
CIS 022 Introduction to Programming	3

CSU General Education or IGETC Pattern units....37-39
Total Degree Units CSU GE or IGETC 67-69

Solano General Education.. 21
Electives (as needed to reach 60 units)............................ 0
    Total Degree Units Solano GE................................... 60

* 9 units may be double counted toward both the major area of emphasis and CSU General Education or IGETC Pattern. Consult with a counselor for more information on completing this degree.

Astronomy

ASTR 010   General Astronomy   3.0 Units
Course Advisory: Eligibility for ENGL 001; SCC minimum Math
   standard.
General Education: Option A: Area A; Option B: Area 5A; Option C:
   Area B1
Transferable to UC/CSU
Hours: 48-54 lecture.

An introductory study of the universe, including the properties and evolution of galaxies, stars, pulsars, black holes, quasars, the sun, planets and life in the universe. Field trip may be required.

ASTR 020   Astronomy Laboratory   1.0 Unit
Prerequisite: ASTR 010, 030, or 040 (courses may be
   taken concurrently).
General Education: Option B: Area 5C; Option C: Area B3
Transferable to UC/CSU
Hours: 48-54 lab.

A familiarization with the sky, telescopes, and other astronomical equipment by completing experiments in Physics related to Astronomy. Topics will cover the moon, planets, stars, galaxies, and cosmology. Field trips may be required.

ASTR 030   The Solar System   3.0 Units
Course Advisory: Eligibility for ENGL 001; SCC minimum Math standard.
General Education: Option A: Area A; Option B: Area 5A; Option C:
   Area B1
Transferable to UC/CSU
Hours: 48-54 lecture.

An introductory study of solar system astronomy, the physics related to that astronomy, the planets and their moons, the sun, solar system debris, and the possibility of extraterrestrial life. Field trips may be required.

ASTR 040   Stars, Galaxies, and Cosmology   3.0 Units
Course Advisory: Eligibility for ENGL 001; SCC minimum Math standard.
General Education: Option A: Area A; Option B: Area 5A; Option C:
   Area B1
Transferable to UC/CSU
Hours: 48-54 lecture.

An introductory study of stars, galaxies, the universe, and the physics related to these topics. Including an examination of the facts relating to the sun, stellar lifetimes, supernovae, black holes, and cosmology. Field trip may be required.

ASTR 045   3.0 Units
Introduction to Astrobiology and the Search for Life in the Universe
Course Advisory: Eligibility for ENGL 001 and SCC minimum Math
   standard.
Transferable to UC/CSU
Hours: 48-54 lecture.

An exploration of the possibility of life beyond the Earth. Topics include the origin and evolution of life on Earth, the formation of Earth and other planets in the solar system, the likelihood of life existing on other planets or moons within our solar system, attempts to locate life within our solar system and attempts to communicate with intelligent life in other parts of the galaxy.

ASTR 050   Astronomical Optics   1.0 Unit
Course Advisory: A minimum grade of B in ASTR 030 or ASTR 040; A
   minimum grade of C in MATH 104.
Transferable to CSU
Hours: 48-54 lab.

An introduction to principles of astronomical optics. The student will apply these principles to the design, fabrication, and use of a telescope, which will be tested under the night sky. Primary mirrors will be ground, smoothed, polished, and figured by hand. Optics and optical testing theories will be presented. Students will design and build a custom optical tube assembly and telescope mount. A field trip to test the finished telescope will be required.

Automotive

Automotive Technician

Program Description
This program is designed to prepare graduates for entry level employment in the automotive industry as apprentice technicians, parts specialists, service consultants, or specialists in one of the many areas in the automotive service and repair industry.

Associate in Science Degree
The Associate in Science Degree can be obtained upon completion of the 45-unit major and general education requirements. All courses in the major must be completed with a minimum grade of C or a P if the course is taken on a Pass/No Pass basis.

Program Outcomes
Students who complete the Associate Degree will be technically proficient in entry level skills as defined by the National Automotive Technician's Education Foundation (NATEF) by demonstrating:

1. Completion of 85 % of the tasks established by NATEF for the Master Automobile Service Technology Certification.
2. Proper service and repair procedures of the following systems:
   • Engine Repair
   • Light Duty Hybrid/Electric Vehicle
   • Automatic Transaxles/Transmissions
   • Manual Drivetrain
   • Suspension, Steering and Alignment
   • Brakes
   • Electrical/Electronic Systems
   • Heating and Air Conditioning
   • Engine Performance
3. Proper safety procedures and techniques.
4. Efficient oral and written communication.
5. The ability to apply fundamental automotive technology principles.
6. Skills for successful employment in the field of Automotive Service and Repair
7. Appropriate methods for hazardous waste handling and disposal.

REQUIRED COURSES	Units
ATEC 070 Automotive Fundamentals	3
ATEC 130 Automotive Suspension and Steering	4
ATEC 131 Automotive Electrical Systems	4
ATEC 132 Automotive Brake Systems	4
ATEC 133 Automotive Engine Repair	4
ATEC 134 Automatic Transmissions/Transaxles	4
ATEC 135 Automotive Engine Performance	4
ATEC 136 Automotive Manual Drivetrain and Axles	4
ATEC 137 Automotive Heating and Air Conditioning	4
ATEC 138 Automotive Electronics	4
ATEC 139 Advanced Engine Performance	4
ATEC 140 Hybrid Vehicle Maintenance and Repair	2
Required Major Total Units	**45**

Solano General Education	**21**
Electives (as needed to reach 60 units)	**0**
Total Degree Units	**66**

This is a Gainful Employment Program. For additional information, please visit
http://www.solano.edu/gainful_employment/ *and select "Automotive Technician."*

Automotive

Automotive Automatic Transmissions and Transaxles

Program Description
This program is designed to prepare graduates for entry level employment in the automotive industry as an Automatic Transmission/Transaxle Service/Repair Technician.

Certificate of Achievement
A Certificate of Achievement in Automatic Transmissions and Transaxles can be obtained by completing the 17-unit automotive major. All courses must be completed with a minimum grade of C or a P if the course is taken on a Pass/No Pass basis.

Program Outcomes
Students who complete the Certificate of Achievement in Automatic Transmissions and Transaxles shall have demonstrated and practiced:

1. 85% of all Master Automobile Service Technology (MAST) P1, P2, and P3 (priority level) Automatic Transmission and Transaxle tasks in accordance with the 2013 National Automotive Technicians Education Foundation (NATEF) automotive training program accreditation standards for the Automatic Transmission and Transaxle Technician A2 Certification.

REQUIRED COURSES..**Units**
ATEC 070 Automotive Fundamentals 3
ATEC 131 Automotive Electrical Systems 4
ATEC 134 Automatic Transmissions/Transaxles 4
ATEC 138 Automotive Electronics...................................... 4
ATEC 140 Hybrid Vehicle Maintenance and Repair 2
    Total Units 17

This is a Gainful Employment Program. For additional information, please visit
http://www.solano.edu/gainful_employment/ *and select "Automotive Automatic Transmissions and Transaxles."*

Automotive

Automotive Electrical and Body Systems

Program Description
This program is designed to prepare graduates for entry level employment in the automotive industry as an Automotive Electrical/Electronics Service/Repair Technician.

Certificate of Achievement
A Certificate of Achievement in Automotive Electrical and Body Systems can be obtained by completing the 17-unit automotive major. All courses must be completed with a minimum grade of C or a P if the course is taken on a Pass/No Pass basis.

Program Outcomes
Students who complete the Certificate of Achievement in Automotive Electrical and Body Systems shall have demonstrated and practiced:

1. 85% of all Master Automobile Service Technology (MAST) P1, P2, and P3 (priority level) Electrical/electronic Systems tasks in accordance with the 2013 National Automotive Technicians Education Foundation (NATEF) automotive training program accreditation standards for the Electrical/Electronic Technical A6 Certification.

REQUIRED COURSES..**Units**
ATEC 070 Automotive Fundamentals 3
ATEC 131 Automotive Electrical Systems 4
ATEC 137 Automotive Heating and Air Conditioning ... 4
ATEC 138 Automotive Electronics...................................... 4
ATEC 140 Hybrid Vehicle Maintenance and Repair 2
    Total Units **17**

Automotive

Automotive Maintenance and Light Repair

Program Description
This program is designed to prepare graduates for entry level employment in the automotive industry as apprentice technicians, lube technician, express service technician or parts specialist.

Certificate of Achievement
The Certificate of Achievement can be obtained by completing the 17-unit automotive major. All courses in the major must be completed with a minimum grade of C or a P if the course is taken on a pass-no pass basis.

Program Outcomes
Students who complete the Associate Degree will be technically proficient in entry level skills as defined by the National Automotive Technician's Education Foundation. (NATEF) by demonstrating:
1. Completion of 85 % of the tasks established by NATEF.
2. Proper preventative maintenance procedures of the following systems:
    - Engine Systems
    - Automatic Transaxles/Transmissions
    - Manual Drivetrain
    - Suspension and Steering
    - Brakes
    - Electrical Systems
    - Heating and Air Conditioning
    - Hybrid and Alternative Fuel Vehicles
3. Proper safety procedures and techniques.
4. Efficient oral and written communication.
5. The ability to apply fundamental automotive technology principles.
6. Skills for successful employment in the field of Automotive Service and Repair.

REQUIRED COURSES..**Units**
ATEC 070 Automotive Fundamentals 3
ATEC 130 Automotive Suspension and Steering 4
ATEC 131 Automotive Electrical Systems 4
ATEC 132 Automotive Brake Systems 4
ATEC 140 Hybrid Vehicle Maintenance and Repair 2
   Total Units 17

Automotive

ATEC 070   Automotive Fundamentals   3.0 Units
Course Advisory: SCC minimun English and Math standards.
Transferable to CSU
Hours: 32-36 lecture, 48-54 lab.

Provides the knowledge and skills needed to prepare students for entry into the automotive core curriculum. The study of automotive industry fundamentals including careers, safety, fasteners, hand tool identification and usage, vehicle systems, electrical fundamentals, service information access and use, automotive chemical and fluid applications, hazardous waste handling, general shop equipment usage, and vehicle servicing. The course is designed in conjunction with Automotive Service Excellence (ASE) standards and subsequently will in part prepare the student for the ASE Maintenance and Light Repair G1 Certification Examination.

ATEC 130   4.0 Units
Automotive Suspension and Steering
Prerequisite: ATEC 070 with a minimum grade of C (may enroll
*   concurrently).*
Course Advisory: ATEC 131
Hours: 32-36 lecture, 96-108 lab.

The study of automotive suspension and steering fundamentals including: Diagnosis, inspection, repair, and adjustment of modern automotive steering, suspension, supplemental restraint, tire pressure monitoring, and alignment systems. Theory of operation, common automotive steering and suspension systems, wheel alignment principles, methods of diagnosis, adjustment and repair, and the use of suspension service equipment will be covered. The course is designed in conjunction with Automotive Service Excellence (ASE) standards and subsequently will in part prepare the student for the ASE Suspension and Steering A4 Certification Examination.

ATEC 131   Automotive Electrical Systems   4.0 Units
Prerequisite: ATEC 070 with a minimum grade of C (may enroll
*   concurrently).*
Hours: 32-36 lecture, 96-108 lab.

Theory and principles of automotive electrical systems including basic electrical theory, Ohm's Law, series and parallel circuits, electrical symbols and schematics, automotive batteries, charging systems, voltage regulation, starting systems, lighting systems, and various accessory systems. Laboratory will place emphasis on diagnosis and testing techniques required to effectively determine the necessary action in an electrical system failure. Use of schematics, technical specifications, voltmeters, ohmmeters, ammeters, and circuit testers will be required. The course is designed in conjunction with Automotive Service Excellence (ASE) standards and subsequently will in part prepare the student for the ASE Electrical / Electronic A6 Certification Examination.

ATEC 132   Automotive Brake Systems   4.0 Units
Prerequisite: ATEC 070 with a minimum grade of C (may enroll
*   concurrently).*
Course Advisory: ATEC 131
Hours: 32-36 lecture, 96-108 lab.

The study of modern automotive braking systems. Hydraulic principles, coefficients of friction, and thermodynamics will be discussed. Diagnosis, repair, overhaul, and adjustment procedures of drum, disc/drum, and four-wheel disc systems will be emphasized. Anti-lock Braking Systems (ABS) diagnostics, servicing, and repair procedures will also be covered. The course will cover common domestic and import passenger vehicles, and light trucks only. The course is designed in conjunction with Automotive Service Excellence (ASE) standards and subsequently will prepare the student for the ASE Brakes A5 Certification Examination.

Automotive

ATEC 133   Automotive Engine Repair   4.0 Units
Prerequisite: ATEC 070 with a minimum grade of C (may enroll concurrently).
Course Advisory: ATEC 131
Hours: 32-36 lecture, 96-108 lab.
The study of four stroke combustion cycle theory, engine torque, horsepower, materials, and manufacturing processes as they relate to internal combustion powerplants used in production automobiles and light trucks. The theory, principles, and diagnosis of cooling systems, lubrication systems, and common engine mechanical failures will be emphasized. Laboratory will focus on comprehensive engine testing, in-vehicle engine servicing, engine disassembly/reassembly, precision measuring, and inspection of internal engine components. The course is designed in conjunction with Automotive Service Excellence (ASE) standards and subsequently will prepare the student for the ASE Engine Repair A1 Certification Examination.

ATEC 134   4.0 Units
Automatic Transmissions/Transaxles
Prerequisite: ATEC 070 with a minimum grade of C (may enroll concurrently).
Course Advisory: ATEC 131
Hours: 32-36 lecture, 96-108 lab.
The study of hydraulic and electronically actuated automatic transmissions and transaxles. Topics will include positive and variable displacement pumps, torque converters, bands and clutches, hydraulic valves, electronic shift solenoids, governors, and common compound planetary gear arrangements. Laboratory will focus on diagnostic and overhaul procedures, in-vehicle testing, and bench testing of various components. The course is designed in conjunction with Automotive Service Excellence (ASE) standards and subsequently will prepare the student for the ASE Automatic Transmission A2 Certification Examination.

ATEC 135   Automotive Engine Performance   4.0 Units
Prerequisite: ATEC 070 with a minimum grade of C (may enroll concurrently).
Course Advisory: ATEC 131
Hours: 32-36 lecture, 96-108 lab.
Operation, troubleshooting and repair of the ignition, fuel and emission control systems of import and domestic passenger vehicles and light trucks. Emphasis is on theoretical knowledge and the proper use of diagnostic tools and equipment. The course is designed in conjunction with Automotive Service Excellence (ASE) standards and subsequently, will in part, prepare the student for the ASE Engine Performance A8 Certification Examination.

ATEC 136   4.0 Units
Automotive Manual Drivetrain and Axles
Prerequisite: ATEC 070 with a minimum grade of C (may enroll concurrently).
Hours: 32-36 lecture, 96-108 lab.
Theory and principles of manual transmissions/transaxles, clutches, driveshafts, half shafts, variable and constant velocity joints, differentials, rear wheel drive axle assemblies, all wheel drives, and four wheel drives. Gear types, ratios, and noise, vibration, harshness diagnostic routines will be discussed. Diagnosis, repair, overhaul, and adjustment procedures for common domestic, import, and light truck drivetrain components will be emphasized. The course is designed in conjunction with Automotive Service Excellence (ASE) standards and subsequently will prepare the student for the ASE Manual Transmission/Transaxle & Drivetrain A3 Certification Examination.

ATEC 137   4.0 Units
Automotive Heating and Air Conditioning
Prerequisite: ATEC 070 with a minimum grade of C (may enroll concurrently).
Hours: 32-36 lecture, 96-108 lab.
Theory and operation of automotive heating systems and air conditioning refrigeration systems. Topics will include the refrigeration cycle, evacuation principles, humidity, heat transfer, automotive refrigerants, temperature pressure relationship, greenhouse gases, and proper handling and storage of refrigerants. Laboratory will focus on the diagnosis and repair of heating and cooling systems, use of refrigerant recycling-reclaiming equipment, use of evacuation equipment, retrofitting, and environmentally sound refrigeration handling techniques. The course is designed in conjunction with Automotive Service Excellence (ASE) standards and subsequently will prepare the student for the ASE A7 Air Conditioning and Heating Certification Examination.

ATEC 138   Automotive Electronics   4.0 Units
Prerequisite: A minimum grade of C in ATEC 070 and ATEC 131.
Hours: 32-36 lecture, 96-108 lab.
Emphasis on applied techniques in schematic reading, scan tool usage and diagnosis of various automotive electronic systems, including power doors, mirrors, windows and seats; sun roofs; air bags; keyless entry; networks and other body control electronics. This course builds on the concepts introduced in Automotive Electrical Systems; is designed in conjunction with Automotive Service Excellence (ASE) standards and subsequently will in part prepare the student for the ASE Electrical / Electronic A6 Certification Examination.

ATEC 139   Advanced Engine Performance   4.0 Units
Prerequisite: A minimum grade of C in ATEC 070, ATEC 131 and
*   ATEC 135.*
Hours: 32-36 lecture, 96-108 lab.

Emphasis on applied techniques in advanced engine performance systems diagnostics including fuel injection; ignition; emission controls; OBD II and CAN/BUS. The course is correlated with the National Institute for Automotive Service Excellence (ASE) standards and is designed to prepare the student for the ASE A8 and L1 Engine Performance Certification Examination series.

ATEC 140   2.0 Units
Hybrid Vehicle Maintenance and Repair
Course Advisory: SCC minimum English and Math standards.
Hours: 16-18 lecture, 48-54 lab.

Study of hybrid vehicles, safety issues associated with hybrid vehicles, maintenance and repair procedures specific to hybrid vehicles.

ATEC 148A   Special Topics-Smog Check Level I   2.5 Units
Hours: 32-36 lecture, 32-36 lab.

The Engine and Emission Control Training is intended to provide students with fundamental knowledge of engine and emission control theory, design and operation. Students who successfully complete this training will have met the first step of the Bureau of Automotive Repair's training requirements for inexperienced or minimally experienced candidates for the Smog Check Inspector license. The training is a minimum of 68 hours and must be completed at a Bureau of Automotive Repair (BAR) certified school. To pass Level 1 training, a student must successfully complete a series of hands-on assessments and pass a written examination. Experienced candidates may skip Level 1 training if they: Possess ASE A6, A8 and L1 certification; or possess an AA/AS Degree or Certificate in automotive technology and have 1 year experience; or have 2 years experience and have completed BAR specified diagnostic and repair training.

ATEC 148B   1.0 Unit
Special Topics - Smog Check Level II
Prerequisite: ATEC 148A with a minimum grade of C.
Hours: 16-18 lecture, 8-9 lab.

Level 2 - Smog Check Procedures Training. This training provides students the procedural knowledge, skills, and abilities needed to perform Smog Check inspections. This training is a minimum of 28 hours and must be completed at a BAR-certified school. The Smog Check Procedures Training must be completed by all Inspector candidates. To pass Level 2 training, a student must successfully complete a series of hands-on assessments and pass a written examination. Students who complete and pass this training will have met the Bureau's training requirements to qualify to take the Smog Check Inspector state licensing examination.

Biology (AS-T)

CAREER PATHS:

Biological Technician
Biologist
Molecular and Cellular Biologist
Geneticists
Life Scientist

Natural Science Manager
Environmental Restoration
Secondary Education
Post-Secondary Education

Additional Career Paths and related data, including state-by-state wage info and growth in the field, can be found at www.onetonline.org.

This program map represents one possible pathway. See a counselor to create a customized education plan. Map is for the 2019-2020 catalog year.

SOLANO
COMMUNITY COLLEGE

BIOLOGY
Associate in Sciences for Transfer
GE Pattern: IGETC
Program Total Units: 65

For more information please contact:
(707) 864-7211

---

1 FIRST SEMESTER

Total Recommended Units: 15

CHEM 001	**5 units**
General Chemistry I (IGETC 5A/5C)	

MATH 020	**5 units**
Analytic Geometry & Calculus I (IGETC 2)	

ENGL 001	**4 units**
College Composition (IGETC 1A)	

LR 010	**1 unit**
Introduction to Library Research and Information Competency	

2 SECOND SEMESTER

Total Recommended Units: 17

CHEM 002	**5 units**
General Chemistry II (IGETC 5B)	

BIO 002	**5 units**
Cell & Molecular Biology	

IGETC 1B	**4 units**
Suggested: ENGL 002 or 004	

IGETC 3A	**3 units**
Suggested: ART 001 or 002 or MUSC 005 or 008	

3 THIRD SEMESTER

Total Recommended Units: 16

PHYS 002 or 006*	**5 units**
General Physics I OR Physics for Science & Engineering	

BIO 003	**5 units**
Evolution, Ecology and Biodiversity	

IGETC 3B / Am Inst Grp 2	**3 units**
Suggested: HIST 017 or 018	

IGETC 1C	**3 units**
Suggested: COMM 001 or 002 or 006	

4 FOURTH SEMESTER

Total Recommended Units: 17

PHYS 004 or 007*	**5 units**
General Physics II OR Physics for Science & Engineering	

IGETC 4	**3 units**
Suggested: PSYC 001	

IGETC 3A or 3B	**3 units**

IGETC 4 / Am Inst Grp 1	**3 units**
Suggested: PLSC 001 for Am Inst requirement	

IGETC 4	**3 units**
Suggested: SOC 001 or ANTH 002 or ECON 001	

*The University of California transfer pathway for Biology also requires MATH 021, CHEM 003, and CHEM 004, but does NOT require courses in Physics. See a counselor for a personalized education plan.

■ Required Courses/Courses in Discipline ■ GE Courses/Categories

---

GET STARTED NOW!

▶ **Get started on your Pathway now with these recommended courses!** *Then –*See a counselor to create a **CUSTOMIZED** education plan personalized to your career and transfer goals!

▶ Required courses may change depending on a student's career and transfer goals, including requirements for cross-cultural and foreign language courses, and/or specific requirements for an individual CSU or UC.

▶ Unique transfer requirements for a specific institution can be found at **www.assist.org.**

LET US HELP YOU!

How to Apply: solano.edu/ar/apply.php

■ **Questions? Talk to a Counselor Now!**
Main Campus, Fairfield: (707) 864-7101
Vacaville Center: (707) 863-7836
Vallejo Center: (707) 642-8188
Travis AFB: (707) 863-7878
Visit online at solano.edu/counseling

■ **Contact Our Career Center to Learn Your Career Options!**
Call 707-864-7124, or email at CareerCenter@solano.edu
Visit online at solano.edu/career

■ **You Can Afford College! Learn more about Financial Aid!**
Call 707-864-7103, or email at FinancialAid@solano.edu
Visit online at solano.edu/financial_aid

■ **College is Accessible!** Contact our Disability Services Program (DSP) at 707-864-7136.

Biology

Associate in Science in Biology for Transfer (ADT: A.S.-T.)

Program Description
The Associate in Science in Biology for Transfer Degree program prepares students to transfer to the California State University system as a biology major.

Associate in Science Degree
The Associate in Science in Biology for Transfer degree prepares students to seamlessly transfer to the California State University system as a Biology major. This degree gives Biology majors the Biology, Mathematics, Chemistry, and Physics knowledge that allows them to succeed in upper division courses after transfer. In the major, students gain knowledge of biological molecules, cell structure and function, bioenergetics, Mendelian and molecular genetics, microbiology, plant biology, evolution, ecology, biodiversity, and biotechnology. In the laboratory students learn experimental design including data collection and analysis, keeping a legal laboratory notebook, and reporting the results in a standard scientific journal format. The Biology courses give students an extensive laboratory experience where they gain essential skills required to study and manipulate macromolecules, aseptically transfer cells, work with the common model organisms used in Biology research, and carry out a field study.

Associate in Science in Biology for Transfer
Students who complete this 35 unit major will be guaranteed admission with junior status to the California State University system, though not to a particular campus.

The Associate in Science in Biology for Transfer degree requires:
1. Completion of 60 semester units that are eligible for transfer to the California State University, including both of the following:
   a. The Intersegmental General Education Transfer Curriculum (IGETC) or the California State University General Education – Breadth Requirements.
   b. Completion of the 35 units of courses in the major.
2. Obtainment of a minimum grade point average of 2.0. Students must earn a C or better in all courses required for the major. A "P" (Pass) grade is not an acceptable grade for courses in the major.

Program Outcomes
Students who complete the Biology Associate Degree will be able to:
1. Design and/or interpret an investigation, including data collection and/or analysis.
2. Describe the molecular basis of genetics and energetics.
3. Explain the principles and mechanisms of microevolution and macroevolution.

REQUIRED COURSES	Units
BIO 002 Cell and Molecular Biology	5
BIO 003 Evolution, Ecology & Biodiversity	5
CHEM 001 General Chemistry I	5
CHEM 002 General Chemistry II	5
MATH 020 Analytic Geometry and Calculus I	5
Select List A or List B	10
Required Major Total Units	**35**

List A	Units
PHYS 002 General Physics (Non-Calculus)	5
PHYS 004 General Physics (Non-Calculus)	5

List B	Units
PHYS 006 Physics for Science and Engineering	5
PHYS 007 Physics for Science and Engineering	5

	Units
CSU General Education or IGETC for Stem	31-33
CSU Transferable Electives (as needed to reach 60 Transferable units)*	1-4
Total Degree Units	**60**

9-10 units may be double counted toward both the major area of emphasis and CSU General Education or IGETC Pattern. Consult with a counselor for more information on completing this degree.

Biology

Biology

Program Description
This degree has been designed for students planning on transferring to a campus of the University of California as a Biology, Cell Biology, Molecular Biology, or Biochemistry majors. The program incorporates a study of the mathematics, chemistry, and biology required to understand and research biological processes including cell biology, molecular biology, bioenergetics, genetics, population genetics, microbiology, evolution, developmental biology, ecology, biodiversity, and biotechnology.

Associate in Science Degree
The Associate in Science Degree can be obtained by completing the 40-unit major, and general education requirements. All courses in the major must be completed with a minimum grade of C or a P if the course is taken on a Pass/No Pass basis.

Program Outcomes
Students who complete the Biology Associate Degree will be able to:
1. Design and/or interpret an investigation, including data collection and/or analysis.
2. Describe the molecular basis of genetics and energetics.
3. Explain the principles and mechanisms of microevolution and macroevolution.

REQUIRED COURSES..**Units**
BIO 002 Cell and Molecular Biology 5
BIO 003 Evolution, Ecology & Biodiversity 5
CHEM 001 General Chemistry I 5
CHEM 002 General Chemistry II....................................... 5
CHEM 003 Organic Chemistry I.. 5
CHEM 004 Organic Chemistry II....................................... 5
MATH 020 Analytic Geometry and Calculus I................ 5
MATH 021 Analytic Geometry and Calculus II............... 5
    Required Major Total Units 40

CSU General Education or IGETC for
    STEM units...**31-33**
    Total Degree Units CSU GE or IGETC 62-64

Solano General Education.. **21**
Electives (as needed to reach 60 units)............................ 0
    Total Degree Units Solano GE.................................. 61

* 9 units may be double counted toward both the major area of emphasis and CSU General Education or IGETC Pattern. Consult with a counselor for more information on completing this degree.

BIO 002   Cell and Molecular Biology   5.0 Units
Prerequisite: CHEM 001.
General Education: Option A: Area A; Option B: Area 5B, Area 5C;
   Option C: Area B2, Area B3
Transferable to UC/CSU
Hours: 48-54 lecture, 96-108 lab.
This course, intended for biology majors, covers the structure and function of prokaryotic and eukaryotic cells, biological molecules, cell reproduction and its controls. Mendelian and molecular genetics, cell physiology and the metabolism including cellular respiration and photosynthesis, cellular communication, and homeostasis. An extensive laboratory component teaches the techniques used in biotechnology to manipulate DNA and to study proteins. *(C-ID BIOL 190)*

BIO 003   Evolution, Ecology & Biodiversity   5.0 Units
Prerequisite: BIO 002 with a minimum grade of C.
General Education: Option A: Area A; Option B: Area 5B, Area 5C;
   Option C: Area B2, Area B3
Transferable to UC/CSU
Hours: 48-54 lecture, 96-108 lab.
This course, intended for biology majors, covers evolution, ecology, and the diversity of life. Laboratory includes invertebrate and vertebrate dissection and several weekend and all day field trips. Students must successfully complete both the lecture and the laboratory portions of the course. Field trips may be required with some involving a fee. *(C-ID BIOL 140)*

Biology

BIO 004   Human Anatomy   5.0 Units
Course Advisory: BIO 016 and BIO 016L strongly recommended;
*   Eligibility for ENGL 001; and SCC minimum Math standard.*
General Education: Option A: Area A; Option B: Area 5B, Area 5C;
*   Option C: Area B2, Area B3*
Transferable to UC/CSU
Hours: 48-54 lecture, 96-108 lab.
A study of the structural organization of the human body, from cellular to organismal level. Throughout the course, various types of instruction are used, including microscopic investigation of prepared slides of tissues and organs, gross (macroscopic) anatomical dissection, and examination of prosected human material. *(C-ID BIOL 110B)*

BIO 005   Human Physiology   5.0 Units
Prerequisite: A minimum grade of C in BIO 004 and CHEM 001, CHEM
*   010 or CHEM 012 (formerly CHEM 051).*
General Education: Option A: Area A; Option B: Area 5B, Area 5C;
*   Option C: Area B2, Area B3*
Transferable to UC/CSU
Hours: 48-54 lecture, 96-108 lab.
A description of physiological and homeostatic mechanisms of the body systems in health and disease. The laboratory relates structure to function, uses instrumentation to measure physiological variables, and enables students to critically evaluate functional status. *(C-ID BIOL 120)*

BIO 012   Environmental Science   3.0 Units
Course Advisory: Eligibility for ENGL 001 and SCC minimum
*   Math standard.*
General Education: Option A: Area A; Option B: Area 5B; Option C:
*   Area B2*
Transferable to UC/CSU
Hours: 48-54 lecture.
Examines environmental issues from a scientific perspective by using an understanding of the physical, chemical, and biological processes of the Earth system to examine the interaction between humans and these processes. Topics include ecological principles, biodiversity, human population growth, climate change, air and water pollution, solid waste management, and the management of renewable and non-renewable energy, water, land, soil, and mineral resources. The course utilizes knowledge of these subject to find solutions to environmental challenges. Field trips may be required.

BIO 012L   Environmental Science Laboratory   1.5 Units
Prerequisite: BIO 012 (may enroll concurrently)
General Education: Option B: Area 5C; Option C: Area B3
Transferable to UC/CSU
Hours: 8-9 lecture, 48-54 lab.
Examine the ecological roles of organisms, resource use, and pollution/waste by using laboratory and mandatory field trip techniques. Field trips may be required.

BIO 014   Principles of Microbiology   4.0 Units
Prerequisite: A minimum grade of C in CHEM 001, CHEM 010, or
*   CHEM 012.*
General Education: Option A: Area A; Option B: Area 5B, Area 5C; Option
*   C: Area B2, Area B3*
Transferable to UC/CSU
Hours: 48-54 lecture, 48-54 lab.
The study of the morphology, physiology, genetics, taxonomy, and ecology of microorganisms. The course also includes principles of immunology, the control of microbes, and their relationship to disease. Laboratory exercises cover microscopy, staining, aseptic techniques, identification, and microbial growth among others.

BIO 015   Introduction to Biology   4.0 Units
Course Advisory: Eligibility for ENGL 001; SCC minimum Math standard.
General Education: Option A: Area A; Option B: Area 5B, Area 5C;
*   Option C: Area B2, Area B3*
Transferable to UC/CSU
Hours: 48-54 lecture, 48-54 lab.
Intended for non-science majors, a survey of biology including biological chemistry, cell structure and function, genetics, evolution, and ecology. The laboratory component emphasizes the scientific method to reinforce lecture concepts. Off-campus field trips may be scheduled. NOTE: Not open for credit to students who have completed BIO 003.

BIO 016   Introduction to Human Biology   3.0 Units
Course Advisory: SCC minimum English and Math standards.
General Education: Option A: Area A; Option B: Area 5B; Option C:
*   Area B2*
Transferable to UC/CSU
Hours: 48-54 lecture.
An introduction to general biology with emphasis on the human model. Topics include cell structure and function, human evolution, anatomy and physiology, genetics, and the human impact on the environment. This is a course for non-majors. NOTE: Not open for credit to students who have completed BIO 001, 002, 004, 005, 010 or 015.

Biology

BIO 016L   Human Biology Laboratory   1.5 Units
Prerequisite: BIO 016 with a minimum grade of C (may enroll
*   concurrently).*
Course Advisory: Eligibility for ENGL 001
General Education: Option B: Area 5C; Option C: Area B3
Transferable to UC/CSU
Hours: 8-9 lecture, 48-54 lab.

An introduction to general biology with an emphasis on the human model. Topics include microscopy, cell structure and function, human anatomy and physiology, genetics and the human impact on the environment. Off-campus field trips may be required and may involve a fee. This course is for non-majors. Note: Not open for credit to students who have completed BIO 002, 003, 004, 005 or 015.

BIO 018   Biology Of Sex   3.0 Units
Course Advisory: Eligibility for ENGL 001 and SCC minimum Math
*   standard.*
Transferable to UC/CSU
Hours: 48-54 lecture.

The biological bases of human sex and sexuality will be discussed. Emphasis will be placed on the normal and diseased state of the male and female reproductive system. Essay and objective exams as well as written assignments will be used for student evaluations; the final exam will be comprehensive.

BIO 019   Marine Biology   4.0 Units
Course Advisory: Eligibility for ENGL 001 and SCC minimum Math
*   standard.*
General Education: Option A: Area A; Option B: Area 5B, Area 5C;
*   Option C: Area B2, Area B3*
Transferable to UC/CSU
Hours: 48-54 lecture, 48-54 lab.

The study of the diversity and natural history of life in the marine environment with an emphasis on the adaptations of organisms to their environment. Students must successfully complete both the lecture and laboratory portions of the course. Field trips may be required. Some field trips may involve a fee. This course is for non-majors. NOTE: This course is not open for credit to students who have completed BIO 001 or 002.

BIO 020   3.0 Units
Infectious Disease, Plagues, and Public Health
Course Advisory: Eligibility for ENGL 001; SCC minimum Math standard.
General Education: Option A: Area A; Option B: Area 5B; Option C:
*   Area B2*
Transferable to UC/CSU
Hours: 48-54 lecture.

Examine infectious disease and the changing disease landscape from the molecular to the ecological level. Topics include cell structure and function, microorganisms, immunity, epidemiology, historical plagues, emerging diseases, prevention and treatment, and conditions that promote novel disease emergence. This is a course designed for non-science majors.

BIO 025   Human Genetics   3.0 Units
Course Advisory: Eligibility for ENGL 001; SCC minimum Math standard.
General Education: Option A: Area A; Option B: Area 5B; Option C:
*   Area B2*
Transferable to UC/CSU
Hours: 48-54 lecture.

Provides an understanding of basic principles of genetics, current developments in genetics, and the influence of genes and the environment in determining human characteristics. This course is for non-science majors.

BIO 047   Independent Study   0.5 to 3.0 Units
Prerequisite: A minimum grade of C in 12.0 Units of credit, including 4.0
*   Units from within the discipline.*
Course Advisory: Eligibility for ENGL 001; statistics may be useful for
*   data analysis.*
Transferable to CSU
Hours: 48-162 lab by arrangement.

Designed for students who intend to major in biological sciences or pre-professional programs. Students may take this course up to the maximum number of units over multiple semesters.

BIO 049   Biology Honors   1.0 to 3.0 Units
Prerequisite: Eligibility for Honors Program; BIO 001, BIO 002, BIO 005,
*   BIO 014, or BIO 015 (any of these courses may be taken concurrently).*
Course Advisory: Eligibility for ENGL 001.
Transferable to CSU
Hours: 24-162 lab by arrangement.

Requires approval of a faculty member sponsor and the Dean of the School of Science and Mathematics. Requires students to complete an independent student project under the supervision of a member of the faculty. The project may be a laboratory or field study or a library study that leads to a thesis. In all cases, the final written product should show integration and synthesis of ideas. Students may take this course up to the maximum number of units over multiple semesters.

Biology

BIO 099   **0.5 to 2.0 Units**
Biology Honors: Special Dissection
Prerequisites: Completion of 24.0 units of college credit with a minimum GPA of 3.3; BIO 004 with a minimum grade of B; an ability to work independently; permission of the School Dean based on instructor availability.
Transferable to CSU
Hours: 24-108 lab by arrangement.

An independent study project designed to increase understanding of human anatomy through detailed dissection and other projects assigned by the supervising instructor. The student will be evaluated through oral examination and evaluation of dissections. This course is an Open Entry/Open Exit course. Students may continue BIO 099 over multiple semesters not to exceed 2.0 units.

BIO 101   How to Study Science   **0.5 Units**
Hours: 8-9 lab.

A step-by-step approach for success in transferable science courses. Topics include: overcoming science anxiety; learning how science courses are organized; how best to learn and retain scientific information; how to use science textbooks, common scientific terms, and symbols; how to analyze figures; how to develop test-taking skills to prepare for lecture and laboratory tests; and more.

BIO 160   **2.5 Units**
Review of Scientific Principles of Pre-Nursing
Prerequisite: Current acceptance or on the waiting list of an RN Program.
Hours: 40-45 lecture.

A focus on science and mathematics topics that are critical to success for students entering an RN program. Providing a clinically pertinent review of select anatomy, physiology, nutrition, and microbiology topics for students entering nursing school. Especially designed for students that have had an extended time period between finishing their pre-nursing requirements and entering nursing school. This course is taught by a panel of experts in the field. Case studies are extensively used in order to contextualize the material. This is a Pass/No Pass only course.

Biomanufacturing

Biomanufacturing Bachelor of Science (Baccalaureate) Degree

Solano Community College is one of fifteen community colleges in the state of California to offer a pilot four year, or baccalaureate, degree. Solano Community College's degree is a Bachelor of Science in Biomanufacturing. In biomanufacturing scientists develop techniques to grow genetically engineered cells (bacterial, yeast, or animal cells) in large tanks called bioreactors and develop methods to purify the protein that the cells produce. Then technicians use analytical techniques to prove the purity of the isolated protein. In the future Biomanufacturing will be expanded to include the industrial production of biofuels, biomaterials, stem cells, and other products currently manufactured using chemical rather than biological techniques.

Program Description
The Bachelor of Science in Biomanufacturing program builds upon the Associate in Science in Industrial Biotechnology degree. In the baccalaureate program students gain knowledge in biology, chemistry, engineering, statistics, quality, regulatory affairs, and business. Students use biomanufacturing laboratory facilities to gain process development skills. Many of the courses have been designed with curriculum that aligns with the requirements of certifications from professional organizations.

Bachelor of Science Degree
The Bachelor of Science degree is awarded upon successful completion of a total of 120 units that include 60 lower-division units and ten upper-division major courses, three upper division general education courses, and electives. All courses in the major must be completed with a minimum grade of C.

Program Outcomes

Biomanufacturing Technology:
1. Students will demonstrate the ability to identify and critically analyze two viable options for a biomanufacturing process. The critical analysis will include the technical, financial, and environmental impact of the two options as well as the identification of the benefits and disadvantages of each.
2. Students will be able to produce a professional report and presentation representing their opinion regarding the advantages of selecting a specific biomanufacturing process.

Quality:
3. Students will demonstrate the skills needed to conduct an investigation and analysis of an Out of Specification deviation that occurred during a production step in the manufacturing of a pharmaceutical protein. The student will be able to determine the impact of the OOS deviation on the batch of protein.
4. Students will be able to produce a written Corrective Action Preventative Action report in a format standard to the industry. The report will include evidence to justify their conclusions and action plan.
5. Students will demonstrate the ability to apply Quality by Design (QbD) principles (understanding of the product, the process, and the process control) as adopted by the U.S. Food and Drug Administration (FDA) to design a robust, stable, and controlled manufacturing process for a protein pharmaceutical that can be carried out under current Good Manufacturing Practices (cGMPs). This includes the ability to predetermine values and potential ranges of the critical quality attributes (CQAs) of the product and the critical material attributes (CMAs) of the materials. Students will also be able to determine which parameters would benefit from a Design of Experiments (DoE) approach for their optimization, and construct a strategy for experimental planning and data analysis.
6. Students will use a quality risk assessment approach to perform a criticality assessment to determine the Critical Process Parameters (CPPs) that would need to be monitored and controlled.

Program Requirements and Courses
Successful completion of the lower division prerequisites is required prior to enrollment in the upper division courses on the following page. The program has been designed to follow a cohort model: all students take all of the courses in order.

Biomanufacturing

REQUIRED COURSES

First Semester.. **15 Units**
BIOT 401 Biomanufacturing Process Sciences 5
BIOT 407 Advanced Topics in Quality Assurance and
    Regulatory Affairs.. 4
ENGL 400 Advanced Technical Writing: Writing in the
    Scientific Professions 3
3 units of an Elective... 3

Second Semester.. **16 units**
BIOT 402 Design of Experiments for
    Biomanufacturing 4
BIOT 403 Design of Biomanufacturing Facilities, Critical
    Utilities, Processes, and Equipment 4
BIOT 404 Bioprocess Monitoring and Control.................. 5
3 units of an Elective... 3

Third Semester .... **16 Units**
BIOT 405 Emerging Biomanufacturing Technologies...... 3
BIOT 406 Supply Chain and Enterprise Resource
    Planning... 3
BIOT 408 Six Sigma and Lean Manufacturing.................. 4
PHIL 400 Bioethics 3
3 units of an Elective... 3

Fourth Semester... **13 units**
BIOT 409 Methods in Quality Improvements,
    Investigations and Audits.. 4
BIOT 410 Emerging Trends in Biomanufacturing
    Quality 3
BUS 400 Project Management... 3
3 units of an Elective... 3
Total Units .... **60 Units**

Biomanufacturing

BIOMANUFACTURING BACCALAUREATE DEGREE PROGRAM
APPLICATION/ACCEPTANCE REQUIREMENTS
Currently the Biomanufacturing Bachelor of Science program admits students once per year in the fall. Applications are available online at *http://www.solano.edu/biomanufacturing*.

Prerequisite:
ALL of the following requirements must be met in order to APPLY to the Biomanufacturing Bachelor of Science degree program. If you are unsure about any of these items, please meet with an Academic Counselor. For counseling information, please visit http://www.solano.edu/counseling/.

1. Overall cumulative grade point average (GPA) of 2.5 for ALL college coursework.

2. Completion of, or current Spring semester enrollment in, the following prerequisites with a combined GPA of 2.5 and with no grade less than a C for each of the lower division courses: BIOT 001 (formerly BIOT 051), BIOT 052, BIOT 062, BIOT 063, CHEM 001, BIO 002.

3. Completion of lower division general education CSU/IGETC Option B or Option C program prerequisites (see SCC college catalog).

4. Students who have attended college outside the United States must have transcripts evaluated by a National Association of Credential Evaluation Services (NACES) approved independent agency, demonstrating equivalency to the above requirements (1, 2, & 3).

5. One Statement of Interest, submitted with your application, explaining why you are interested in the program. Topic below:

Write a Statement of Interest that explains why you would like to complete the Bachelor of Science degree in Biomanufacturing. In this essay, state how your background in the prerequisite courses and/or any job experience has prepared you to succeed in this rigorous program. Emphasize your laboratory background. Include any life experience, special circumstances or barriers that you had to overcome while completing the prerequisite courses.

Transcripts:
During the application process, unofficial transcripts may be submitted with the application. Upon admission to the Biomanufacturing Bachelor of Science degree program, you are required to submit one original official transcript in a sealed envelope to the Admissions and Records office from each college and university attended, including Solano Community College, prior to being granted permission to enroll and register for classes in the program.

Please send transcripts to:

Solano Community College
Admissions and Records
Attn: Biomanufacturing Baccalaureate Admissions
4000 Suisun Valley Road
Fairfield, CA 94534-3197

Foreign Transcripts:
All foreign transcripts must be evaluated by a NACES agency for determining U.S. equivalency. ***IF foreign courses were completed or degree earned**, the evaluation must state its equivalency to the Prerequisite requirements (1, 2, & 3) listed above. A list of approved agencies can be found in the Admissions and Records office.

Biomanufacturing

Steps for Completing the Application Process

1.   **New or Returning Solano Community College Students (Students currently enrolled in classes go to Step 2)**

   a. Apply: Students who have never attended Solano Community College or are former students (returning SCC students who are not currently enrolled in classes) must submit a current SCC application for admission. Access the SCC home page (www.solano.edu) and click on Application.

   b. SCC ID number: After submitting your SCC application for admission, allow 30 minutes for processing. An email will be sent to the email address you provided in the application and will include your SCC ID number, username and password for your MySolano account. When completing a new application to Solano, if you previously had an ID number, the system will re-activate that same ID number. You will need your SCC ID number to complete the application.

2. **Complete the Biomanfacturing Application**

   a. Have your SCC ID number, unofficial transcripts, and your Statement of Interest ready.

   b. All required information for admission to the Biomanufacturing Program must be submitted through the link provided on our webpage.

3. **Once Application is Submitted**

   a. Email Account: All correspondence regarding the application status will be sent to the email address you provided on the application. Applicants will not receive any paper or phone verification regarding their status. Please notify the Admissions and Records office if you have a change in email address.

   b. New student applications for fall semester enrollment will be evaluated beginning March 31st of each year. Incomplete applications will NOT be accepted.

<u>**Accepted Applicant Requirements**</u>

1. If you received notification that you have been accepted into the program, a Biomanufacturing Admitted Student Information Session must be completed before your program begins. A schedule will be made available through the School of Math and Science, Fairfield Campus.

2. Upon completion of the Admitted Student Information Session, the student must schedule an Advisement Session prior to registering for classes. Students will meet with an Academic Counselor to develop a Student Education Plan (SEP) during the Advisement Session.

Eligibility requirements, application process, and related information is available on the web at *http://www.solano.edu/biomanufacturing*.

Cost for Biomanufacturing Bachelor of Science Degree
Lower division courses (numbered 001-399/500+) cost $46 per unit.

Upper division courses (numbered 400-499) cost $130 per unit. The additional fee for upper division units of $84 cannot be covered by the California College Promise Grant (formerly BOG Fee Waiver).

Biomanufacturing

BIOT 401 5.0 Units
Biomanufacturing Process Sciences and Engineering Principles
Prerequisite: Admission into the Biomanufacturing Baccalaureate degree program. MATH 011 with a minimum grade of C.
Transferable to CSU
Hours: 48-54 lecture, 96-108 lab.

Builds upon the scientific knowledge underlying chemical engineering principles (for example fluid flow, mass transfer, heat transfer, and the energy relationship of fluid systems) to design, develop, and optimize key parameters in a biomanufacturing process. Process development includes the optimization of media composition, fermenter and bioreactor design, the design of downstream processes, instrumentation, engineering systems, and process control systems to maximize the yield and integrity of a protein pharmaceutical.

BIOT 402 4.0 Units
Design of Experiments for Biomanfacturing
Prerequisite: Admission into the Biomanufacturing Baccalaureate degree program. Permission of faculty required. A minimum grade of C in MATH 011.
Transferable to CSU
Hours: 48-54 lecture, 48-54 lab.

Teaches the formal approach called Design of Experiments (DoE), a system that optimizes a process through the methodical varying of key parameters and a formalized approach to the analysis, interpretation, and application of the results. DoE is designed to make any process more robust and to minimize variability from external sources. The course builds upon the statistical concepts required for DoE including hypothesis testing, confidence intervals, statistical models, and analysis of variance (ANOVA). The DoE approach systematically varies the parameters of a biomanufacturing project to improve its operation.

BIOT 403 4.0 Units
Design of Biomanufacturing Facilities, Critical Utilities, Processes, and Equipment
Prerequisite: Admission into the Biomanufacturing Baccalaureate degree program. Permission of faculty required.
Transferable to CSU
Hours: 64-72 lecture.

Students analyze and evaluate how the design of a biomanufacturing facility uses one-way personnel flow and one-way material flow to maintain appropriate levels of cleanliness and sterility to promote the production of safe and effective products. Students analyze the design of the processes, equipment, and instrumentation used in biological production to generate critical utilities, aseptic systems, environmental control and monitoring, upstream production, and downstream (recovery and purification) production within a regulated environment.

BIOT 404 Bioprocess Monitoring and Control 5.0 Units
Prerequisite: Admission into the Biomanufacturing Baccalaureate degree program; Permission of faculty required. BIOT 401.
Transferable to CSU
Hours: 48-54 lecture, 96-108 lab.

Covers the measurement, monitoring, modeling, and control of biomanufacturing processes and the statistical methodology used for measuring, analyzing, and controlling quality during the manufacturing process including control charts and the analysis of process capabilities.

BIOT 405 3.0 Units
Emerging Biomanufacturing Technologies
Prerequisite: Admission into the Biomanufacturing Baccalaureate degree program. Permission of faculty required; BIOT 401.
Transferable to CSU
Hours: 48-54 lecture.

Focuses on biomanufacturing advances and emerging technologies in biological production and protein purification operations. In the course students compare the advantages and disadvantages of the new technology to the traditional technologies and approaches.

BIOT 406 3.0 Units
Supply Chain and Enterprise Resource Planning in Biomanufacturing
Prerequisite: Admission into the Biomanufacturing Baccalaureate degree program.
Transferable to CSU
Hours: 48-54 lecture.

Students gain knowledge of how companies manage the complete flow of materials in a supply chain from suppliers to customers. This course covers the design, planning, execution, monitoring, and control of raw materials, personnel resources, inventory management, and distribution. At the end students will have the knowledge required to take the CPIM (Certified in Production and Inventory Management) certification test administered by APICS (the American Production and Inventory Control Society).

Biomanufacturing

BIOT 407   **4.0 Units**
Advanced Topics in Quality Assurance and Regulatory Affairs
Prerequisite: Admission into the Biomanufacturing Baccalaureate degree program; Permission of faculty required. MATH 011 with a minimum grade of C.
Transferable to CSU
Hours: 64-72 lecture.

Builds upon previous knowledge of quality assurance and regulatory affairs to study the harmonized quality system approaches of ICH (International Committee on Harmonisation) Q8, Q9, Q10, and Q11. The course pays special attention to the topics of quality risk management, qualification, and validation. This course content has been aligned with the American Society for Quality's Body of Knowledge for a Certified Pharmaceutical Good Manufacturing Practice Professional examination.

BIOT 408   **Six Sigma and Lean Manufacturing**   **4.0 Units**
Prerequisite: Admission into the Biomanufacturing Baccalaureate degree program.
Transferable to CSU
Hours: 64-72 lecture.

Covers the Six Sigma approach to the maintenance and improvement of biomanufacturing processes. It incorporates the DMAIC phases: design, measure, analyze, improve, and control. The course covers the use and implementation of lean manufacturing tools that biomanufacturing companies use to reduce waste. At the end of the course students will be prepared to take the certification test administered by the American Society for Quality for qualification with a white belt in Six Sigma.

BIOT 409   **4.0 Units**
Methods in Quality Improvements, Investigations, and Audits
Prerequisite: Admission into the Biomanufacturing Baccalaureate degree program; Permission of faculty required; BIOT 407.
Transferable to CSU
Hours: 48-54 lecture, 48-54 lab.

Examines the investigational methods used by quality assurance departments to analyze process deviations and make the decision about the severity of the deviation. In this course students learn to write industry-standard CAPA (Corrective Action Preventative Action) report to conclude what corrective and preventative actions result from the investigation. The course also covers how a company would perform an internal audit in anticipation of an inspection by the Food and Drug Administration or an external audit for the supplier of a key raw material. This course content has been aligned with the American Society for Quality's Body of Knowledge for a Certified Quality Technician examination.

BIOT 410   **3.0 Units**
Emerging Trends in Biomanufacturing Quality
Prerequisite: Admission into the Biomanufacturing Baccalaureate degree program; Permission of faculty required; BIOT 407.
Transferable to CSU
Hours: 48-54 lecture.

Examines the process by which the quality systems of biomanufacturing evolve by examining a selected current trend in the laws and regulations governing pharmaceutical manufacturing. In this course students evaluate the effectiveness of the laws and regulations governing pharmaceutical manufacturing.

BUS 400   **Project Management**   **3.0 Units**
Prerequisite: Admission into the Biomanufacturing Baccalaureate degree program.
Transferable to CSU
Hours: 48-54 lecture.

Learn the core characteristics of project management including project selection, initiation, planning, execution, monitoring and control, and closing. Students learn how the management of the project's scope, time, cost, quality, human resources, communication, procurement, stakeholders, and risk lead to the ability to deliver the project on-time and on-budget, while meeting performance specifications. This course is designed to fulfill the classroom component of a Project Management Professional credential.

Biomanufacturing

ENGL 400   **3.0 Units**

Advanced Technical Writing: Writing in the Scientific Professions

Prerequisite: Admission into the Biomanufacturing Baccalaureate degree program. A minimum grade of C in ENGL 001.
Transferable to CSU
Hours: 48-54 lecture.

Advanced study in technical writing with a focus on writing for the sciences, including memos, forms, resumés, proposals, formal and informal reports, and peer review strategies. Emphasis is on understanding the differences between academic and technical writing, including techniques for organizing, evaluating, and presenting information in the objective style required in modern technical communications, as well as current trends in technology and scientific discourse. Instruction includes writing as a process, from researching a problem to organizing and drafting a document, to testing, revising and editing that document. Students will learn to employ rhetorical strategies for effective visual and document design as well as how to address ethical, cultural, and political issues related to writing in the sciences. Currency in scientific writing and electronic publishing, including peer review, will also be emphasized. This course trains scientists to become more effective, efficient, and confident writers.

PHIL 400   Bioethics   **3.0 Units**

Prerequisite: Admission into the Biomanufacturing Baccalaureate degree program.
Transferable to CSU
Hours: 48-54 lecture.

Builds upon a philosophical and critical thinking foundation to train students to be able to model sound ethical decision making in the life science and medical fields. The course requires application of moral theory to a variety of problems in the life science and medical fields such as: genetic engineering, stem cells, allocation of resources, medically assisted dying, genetic screening, genetic alteration, abortion and reproductive rights, and experiments on human or animal subjects. Enrollment in this upper division General Education course is limited to students enrolled in the Bachelors of Science in Biomanufacturing program.

Biotechnology

Industrial Biotechnology

Program Description
This program prepares graduates to work in the biotechnology industry as production technicians. A production technician operates and maintains the equipment used to manufacture protein pharmaceuticals or other products. Students will grow bacterial, yeast, and mammalian cells and recover the proteins that they produce. They will follow good manufacturing practices by maintaining records in order to comply with quality assurance procedures and government regulations. Students in the program must be able to adjust their time to a flexible schedule.

Associate in Science Degree
The Associate in Science Degree can be obtained upon completion of the 22-24 unit major, general education requirements and electives. All courses in the major must be completed with a minimum grade of C or a P if the course is taken on a Pass/No Pass basis.

Program Outcomes
Students who complete the Industrial Biotechnology Associate Degree will be able to:
1. Explain how the structure and function of protein pharmaceuticals and evaluate which protein properties a production facility can exploit to purify a particular protein from other cellular components.
2. Construct a pathway analyzing how a drug or biologic is produced by genetically engineered cells and subsequently purified.
3. Explain how the manufacturer of pharmaceuticals is regulated by the Food and Drug Administration and other international regulatory agencies and how quality systems assure the safety, purity, identity, consistency, potency, and stability of a product.

REQUIRED COURSES..**Units**
BIOT 001 Principles of Biotechnology................................. 3
BIOT 052 Business, Regulatory and Quality Practices
    in Biotechnology.. 3
BIOT 062 Cell Culture and Protein Recovery 4
BIOT 063 Biotechnology Instrumentation:
    Quality Control & Genetic Engineering 4
Select Option A or Option B 8-10
    Required Major Total Units 22-24

Option A .... **Units**
BIO 002 Principles of Cell and Molecular Biology 5
CHEM 001 General Chemistry I 5

Option B.. **Units**
BIO 014 Principles of Microbiology.................................... 4
CHEM 010 Intermediate Chemistry................................... 4

CSU General Education or IGETC Pattern units....37-39
Transferable Electives (as needed to reach 60 units)..3-7
Total Degree Units CSU GE or IGETC 60

Solano General Education... 21
Electives (as needed to reach 60 units)......................17-19
Total Degree Units Solano GE....................................... 60

* 6 units may be double counted toward both the major area of emphasis and CSU General Education or IGETC Pattern. Consult with a counselor for more information on completing this degree.

NOTE: Prior knowledge and use of computers is advised, including word processing, spreadsheets, and databases.

Biotechnology

Industrial Biotechnology

Program Description
This program prepares graduates to work in the biotechnology industry as production technicians. A production technician operates and maintains the equipment used to manufacture protein pharmaceuticals and other products. Students will grow bacterial, yeast, and mammalian cells and recover the proteins that they produce. They will follow good manufacturing practices by maintaining records in order to comply with quality assurance procedures and government regulations. Students in the program must be able to adjust their time to a flexible schedule.

Certificate of Achievement
The Certificate of Achievement can be obtained upon completion of the 18-24-unit major. Each course must be completed with a minimum grade of C or a P if the course is taken on a Pass/No Pass basis.

Program Outcomes
Students who complete the Industrial Biotechnology Associate Degree will be able to:
1. Explain how the structure and function of protein pharmaceuticals and evaluate which protein properties a production facility can exploit to purify a particular protein from other cellular components.
2. In preparation to working at a biotechnology company, a successful student should be able to construct a pathway analyzing how a drug of biologic is produced by genetically engineered cells and subsequently purified.
3. Explain how the manufacturer of pharmaceuticals is regulated by the Food and Drug Administration and other international agencies and how quality systems assure the safety, purity, identity, consistency, potency, and stability of a product.

REQUIRED COURSES..**Units**
BIOT 001 Principles of Biotechnology................................ 3
BIOT 052 Business, Regulatory and quality Practices
   in Biotechnology... 3
BIOT 062 Cell Culture and Protein Recovery 4
BIOT 063 Biotechnology Instrumentation:
   Quality Control & Genetic Engineering 4
Choose Option A, B or C 4-10
   Required Major Total Units 18-24

Option A .... **Units**
BIO 002 Principles of Cell and Molecular Biology 5
CHEM 001 General Chemistry I 5

Option B.. **Units**
BIO 014 Principles of Microbiology.................................... 4
CHEM 010 Intermediate Chemistry................................... 4

Option C.. **Units**
BIOT 160 Basic Concepts/Methods in
   Biotechnology 4

NOTE: Prior knowledge and use of computers is advised, including word processing, spreadsheets, and databases.

This is a Gainful Employment Program. For additional information, please visit
http://www.solano.edu/gainful_employment/ and select "Industrial Biotechnology."

Biotechnology

Biotechnology Laboratory Assistant

Program Description
This program serves as a Bridge to Biosciences, enabling graduates to enter the Solano College Industrial Biotechnology program or to enter an entry level position in a biotechnology company. It serves as a stackable certificate that may be followed by Industrial Biotechnology Certificate or an Applied Biotechnology Certificate. A Laboratory Assistant may be hired by life science related companies to prepare buffers, prepare media, operate routine laboratory equipment, and to clean glassware.

Certificate of Achievement
The Certificate of Achievement can be obtained upon completion of the 14-unit major with a minimum grade of C or a P if the course is taken on a Pass/No Pass basis.

Program Outcomes
Students who complete the Industrial Biotechnology Certificate of Achievement will be able to:
1. Demonstrate the ability to perform routine laboratory techniques including buffer preparation, media preparation, and aseptic microbial culture.
2. Demonstrate the ability to perform mathematical (algebraic) operations required for calculations important in chemistry and biology.
3. Demonstrate the ability to read and write in a range of writing style categories typical of laboratory and scholarly environments, including lab reports, expository texts, and research-based arguments.

REQUIRED COURSES..**Units**
BIOT 160 Basic Concepts/Methods in Biotechnology..... 4
MATH 330 Elementary Algebra.. 5
ENGL 360 Focused English Fundamentals 5
    Total Units: 14

This is a Gainful Employment Program. For additional information, please visit
http://www.solano.edu/gainful_employment/ and select "Biotechnology Laboratory Assistant."

Biotechnology

BIOT 001   Principles of Biotechnology   3.0 Units
Prerequisite: A minimum grade of C in BIO 014, BIO 002 or BIOT 160.
Transferable to UC/CSU
Hours: 48-54 lecture.

Covering topics important in the development, production, recovery, and analysis of products produced by biotechnology. The course traces the path of a drug or biologic from the cell through the production facility, the final processing, and into the human body. It discusses the growth characteristics of the organisms used to produce pharmaceutical proteins, the techniques used in product recovery, and the techniques used in product analysis. Formerly BIOT 051. *(C-ID BIOT 101X)*

BIOT 003   3.0 Units
Fermentation: The Science of Beer and Brewing
Prerequisite: Must be at least 18 years of age to enroll.
Course Advisory: Eligibility for ENGL 001; SCC minimum Math standard.
Transferable to UC/CSU
Hours: 32-36 lecture, 48-54 lab.

Beer making, the oldest biotechnology process, is used to introduce students to the concept of employing living cells to produce a value-added product. The course utilizes brewing principles to explore basic scientific, agricultural, and engineering principles: yeast cell structure and growth, cellular biochemistry including metabolism and fermentation, plant physiology and the agricultural practices used to grow different varieties of barley and hops, the biochemistry of malted barley and hops, the chemical reactions that occur during mashing and brewing, and the basic engineering of brewing equipment and processes. The course also covers business, regulatory, and cultural issues related to brewing. In the laboratory, students will brew beer using modern techniques and equipment. This class is limited to students 18 and over and no one under the age of 21 will be able to taste a fermented product.

BIOT 052   3.0 Units
Business, Regulatory, and Quality Practices in Biotechnology
Course Advisory: Eligibility for ENGL 001 and SCC minimum Math standard.
Transferable to CSU
Hours: 48-54 lecture.

Examine how basic business principles and sound manufacturing procedures assure the quality and safety of a biopharmaceutical as the manufacturing team moves a product down the biotechnology production pipeline. The course explores the role of governmental oversight, Quality Assurance practices, and regulation during the discovery, development, and manufacturing of new products produced by biotechnology. The course includes a discussion of current Good Manufacturing Practices, Good Laboratory Practices, Quality Assurance, Quality Control, and Validation.

BIOT 057   3.0 Units
Synthetic Biology and Algea Biotechnology
Prerequisite: A minimum grade of C in BIO 002 or BIO 014
Transferable to CSU
Hours: 32-36 lecture, 48-54 lab.

Combines two emerging areas in biotechnology through exploration of advances in synthetic biology and algae biotechnology. Synthetic biology applies advanced gene editing techniques for the creation of new organisms. Topics include synthetic DNA synthesis, minimal cells, manipulation of biobricks, gene circuits, CRISPR/Cas and other gene editing tools, and cell free production. These techniques can be utilized to produce biomaterials, DNA for gene therapy, and algae bio-based production. Students isolate, identify, manipulate, grow, monitor, and harvest algae for biofuels, nutraceuticals, industrial enzymes, and therapeutic proteins in the laboratory.

Biotechnology

BIOT 062   Cell Culture and Protein Recovery   4.0 Units
Prerequisite: A minimum grade of C in BIO 002, BIO 014 or BIOT 160.
Course Advisory: Eligibility for ENGL 001.
Transferable to CSU
Hours: 32-36 lecture, 96-108 lab.

This laboratory course teaches the skills needed to serve as a technician in biotechnology production. Students grow and monitor bacterial, yeast, and mammalian cells on a laboratory scale that emulates the large-scale production used in industry. Students will become familiar with the cleaning, sterilization, aseptic inoculation, operation, and monitoring of fermenters and bioreactors. Students then recover and purify proteins produced by those cell cultures. They recover and purify proteins using centrifugation, ultrafiltration, and chromatography techniques. The course emphasizes the use of current Good Manufacturing Practices (cGMP), and students gain experience following Standard Operating Procedures (SOP).

BIOT 063   4.0 Units
Biotechnology Instrumentation: Quality Control & Genetic Engineering
Prerequisite: A minimum grade of C in BIO 014, BIO 002 or BIOT 160.
Course Advisory: Eligibility for ENGL 001.
Transferable to CSU
Hours: 32-36 lecture, 96-108 lab.

Familiarizes students with small scale laboratory practices, both those used in a research laboratory and those used by a quality control department in industry, to analyze the quality of a cell culture process and the purity of protein products produced by cells in culture. The course emphasizes the use of Good Laboratory Practices (GLP) in these analyses. Students will gain experience in techniques used to analyze nucleic acids and in the genetic engineering of cells. They will also gain experience with the common assays used in Quality Control including electrophoresis, High Performance Liquid Chromatography (HPLC), Enzyme Linked Immunosorbant Assay (ELISA), and Polymerase Chain Reaction (PCR) to test products generated using cell culture.

BIOT 065   1.0 Unit
Biomanufacturing Fundamentals
Prerequisite: A minimum grade of C in BIO 002 or BIO 014.
Transferable to CSU
Hours: 8-9 lecture, 24-27 lab.

A short format course that explores the basic biological, chemical, engineering, and regulatory concepts utilized to manufacture products using genetically engineered cells. It covers host strain selection, cell banking and seed train, bioreactor operation and monitoring, recovery and purification techniques, and the regulatory environment required for biomanufacturing of products at a large scale.

BIOT 160   4.0 Units
Basic Concepts/Methods in Biotechnology
Course Advisory: MATH 330 with a minimum grade of C; SCC minimum English standard.
Hours: 32-36 lecture, 96-108 lab.

This course serves as a prerequisite to Solano College's biotechnology courses by giving students knowledge of the basic concepts in biology and chemistry used in biotechnology while also developing the basic laboratory skills required to succeed in the field.

Business for Transfer (AS-T)

CAREER PATHS:

Administrative Service Manager
General and Operations Manager
Industrial Production Manager
Management Analysis
Sales Manager

Additional Career Paths and related data, including state-by-state wage info and growth in the field, can be found at www.onetonline.org.

This program map represents one possible pathway. See a counselor to create a customized education plan. Map is for the 2019-2020 catalog year.

SOLANO COMMUNITY COLLEGE

BUSINESS
Associate in Sciences for Transfer
GE Pattern: IGETC
Program Total Units: 60-61

For more information please contact:
(707) 864-7229

1 FIRST SEMESTER

Total Recommended Units: 16

ACCT 001	**4 units**	Financial Accounting
MATH 011	**4 units**	Elementary Statistics (IGETC 2)
BUS 005	**3 units**	Introduction to Business
ENGL 001	**4 units**	College Composition (IGETC 1A)
LR 010	**1 unit**	Introduction to Library Research and Information Competency

2 SECOND SEMESTER

Total Recommended Units: 14

ACCT 002	**4 units**	Managerial Accounting
CIS 050	**3 units**	Microcomputer Apps
IGETC 5A with Lab	**4 units**	Suggested: ASTR 010 and ASTR 020
IGETC 3A	**3 units**	Suggested: MUSC 013

3 THIRD SEMESTER

Total Recommended Units: 15

ECON 001	**3 units**	Principles of Economics, Macroeconimcs (IGETC 4)
BUS 018	**3 units**	Legal Environment
IGETC 5B	**3 units**	Suggested: ANTH 001
IGETC 3B / Am Inst Grp 2	**3 units**	Suggested: HIST 017, 018, 028, OR 037
IGETC 1C	**3 units**	Suggested: COMM 001 or 002 or 006

4 FOURTH SEMESTER

Total Recommended Units: 15-16

ECON 002	**3 units**	Principles of Economics, Microeconimcs
MATH 030	**3 units**	Analytic Geometry and Calculus
IGETC 3B	**3 units**	Suggested: HIST 017
IGETC 4 / Am Inst Grp 1	**3 units**	Suggested: PLSC 001 or 005 for Am Inst
IGETC 1B	**3-4 units**	Suggested: PHIL 005 or ENGL 002 or ENGL 004

■ Required Courses/Courses in Discipline   ■ GE Courses/Categories

GET STARTED NOW!

▶ **Get started on your Pathway now with these recommended courses!** *Then –*See a counselor to create a **CUSTOMIZED** education plan personalized to your career and transfer goals!

▶ Required courses may change depending on a student's career and transfer goals, including requirements for cross-cultural and foreign language courses, and/or specific requirements for an individual CSU or UC.

▶ Unique transfer requirements for a specific institution can be found at **www.assist.org.**

LET US HELP YOU!

How to Apply: solano.edu/ar/apply.php

■ **Questions? Talk to a Counselor Now!**
Main Campus, Fairfield: (707) 864-7101
Vacaville Center: (707) 863-7836
Vallejo Center: (707) 642-8188
Travis AFB: (707) 863-7878
Visit online at solano.edu/counseling

■ **Contact Our Career Center to Learn Your Career Options!**
Call 707-864-7124, or email at
CareerCenter@solano.edu
Visit online at solano.edu/career

■ **You Can Afford College! Learn more about Financial Aid!**
Call 707-864-7103, or email at
FinancialAid@solano.edu
Visit online at solano.edu/financial_aid

■ **College is Accessible!** Contact our Disability Services Program (DSP) at 707-864-7136.

Business

Associate in Science in Business Administration for Transfer (ADT: A.S.-T)

Program Description
This curriculum is designed to provide an opportunity for Business majors to achieve an Associate in Science Degree in Business Administration while completing the requirements for transfer to a California State University (CSU) or other four-year college or university. A baccalaureate degree is recommended preparation for those considering careers in business. Completion of this curriculum will demonstrate commitment to the field and provide comprehensive preparation for upper-division work.

Associate in Science in Business Administration for Transfer
A Solano College student who has earned the associate in science degree in business administration for transfer will be granted priority admission to the CSU into a similar (BA) degree program as long as the student meets all prescribed admission requirements. Once admitted the student will only be required to complete 60 additional upper-division units to qualify for the similar BA degree. The A.S.-T degree does not guarantee admission to a specified major or campus, but does require the California State University to grant a student priority admission consideration to a CSU campus and to a major that is similar to the transfer degree.

To earn the Associate in Arts in Business for Transfer degree, students must:
   1. Complete 60 semester units that are eligible for transfer to the California State University, including both of the following:
      a. The Intersegmental General Education Transfer Curriculum (IGETC) or the California State University General Education – Breadth Requirements
      b. A minimum of 18 semester units in a major or area of emphasis, as determined by the community college district.
2. Obtain a minimum grade point average of 2.0.

Program Outcomes
Students who complete the Associate in Science in Business Administration for Transfer degree will be able to:
   1. Recognize and describe the importance of marketing, law, economics, accounting, business administration, finance, risk analysis, and personnel management in business and formulate hypotheses based on these concepts.
   2. Analyze practical business problems and utilize research and critical thinking to evaluate and recommend alternative solutions.
   3. Use appropriate computer software to create and or modify relevant business documents.
   4. Apply accounting concepts and principles in making business decisions.

REQUIRED COURSES...**Units**
ACCT 001 Principles of Accounting – Financial............... 4
ACCT 002 Principles of Accounting – Managerial........... 4
BUS 005 Introduction to Business....................................... 3
BUS 018 Legal Environment of Business 3
ECON 001 Principles of Economics (Macroeconomics).. 3
ECON 002 Principles of Economics (Microeconomics)... 3
MATH 011 Elementary Statistics 4

CIS 001 Introduction to Computer Science 3
or
CIS 050 Microcomputer Applications 3
   Required Major Total Units 27

**CSU General Education
   or IGETC Pattern Units... 37–39**
**CSU Transferable Electives
   (as needed to reach 60 transferable units)* 3–5**
   Total Degree Units 60

* 9 units may be double counted toward both the major area of emphasis and CSU General Education or IGETC Pattern. Consult with a counselor for more information on completing this degree.

Business

Business, General

Program Description
This program is designed for business students planning to transfer to the University of California and/or the California State University systems.

Certificate of Achievement and Associate in Science
A Certificate of Achievement can be obtained by completing the 23-25-unit major. The Associate in Science can be obtained upon completion of the 23-25-unit major, general education requirements and electives. All courses in the major must be completed with a minimum grade of C or a P if the course is taken on a Pass/No Pass basis.

Program Outcomes
Students who complete the Business, General Certificate of Achievement/Associate Degree will be able to:
1. Recognize and describe the importance of marketing, law, economics, accounting, business administration, finance, risk analysis, and personnel management in business and formulate hypotheses based on these concepts.

REQUIRED COURSES...Units
ACCT 001 Principles of Accounting - Financial 4
ACCT 002 Principles of Accounting - Managerial 4
BUS 005 Introduction to Business....................................... 3
BUS 018 Legal Environment of Business 3

CIS 001 Introduction to Computer Science 3
or
CIS 050 Microcomputer Applications 3

ECON 001 Principles of Economics (Macroeconomics).. 3
or
ECON 002 Principles of Economics (Microeconomics)... 3
3-5 units from List A 3-5
    Required Major Total Units 23-25

List A (Select 3-5 units).. **Units**
BUS 092 Business Communication...................................... 3
CIS 020 Assembly Programming 3
CIS 022 Introduction to Programming............................... 3
CIS 023 Data Structures and Algorithms........................... 4
MATH 011 Elementary Statistics 4
MATH 020 Analytic Geometry and Calculus I 5
MATH 021 Analytic Geometry and Calculus II................ 5
MATH 030 Analytic Geometry and Calculus 3
MATH 031 Analytic Geometry and Calculus 3
OCED 090 Occupational Work Experience 1-8
OCED 091 General Work Experience...............................1-6

Suggested math courses for the major are MATH 011 OR MATH 030.

CSU General Education or IGETC Pattern units....37-39
Transferable Electives (as needed to reach 60 units)..5-9
    Total Degree Units CSU GE or IGETC 60

Solano General Education... 21
Electives (as needed to reach 60 units)......................16-18
    Total Degree Units Solano GE.................................... 60

* 9 units may be double counted toward both the major area of emphasis and CSU General Education or IGETC Pattern. Consult with a counselor for more information on completing this degree.

This is a Gainful Employment Program. For additional information, please visit
http://www.solano.edu/gainful_employment/ and select "Business, General."

Business

Business-Insurance: Property & Casualty

Program Description
This program provides essential background information needed by those wishing to work in an insurance office. Extensive employment opportunities are available in a variety of job areas from sales to accounting to database or project management.

Certificate of Achievement and Associate in Science Degree
A Certificate of Achievement can be obtained by completing the 31-unit major. The Associate in Science Degree can be obtained upon completion of the 31-unit major, general education requirements and electives. All courses in the major must be completed with a minimum grade of C or a P if the course is taken on a Pass/No Pass basis.

Program Outcomes
Students who complete the Business-Insurance: Property & Casualty Certificate of Achievement/Associate Degree will be able to:
1. Understand the insurance process, the segments of insurance, and the consequences of insurance contracts in mitigating loss.
2. Understand the risk management techniques available to handle exposure to loss and the use of risk modification.
3. Understand the financial and human consequences of loss. Proper and casualty exposures.
4. Apply the insurance principles in potential and real business and personal loss exposures.
5. Understand the exposures to loss faced by an individual and/or corporation.

REQUIRED COURSES...**Units**
ACCT 001 Principles of Accounting - Financial 4
BUS 005 Introduction to Business.. 3
BUS 018 Legal Environment of Business 3
BUS 070 Introduction to Insurance..................................... 1
BUS 071 Principles of Property and Liability Insurance . 3
BUS 072 Personal Insurance 3
BUS 073 Commercial Insurance.. 3
BUS 074 Insurance - Code & Ethics................................... 1
BUS 092 Business Communication...................................... 3
CIS 050 Microcomputer Applications 3
CIS 073 Microsoft Excel.. 3
OCED 090 Occupational Work Experience 1
    Required Major Total Units 31

Solano General Education.. 21
Electives (as needed to reach 60 units)............................ 8
    Total Degree Units Solano GE..................................... 60

This is a Gainful Employment Program. For additional information, please visit
http://www.solano.edu/gainful_employment/ and select "Business Insurance: Property & Casualty."

Insurance Specialist Job-Direct Low Unit Certificate
All courses must be completed with a minimum grade of C.

REQUIRED COURSES...**Units**
BUS 070 Introduction to Insurance..................................... 1
BUS 071 Principles of Property and Liability Insurance . 3
BUS 072 Personal Insurance 3
BUS 073 Commercial Insurance... 3
BUS 074 Insurance—Code & Ethics 1
    Total Units 11

Business

BUS 005   Introduction to Business   3.0 Units
Course Advisory: Eligibility for ENGL 001; SCC minimum Math standard.
Transferable to UC/CSU
Hours: 48-54 lecture.
A study and analysis of the principles of business by providing a multidisciplinary examination of how culture, society, economic systems, legal, international, political, financial institutions and human behavior interact. The course introduces students to contemporary business principles, practices, and terminology. Students will gain an understanding and appreciation of the private enterprise system and how the functional areas of business work, interrelate and affect a business organization's policy and practices within the U.S. and global society. Students also gain the knowledge to demonstrate how these policies and practices impact the primary areas of business such as: leadership, human resource management, organized labor practices, marketing, organizational communication, technology, entrepreneurship, legal, accounting, financial practices, the stock and securities market and how they affect a business' ability to achieve its organizational goals. The course explores business career opportunities, provides the prerequisite knowledge needed for success in other business courses, and prepares students for transfer to upper-division business degree programs.
(C-ID BUS 110)

BUS 018   Legal Environment of Business   3.0 Units
Course Advisory: Eligibility for ENGL 001; SCC minimum Math standard.
Transferable to UC/CSU
Hours: 48-54 lecture.
An introduction to the study of law, with specific emphasis on the legal environment of business. Includes the legal process, legal institutions, ethics, jurisdiction, U.S. Constitution, contracts, agency, the Uniform Commercial Code (UCC), torts, employment law, property, bankruptcy law, forms of business organization, corporations, consumer protection, government regulation and Alternative Dispute Resolution (ADR), along with ethical concerns and current public policy issues. Written examinations required. *(C-ID BUS 120)*

BUS 060   3.0 Units
Introduction to International Business
Course Advisory: Eligibility for ENGL 001; SCC minimum Math standard.
Transferable to CSU
Hours: 48-54 lecture.
An overview designed to provide a global perspective in a continuously emerging international marketplace, including topics such as foreign investing, impact of financial markets, international marketing, cultural understanding, and operation of multinational and small companies.

BUS 070   Introduction to Insurance   1.0 Unit
Course Advisory: Eligibility for ENGL 001; SCC minimum Math standard.
Transferable to CSU
Hours: 16-18 lecture.
Provides students with the background needed prior to taking the other insurance courses. Included are topics such as property/casualty insurance, distribution of insurance products and services to the consumer, how insurance company departments function, civil laws or tort and contract, basic commercial and personal Insurance Services Office (ISO) contracts, and the risk management process.

BUS 071   3.0 Units
Principles of Property and Liability Insurance
Course Advisory: Eligibility for ENGL 001; SCC minimum Math standard.
Transferable to CSU
Hours: 48-54 lecture.
Prepares students for employment in the insurance industry, which consists of many different types of employment opportunities, from selling insurance to working in a variety of positions in an insurance company.

BUS 072   Personal Insurance   3.0 Units
Course Advisory: Eligibility for ENGL 001; SCC minimum Math standard.
Transferable to CSU
Hours: 48-54 lecture.
A basic introduction to personal insurance. Includes information about automobile insurance; homeowners' insurance; other residential insurance, such as fire and earthquake insurance; marine insurance; and other personal property.

BUS 073   Commercial Insurance   3.0 Units
Course Advisory: Eligibility for ENGL 001; SCC minimum Math standard.
Transferable to CSU
Hours: 48-54 lecture.
Prepares students for employment in the insurance industry. Emphasis for this course is on commerical insurance. The insurance industry offers many different types of employment opportunities, from selling insurance to working in an insurance office.

Business

BUS 074   Insurance - Code & Ethics   1.0 Unit
Course Advisory: Eligibility for ENGL 001; SCC minimum Math standard.
Transferable to CSU
Hours: 16-18 lecture.
Enables students to understand and apply proper ethical business behavior and obligations, especially as they relate to those working in the field of insurance.

BUS 092   Business Communication   3.0 Units
Course Advisory: Eligibility for ENGL 001; SCC minimum Math standard.
Transferable to CSU
Hours: 48-54 lecture.
A study of communication theory in the planning and preparation of various types of letters, reports, resumes, and oral presentations along with analysis of group dynamics, symbolic communication, interview techniques and listening skills. Stresses audience analysis, style, appearance, and the importance of grammar, punctuation and vocabulary. Strong focus on gender and cultural communication issues and strategies in the workplace. Critical thinking encouraged through written and oral assignments and case studies on business communication and ethical issues.

BUS 099   Business Honors   1.0 to 3.0 Units
Prerequisite: Completion of 24.0 units of college credit with a minimum
*   GPA of 3.3; a minimum of 5.0 units in the discipline with a minimum*
*   grade of B; an ability to work independently; permission of the School*
*   Dean based on instructor availability.*
Transferable to CSU
Hours: 48-162 lab by arrangement.
A comprehensive study and analysis of a topic of student scholarship which is centered on important topics or issues within the business field. Students may take this course up to the maximum number of units over multiple semesters.

BUS 100   Work Readiness   1.5 Units
Course Advisory: SCC minimum English and Math standards.
Hours: 24-27 lecture.
Covers the process of assessing the job market and completing a resume and application. Topics include how to be successful on the job and to gain satisfaction and rewards from work. The skills needed in the workplace are emphasized along with the social and communication skills, personal characteristics and habits, and expectations of the employer.

BUS 148A   3.0 Units
Small Business Project-Based Path for Entrepreneurs
Course Advisory: SCC minimum English and Math standards.
Hours: 48-54 lecture.
Emphasizes activities and techniques through project management that develops competencies needed to become a successful leader. Students receive instruction and project-based activities in the areas of entrepreneurship, project management, personal and workplace skill, oral and written techniques, and networking.

BUS 181   Business Mathematics   1.0 to 3.0 Units
Course Advisory: SCC minimum English standard.
Hours: 16-54 lecture.
An application of essential mathematical skills necessary for success in business. Includes a review of fractions, decimals, percents, ratios, the percentage formula, and general business applications; covers advanced business applications such as interest, discount, markup, payroll, pricing policies, cash and trade discounts, and financial statements. This is a self-paced, programmed learning class. Students may take this course up to the maximum number of units over multiple semesters. This is an Open Entry/Open Exit, Variable unit course; Online course is not Open Entry/Open Exit.

BUS 182   Small Business Mathematics   1.0 Unit
Course Advisory: SCC minimum English and Math standards.
Hours: 16-18 lecture.
An application of essential mathematical skills necessary for persons operating a successful business. It includes asset and inventory management; ratio analysis, depreciation, taxation applied to sales, excise, and real property; investments and insurance, and basic statistics. This is a self-paced, programmed learning class. This is an Open Entry/Open Exit course; Online course is not Open Entry/Open Exit.

BUS 208   0.5 Unit
Employee Relations and Personnel Policies
Hours: 8-9 lecture.
Good employees are made through effective training, development, and relations. This course explores techniques used in training and developing good employees. The elements that comprise a sound employee relations program are presented. This is a Pass/No Pass only course.

BUS 400   Project Management   3.0 Units

Prerequisite: Admission into the Biomanufacturing Baccalaureate
   degree program.
Transferable to CSU
Hours: 48-54 lecture.

Learn the core characteristics of project management including project selection, initiation, planning, execution, monitoring and control, and closing. Students learn how the management of the project's scope, time, cost, quality, human resources, communication, procurement, stakeholders, and risk lead to the ability to deliver the project on-time and on-budget, while meeting performance specifications. This course is designed to fulfill the classroom component of a Project Management Professional credential.

Chemistry (AS)

CAREER PATHS:

Biochemist and Biophysicist

Biochemical Engineer

Chemist

Chemical Engineer

Chemistry Teacher

Chemical Plant and System Operator

Additional Career Paths and related data, including state-by-state wage info and growth in the field, can be found at www.onetonline.org.

This program map represents one possible pathway. See a counselor to create a customized education plan. Map is for the 2019-2020 catalog year.

1 FIRST SEMESTER

Total Recommended Units: 18

CHEM 001	**5 units**
General Chemistry (IGETC 5A with lab)	

ENGL 001	**4 units**
College Composition (IGETC 1A)	

LR 010	**1 units**
Library Research and Information Competency	

Math 020 (IGETC 2)	**5 units**
Analytic Geometry and Calculus I	

IGETC 3A	**3 units**

2 SECOND SEMESTER

Total Recommended Units: 17

CHEM 002	**5 units**
General Chemistry	

Math 021	**5 units**
(prerequisite for PHYS 006)	
Analytic Geometry and Calculus II	

IGETC 1B	**4 units**
Suggested: ENGL 002 or 004	

IGETC 4	**3 units**
Suggested: PLSC001 or PLSC 005	

3 THIRD SEMESTER

Total Recommended Units: 19

CHEM 003	**5 units**
Organic Chemistry 1	

PHYS 006	**5 units**
Physics for Science and Engineering I	

IGETC 1C	**3 units**
Suggested: Comm 001	

IGETC 4	**3 units**

IGETC 3A or 3B	**3 units**

4 FOURTH SEMESTER

Total Recommended Units: 16

CHEM 004	**5 units**
Organic Chemistry II	

PHYS 007	**5 units**
Physics for Science and Engineering II	

IGETC 4	**3 units**

IGETC 3B	**3 units**
Suggested: Hist 017 or 018 or 028 or 029 or 037	

🟦 Required Courses/Courses in Discipline   🟩 GE Courses/Categories

GET STARTED NOW!

▶ **Get started on your Pathway now with these recommended courses!** *Then* –See a counselor to create a **CUSTOMIZED** education plan personalized to your career and transfer goals!

▶ Required courses may change depending on a student's career and transfer goals, including requirements for cross-cultural and foreign language courses, and/or specific requirements for an individual CSU or UC.

▶ Unique transfer requirements for a specific institution can be found at **www.assist.org.**

LET US HELP YOU!

How to Apply: solano.edu/ar/apply.php

■ **Questions? Talk to a Counselor Now!**
Main Campus, Fairfield: (707) 864-7101
Vacaville Center: (707) 863-7836
Vallejo Center: (707) 642-8188
Travis AFB: (707) 863-7878
Visit online at solano.edu/counseling

■ **Contact Our Career Center to Learn Your Career Options!**
Call 707-864-7124, or email at CareerCenter@solano.edu
Visit online at solano.edu/career

■ **You Can Afford College! Learn more about Financial Aid!**
Call 707-864-7103, or email at FinancialAid@solano.edu
Visit online at solano.edu/financial_aid

■ **College is Accessible!** Contact our Disability Services Program (DSP) at 707-864-7136.

Chemistry

Chemistry

Program Description
This program is designed to foster an understanding of the fundamental principles of chemistry in a variety of applications. Students will learn how chemical knowledge is derived, theorized, and applied in solving problems in everyday life.

Associate in Science Degree
The Associate in Science Degree can be obtained by completing the 26-30-unit major, general education requirements, and electives. All courses in the major must be completed with a minimum grade of C or a P if the course is taken on a Pass/No Pass basis.

Program Outcomes
Students who complete the Chemistry Associate Degree will be able to:
1. Demonstrate skills for various lab techniques.
2. Formulate and write names applying International Union of Pure and Applied Chemistry rules for chemical compounds.
3. Interpret and analyze chemical data.
4. Identify and write different types of chemical reactions.

REQUIRED COURSES..**Units**
CHEM 001 General Chemistry I 5
CHEM 002 General Chemistry II....................................... 5
CHEM 003 Organic Chemistry I 5
CHEM 004 Organic Chemistry II....................................... 5
BIO (any course except 048 or 098).................................3-5
One course from List A...3-5
   Required Major Total Units 26–30

List A: (select one course) .... **Units**
PHYS 002 General Physics (Non-calculus)........................ 5
PHYS 006 Physics for Science and Engineering 5
PHYS 010 Descriptive Physics 3

CSU General Education or IGETC Pattern units....37-39
Transferable Electives (as needed to reach 60 units)..0-3
   Total Degree Units CSU GE or IGETC 60-63

Solano General Education.. 21
Electives (as needed to reach 60 units).......................9-13
   Total Degree Units Solano GE................................... 60

* 6 units may be double counted toward both the major area of emphasis and CSU General Education or IGETC Pattern. Consult with a counselor for more information on completing this degree.

CHEM 001   General Chemistry I   5.0 Units
Prerequisite: CHEM 160 with a minimum grade of C (recommended for students with no previous chemistry) or CHEM 010 with a minimum grade of C (recommended for students who have had an introductory level chemistry course) or a score of 3, 4, or 5 on the Chemistry AP exam; and MATH 104 with a minimum grade of C or recommendation of MATH 002 by a counselor or math instructor based on a Multiple Measures Evaluation.
General Education: Option A: Area A; Option B: Area 5A, Area 5C; Option C: Area B1, Area B3
Transferable to UC/CSU
Hours: 48-54 lecture, 96-108 lab.

Presents principles of general chemistry for students in science, engineering, medical and related professions. Topics include atomic structure and theory, the periodic table, bonding, gas laws, stoichiometry, solutions, ionization, thermochemistry and equilibrium. This course requires significant math skills and previous knowledge of fundamental chemistry concepts. Field trips and online work may be required.
(CHEM 001 + CHEM 002 = C-ID CHEM 120S)

CHEM 002   General Chemistry II   5.0 Units
Prerequisite: CHEM 001 with a minimum grade of C.
General Education: Option A: Area A; Option B: Area 5A, Area 5C; Option C: Area B1, Area B3
Transferable to UC/CSU
Hours: 48-54 lecture, 96-108 lab.

A continuation of chemical principles and theory covered in CHEM 001 with emphasis on electrochemistry, chemical equilibrium, acid-base equilibrium, thermodynamics, descriptive chemistry and quantitative and qualitative analysis. This course requires significant math skills and previous knowledge of fundamental chemistry concepts. Field trips and online work may be required.
(CHEM 001 + CHEM 002 = C-ID CHEM 120S)

Chemistry

CHEM 003   Organic Chemistry I   **5.0 Units**
Prerequisite: CHEM 002 with a minimum grade of C.
Course Advisory: Eligibility for ENGL 001.
General Education: Option A: Area A; Option B: Area 5A, Area 5C;
    Option C: Area B1, Area B3
Transferable to UC/CSU
Hours: 64-72 lecture, 64-72 lab.

First half of a two semester course sequence (CHEM 003 and CHEM 004) that begins a survey of organic chemistry for students in chemical, biological, health science, and related professions. Topics include analysis of structure and nomenclature, bonding, isomerism, and basic reaction mechanisms of organic chemicals. Functional groups considered include alkanes, alkenes, alkynes, alcohols, and alkyl halides and ethers. Basic organic laboratory procedures are introduced along with spectral analysis, simple syntheses, and reactions described in lecture. Field trip may be required. Online homework and quizzes may be required. *(CHEM 003 = C-ID CHEM 150) (CHEM 003 + CHEM 004 = C-ID CHEM 160S)*

CHEM 004   Organic Chemistry II   **5.0 Units**
Prerequisite: CHEM 003 with a minimum grade of C.
General Education: Option A: Area A; Option B: Area 5A, Area 5C;
    Option C: Area B1, Area B3
Transferable to UC/CSU
Hours: 64-72 lecture, 64-72 lab.

Second half of a two semester course sequence (CHEM 003 and CHEM 004) that begins a survey of organic chemistry for students in chemical, biological, health science, and related professions. Topics include analysis of structure, nomenclature, and reaction mechanisms of conjugated systems, aromatics, organometallics, aldehydes, ketones, amines, carboxylic acids and acid derivatives, and various functional groups, carbohydrates, lipids, amino acids, proteins, and nucleic acids. The laboratory will emphasize more advanced work and the application of instrumentation in organic chemistry. Field trip may be required. Online homework and quizzes may be required. *(CHEM 003 + CHEM 004 = C-ID CHEM 160S)*

CHEM 010   Intermediate Chemistry   **4.0 Units**
Course Advisory: CHEM 160 strongly recommended for students who
    have never taken Chemistry before; recommendation of MATH 104 by
    a counselor or math instructor based on a Multiple Measures
    Evaluation.
General Education: Option A: Area A; Option B: Area 5A, Area 5C;
    Option C: Area B1, Area B3
Transferable to UC/CSU
Hours: 48-54 lecture, 48-54 lab.

A general chemistry course often required for nursing students and for students majoring in physical therapy, occupational therapy, industrial technology and home economics, it emphasizes the chemistry of inorganic compounds and covers selected topics such as atomic theory, bonding, equations, gas laws, solutions, acid-base theory, and oxidation-reduction. Field trip may be required. Online homework may be required. NOTE: Not open for credit to students who have completed CHEM 001. *(C-ID CHEM 101)*

CHEM 011   **4.0 Units**
Basic Organic Chemistry & Biochemistry
Prerequisite: CHEM 001 or CHEM 010 with a minimum grade of C.
Course Advisory: Eligibility for ENGL 001.
General Education: Option A: Area A; Option B: Area 5A, Area 5C;
    Option C: Area B1, Area B3
Hours: 48-54 lecture, 48-54 lab.

Presents an overview of organic chemistry and biochemistry for majors in nursing, home economics, liberal arts and technical fields. Field trip may be required. Online work may be required. *(C-ID CHEM 102)*

Chemistry

CHEM 012   Chemistry for the Health Sciences   5.0 Units
Course Advisory: CHEM 160 strongly recommended for students who
*   have never taken Chemistry before; recommendation of MATH*
*   104 by a counselor or math instructor based on a Multiple Measures*
*   Evaluation; Eligibility for ENGL 001.*
*   General Education: Option A: Area A; Option B: Area 5A; Option C:*
*   Area B1*
Transferable to UC/CSU
Hours: 48-54 lecture, 96-108 lab.

An overview of general, organic chemistry, and
biochemistry for majors in nursing and other allied health
occupations. Topics covered include chemical bonding,
chemical equations, gas laws, solutions, acid-base theory,
oxidation-reduction, functional groups and properties of
organic compounds, and the structure and function of
carbohydrates, lipids, proteins, and nucleic acids. These
topics are discussed in the context of cellular metabolism
and human health. This course is not a prerequiste for
any chemistry course. Field trip may be required. Online
homework may be required. NOTE: Not open for credit to
students who have completed CHEM 011. Formerly CHEM
051.

CHEM 020   Elements of Chemistry   3.0 Units
Prerequisite: A minimum grade of C in MATH 330 or recommendation of
*   counselor or math instructor based on a Multiple Measures*
*   Evaluation.*
Transferable to UC/CSU
Hours: 48-54 lecture.

Develops scientific literacy for non-science majors. When
combined with the lab (CHEM 020L), the course will meet
the General Education requirement for physical science
with lab. The course is a survey of the fundamental
concepts and contemporary applications of chemistry.
Students will explore the real world applications of
chemistry in the home, the environment, nutrition, health,
fitness and medicine.

CHEM 020L   1.0 Unit
Elements of Chemistry Laboratory
Prerequisite: CHEM 020 (may enroll concurrently).
Transferable to UC/CSU
Hours: 48-54 lab.

An introduction to the chemistry laboratory. Experiments
are performed to allow understanding and application of
chemistry principles in our world. Must register within two
years of successful completion of CHEM 020.

CHEM 160   Introductory Chemistry   4.0 Units
Course Advisory: SCC minimum English standard.
General Education: Option A: Area A, 48-54 lab.
Hours: 48-54 lecture, 48-54 lab.

The fundamental principles of inorganic chemistry. Field
trips may be required. Online work may be required. NOTE:
Not open to students who have completed CHEM 001,
CHEM 010, or equivalent.

Early Childhood Education (AS-T)

CAREER PATHS:

Childcare Worker
Preschool Teacher
Kindergarten Teacher
Child, Family, or School Social Worker
Education Administrator

Additional Career Paths and related data, including state-by-state wage info and growth in the field, can be found at www.onetonline.org.

This program map represents one possible pathway. See a counselor to create a customized education plan. Map is for the 2019-2020 catalog year.

SOLANO
COMMUNITY COLLEGE

Early Childhood Education
Associate in Sciences for Transfer
GE Pattern: CSUGE
Program Total Units: 62

For more information please contact:
(707) 864-7251

---

1 FIRST SEMESTER

Total Recommended Units: 14

CDFS 038	**3 units**	Child, Growth & Development (CSUGE Area E)
CDFS 062	**3 units**	Intro to Early Childhood Education
ENGL 001	**4 units**	College Composition (CSUGE Area A2)
LR 010	**1 unit**	Introduction to Library Research and Information Competency
CSUGE Area B4	**3 units**	Suggested: MATH 012

2 SECOND SEMESTER

Total Recommended Units: 17

CDFS 064	**3 units**	Observation and Assessment
CDFS 050	**3 units**	Child, Family & Community
CSUGE Area B2	**4 units**	With lab.
CSUGE Area A3	**4 units**	Suggested: ENGL 002 or ENGL 004
CSUGE Area D/ Am Inst Grp 1	**3 units**	Suggested: PLSC 001 or PLSC 005

3 THIRD SEMESTER

Total Recommended Units: 15

CDFS 054 or NUTR 054	**3 units**	Child Health, Safety, and Nutrition
CDFS 063	**3 units**	Introduction to Curriculum
CDFS 053	**3 units**	Teaching in a Diverse Society
CSUGE Area A1	**3 units**	Suggested: COMM 001 or 002 or 006
CSUGE Area C2	**3 units**	

4 FOURTH SEMESTER

Total Recommended Units: 16

CDFS 065	**4 units**	Early Childhood Education Practicum 1
CSUGE Area B1 or B2	**3 units**	Whichever not taken.
CSUGE Area D	**3 units**	
CSUGE Area C1	**3 units**	
CSUGE Area D/ Am Inst Grp 2	**3 units**	Suggested: HIST 017 or 018

- 🟦 Required Courses/Courses in Discipline
- 🟩 GE Courses/Categories

GET STARTED NOW!

▶ **Get started on your Pathway now with these recommended courses!** *Then –*See a counselor to create a **CUSTOMIZED** education plan personalized to your career and transfer goals!

▶ Required courses may change depending on a student's career and transfer goals, including requirements for cross-cultural and foreign language courses, and/or specific requirements for an individual CSU or UC.

▶ Unique transfer requirements for a specific institution can be found at **www.assist.org.**

LET US HELP YOU!

How to Apply: solano.edu/ar/apply.php

■ **Questions? Talk to a Counselor Now!**
Main Campus, Fairfield: (707) 864-7101
Vacaville Center: (707) 863-7836
Vallejo Center: (707) 642-8188
Travis AFB: (707) 863-7878
Visit online at solano.edu/counseling

■ **Contact Our Career Center to Learn Your Career Options!**
Call 707-864-7124, or email at CareerCenter@solano.edu
Visit online at solano.edu/career

■ **You Can Afford College! Learn more about Financial Aid!**
Call 707-864-7103, or email at FinancialAid@solano.edu
Visit online at solano.edu/financial_aid

■ **College is Accessible!** Contact our Disability Services Program (DSP) at 707-864-7136.

Child Development and Family Studies

Associate in Science in Early Childhood Education for Transfer (ADT: A.S.-T)

Program Description
Successful completion of this major prepares students to work in the field of early childhood education. Students will learn about child development, health and safety, observation and assessment, and techniques for effective classroom teaching including child guidance, curriculum development, and educating in a culturally respectful manner. One semester of practicum is required. This program aligns with the statewide Early Childhood Education Curriculum Alignment Project (CAP) which is designed to aid in student transfer. The CAP courses include: CDFS 038, CDFS 050, CDFS 053, CDFS 054 (or NUTR 054), CDFS 062, CDFS 063, CDFS 064, and CDFS 065.

Associate in Science in Early Childhood Education for Transfer
The Associate in Science in Early Childhood Education for Transfer is especially appropriate for students who plan to complete a bachelor's degree in Early Childhood Education or Child Development at a CSU campus. Students completing and Associate in Science in Early Childhood Education for Transfer degree are guaranteed admission to the CSU system, but not to a particular campus or major. Students transferring to a CSU campus that does accept the Associate in Science in Early Childhood Education for Transfer will be required to complete nor more than 60 units after transfer to earn a bachelor's degree. This degree also prepares students for Early Childhood Education degree programs at other four-year institutions, but does not come with the same guarantees. In all cases, students should consult with a counselor for more information on university admission and transfer requirements.

To earn the Associate in Science in Early Childhood Education for Transfer Degree, students must:
1. Complete 60 semester units that are eligible for transfer to the California State University, including both of the following:
   a. The Intersegmental General Education Transfer Curriculum (IGETC) or the California State University General Education – Breadth Requirements
   b. A minimum of 18 semester units in a major or area of emphasis, as determined by the community college district.
2. Obtain a minimum grade point average of 2.0.

Program Outcomes
Students who complete the Associate in Science in Early Childhood Education for Transfer degree will be able to:
1. Demonstrate an understanding of child development theory, current research, and trends in the field, and their application to responsive practice in early care settings.
2. Demonstrate an understanding of the context of individual development including the centrality of family, culture, and community through developing techniques for creating meaningful relationships between home and school.
3. Develop curriculum and early care environments that are derived from unbiased observation and assessment of children's interests and developmental levels.
4. Demonstrate reflective practice in their work with young children by building awareness of self as teacher, child as learner, and early childhood pedagogy.

REQUIRED COURSES
The following 25 CDFS units are required for the Early Childhood Education for transfer degree. Some may double count for general education and the major (CDFS 038, CDFS 050). It is recommended that full time students enroll in CDFS 038, CDFS 050, and CDFS 062 in their first semester. Second semester students should take CDFS 054, CDFS 063, and CDFS 064. In the second year students should take CDFS 065, CDFS 053, and complete their other general education requirements. Practicum placements (CDFS 065) will be made at the Solano College Children's Program. Prior to the first week of enrollment in practicum, students will be required to pass a criminal record check and be fingerprinted at the District's expense.

REQUIRED COURSES.. **Units**
CDFS 038 Child Growth and Development....................... 3
CDFS 050 Child, Family and Community......................... 3
CDFS 053 Teaching in a Diverse Society........................... 3
CDFS 054 Child Health, Safety, and Nutrition 3
CDFS 062 Introduction to Early Childhood Education:
   Principles and Practices... 3
CDFS 063 Introduction to Curriculum............................. 3
CDFS 064 Observation and Assessment........................... 3
CDFS 065 Early Childhood Education Practicum I 4

Required Major Total Units 25
CSU General Education or IGETC Pattern units.... 37-39
CSU Transferable Electives
   (as needed to reach 60 transferable units)* 2-5
   Total Degree Units 60

* 6 units may be double counted toward both the major area of emphasis and CSU General Education or IGETC Pattern. Consult with a counselor for more information on completing this degree.

Child Development and Family Studies

Early Childhood Education

Program Description
This program offers comprehensive study of child development, strategies for child guidance, techniques for effective classroom interaction with emphasis on the child in the context of family and culture, and curriculum that enhances the development of the whole child. The Child Development and Family Studies Department is a participant in the Curriculum Alignment Project (CAP). A key effort of the Curriculum Alignment Project is to facilitate the transfer of the courses below as an integrated course of study promoting access to ongoing education and degree attainment. These courses will easily transfer between many California State Universities. The CAP courses include: CDFS 038, CDFS 050, CDFS 053, CDFS 054 (or NUTR 054), CDFS 062, CDFS 063, CDFS 064, and CDFS 065.

Certificate of Achievement and Associate in Science Degree
A Certificate of Achievement can be obtained upon successful completion of the 35-unit major. The Associate in Science degree can be obtained by completing the 35-unit major, general education requirements, and electives. All courses in the major must be completed with a minimum grade of C or a P if the course is taken on a Pass/No Pass basis.

Program Outcomes
Students who complete the Early Childhood Education Certificate of Achievement/Associate Degree will be able to:
1. Demonstrate an understanding of child development theory, current research, and trends in the field, and their application to responsive practice in early care setting.
2. Implement techniques that strengthen home and school partnerships in order to gain an ecological perspective of children's development.
3. Develop curriculum and early care environments that are derived from unbiased observation and assessment of children's interests and developmental levels.
4. Demonstrate reflective practice in their work with young children by building awareness of self as teacher, child as learner, and early childhood pedagogy.

REQUIRED COURSES
Full-time students are advised to enroll in CDFS 038, CDFS 050, CDFS 062, and a required curriculum course (CDFS 077 or 078) during their first semester. Second semester students should take CDFS 054, CDFS 063, and CDFS 064. In the third and fourth semesters, students should take practicum (CDFS 065 and CDFS 066), CDFS 053, and a required curriculum course (CDFS 077 or 078). Students will spend their first semester of ECE Practicum I (CDFS 065) assigned to the Solano College Children's Program. A second semester may be spent either on campus or off campus (CDFS 066). Off campus placements will be made with an approved teacher from the Early Childhood Mentor Project. Prior to the first week of enrollment in CDFS 065 or 066, students will be required to pass a criminal record check and be fingerprinted at District expense.

REQUIRED COURSES	Units
CDFS 038 Child Growth and Development	3
CDFS 050 Child, Family and Community	3
CDFS 053 Teaching in a Diverse Society	3
CDFS 054 Child Health, Safety, and Nutrition	3
or	
NUTR 054 Child Health, Safety, and Nutrition	3
CDFS 062 Introduction to Early Childhood Education: Principles and Practices	3
CDFS 063 Introduction to Curriculum	3
CDFS 064 Observation and Assessment	3
CDFS 065 Early Childhood Education Practicum I	4
CDFS 066 Early Childhood Education Practicum II	4
CDFS 077 Art and Scientific Inquiry for ECE	3
CDFS 078 Literacy and Music for ECE	3
Required Major Total Units	**35**

CSU General Education or IGETC Pattern units **37-39**
    Total Degree Units CSU GE or IGETC **65-66**

Solano General Education **21**
Electives (as needed to reach 60 units) **4**
    Total Degree Units Solano GE **60**

* 6-9 units may be double counted toward both the major area of emphasis and CSU General Education or IGETC Pattern. Consult with a counselor for more information on completing this degree.

This is a Gainful Employment Program.
For additional information, please visit
http://www.solano.edu/gainful_employment/
and select "Early Childhood Education."

Child Development and Family Studies

Associate Teacher

Program Description
The Associate Teacher Certificate of Achievement meets the education requirements for the associate teacher level of the Child Development Permit Matrix issued by the State of California Commission on Teacher Credentialing and Community Care Licensing, Title 22 requirements for a fully qualified teacher. After meeting additional experience requirements, graduates are qualified to apply for a Child Development Permit, which is required to work in federal and state funded programs for children aged 0-5.

Certificate of Achievement
A Certificate of Achievement can be obtained by completing the 12-unit major with a minimum grade of C in each course or a P if taken on a Pass/No Pass basis.

Program Outcomes
Students who complete the Associate Teacher Certificate of Achievement will be able to:
1. Understand and apply developmental theories from conception through adolescence.
2. Design a play based curriculum which supports children using developmental, inclusive and anti-bias principles.
3. Identify and analyze quality early childhood practices including professionalism, self-reflection, play-based holistic learning, multiculturalism, and relationship building to ascertain their impact on children's development.
4. Demonstrate the ability to access community resources which support and empower children and families.

REQUIRED COURSES... **Units**
CDFS 038 Child Growth and Development...................... 3
CDFS 050 Child, Family and Community......................... 3
CDFS 062 Introduction to Early Childhood
    Education: Principles and Practices 3
CDFS 063 Introduction to Curriculum.............................. 3
    Total Units 12

This is a Gainful Employment Program. For additional information, please visit *http://www.solano.edu/gainful_employment/* and select "Associate Teacher."

Child Development and Family Studies

CDFS 038   Child Growth and Development   3.0 Units
Course Advisory: Eligibility for ENGL 001.
General Education: Option A: Area B2; Option B: Area 4G, Area 4I;
*   Option C: Area D7, Area D9, Area E*
Transferable to UC/CSU
Hours: 48-54 lecture.
Examine the major physical, cognitive, and psychosocial developmental milestones (typical and atypical) and theories from conception through adolescence. Emphasis is placed on the interaction between maturational processes and environmental factors. Current research and methodologies are examined. Child observations and analysis are included. Field trip may be required.
(C-ID CDEV 100)

CDFS 040   Family Relationships   3.0 Units
Course Advisory: Eligibility for ENGL 001.
General Education: Option A: Area B2; Option B: Area 4G; Option C:
*   Area D7, Area E*
Transferable to UC/CSU
Hours: 48-54 lecture.
A study of sociological and psychological factors influencing relationships, particularly dating, family, and marital relationships, as well as alternative lifestyles in contemporary society, including factors that affect communication and interpersonal interactions within relationships.

CDFS 050   Child, Family and Community   3.0 Units
Course Advisory: Eligibility for ENGL 001.
General Education: Option A: Area B2; Option C: Area D7; Option C:
*   Area E*
Transferable to CSU
Hours: 48-54 lecture.
 An examination of the developing child in a societal context focusing on the interrelationships of family, school and community, including historical and socio-cultural influences. Socialization and identity development are emphasized, as are teacher strategies for building respectful, reciprocal relationships that support and empower children and families. *(C-ID CDEV 110)*

CDFS 052   Children with Special Needs   3.0 Units
Prerequisite: CDFS 038.
Transferable to CSU
Hours: 48-54 lecture.
An introductory study of children with special needs, including causes of disabilities, their incidence, care, management, and general remedial procedures. Emphasis is on the child with disabilities in the home and community settings.

CDFS 053   Teaching in a Diverse Society   3.0 Units
Course Advisory: Eligibility for ENGL 001.
General Education: Option A: Area B2, Area E; Option C: Area D3,
*   Area D7; SCC Graduation Requirement*
Transferable to CSU
Hours: 48-54 lecture.
Examination of teaching young children in a diverse society in an effort to support optimal identity development, competency, and inclusion. Theoretical and practical implications of oppression and privilege will be explored as they apply to children, families, programs, classrooms, and teaching. Various classroom strategies will emphasize culturally and linguistically appropriate anti-bias approaches. Course includes self-examination and reflection on issues related to social identity, stereotypes and bias, social and educational access, media, and schooling. *(C-ID ECE 230)*

CDFS 054   Child Health, Safety, and Nutrition   3.0 Units
Course Advisory: CDFS 038 and CDFS 062; Eligibility for ENGL 001.
General Education: Option A: Area B2; Option C: Area E
Transferable to CSU
Hours: 48-54 lecture.
Introduction to the laws, regulations, standards, policies and procedures and early childhood curriculum related to child health safety and nutrition. The key components that ensure physical health, mental health and safety for both children and staff will be identified along with the importance of collaboration with families and health professionals. Focus on integrating the concepts into everyday planning and program development for all children. This course is the same course as NUTR 054.
(C-ID ECE 220)

CDFS 055   3.0 Units
Impact of Violence on Children and their Families
Course Advisory: SCC minimum English standard.
Transferable to CSU
Hours: 48-54 lecture.
Exploration of violence in America and its impact on the physical and psychological well-being of children, their families and early childhood teachers. Emphasis on critical factors in understanding appropriate early childhood violence prevention and intervention strategies.

Child Development and Family Studies

CDFS 056   **3.0 Units**
Intervention and Strategies for Working with Children with Challenging Behaviors
Course Advisory: SCC minimum English standard.
Transferable to CSU
Hours: 48-54 lecture.

Provides early childhood teachers knowledge and skills to respond to the needs of children and families who experience stress and chronic violence through exploration of the power of play in helping children resolve conflicts and methods for teaching alternatives to violence.

CDFS 062   **3.0 Units**
Introduction to Early Childhood Education: Principles and Practices
Prerequisite: CDFS 038 (may enroll concurrently).
Transferable to CSU
Hours: 48-54 lecture.

An examination of the underlying theoretical principles of developmentally appropiate practices applied to programs, environments, emphasizing the key role of relationships, constructive adult-child interactions, and teaching strategies in supporting physical, social, creative and intellectual development for all young children. This course includes a review of the historical roots of early childhood programs and the evolution of the professional practices promoting advocacy, ethics and professional indentity. *(C-ID ECE 120)*

CDFS 063   Introduction to Curriculum   3.0 Units
Prerequisite: CDFS 062 with a minimum grade of C.
Course Advisory: CDFS 062 with a minimum grade of C.
Transferable to CSU
Hours: 48-54 lecture.

An overview of knowledge and skills related to providing appropriate curriculum and environments for young children from birth to age 6. Students will examine a teacher's role in supporting development and fostering children's curiosity and learning. Through observation and assessment strategies students will develop appropriate play-based curriculum. An overview of content areas will include but not be limited to: Language and literacy, social and emotional learning, sensory learning, art and creativity, music, math, and science. Field trip may be required. *(C-ID ECE 130)*

CDFS 064   Observation and Assessment   3.0 Units
Course Advisory: CDFS 038; Eligibility for ENGL 001.
Transferable to CSU
Hours: 48-54 lecture.

A focus on the appropriate use of assessment and observation strategies to document development, growth, play and learning to join with families and professionals in promoting children's success. Recording strategies, rating systems, portfolios, and multiple assessment tools are explored. *(C-ID ECE 200)*

CDFS 065   **4.0 Units**
Early Childhood Education Practicum I
Prerequisite: A minimum grade of C in CDFS 050, CDFS 062, and CDFS 063. Course Advisory: Eligibility for ENGL 001.
Transferable to CSU
Hours: 16-18 lecture, 144-162 lab by arrangement.

Supervised laboratory experience with infants through preschool children in the Solano College Early Learning Center. Students will spend 8 hours in practicum, 1 hour in a teacher meeting, and 1 hour in seminar for a total of 10 hours per week. Students will utilize practical classroom experiences to make connections between theory and practice, develop professional behaviors, and build a comprhehensive understanding of children and families. Child centered, play-oriented approaches to teaching, learning, and assessment; and knowledge of curriculum content areas will be emphasized as student teacher design, implement and evalute experiences that promote positive development and learning for all young children. During the first week of enrollment, students will be required to be fingerprinted and cleared through Department of Justice and have a negative TB skin test at the District's expense. *(C-ID ECE 210)*

Child Development and Family Studies

CDFS 066   **4.0 Units**
Early Childhood Education Practicum II
Prerequisite: CDFS 065 with a minimum grade of C.
Transferable to CSU
Hours: 16-18 lecture, 144-162 lab by arrangement.
Emphasizes curriculum activities, comphrehensive case studies, methods of child observation, and relationships of theories to practices. Students may be placed in the Solano College Children's Programs on campus or with a Mentor teacher (selected by the SCC/ECE Mentor teacher selection committee) off campus. Students will spend 8 hours in practicum, 1 hour in a teacher meeting, and 1 hour in seminar for a total of 10 hours per week. During the first week of enrollment, students will be required to be fingerprinted and cleared through Department of Justice and have a negative TB skin test at the District's expense.

CDFS 070   **Lifespan Human Development**   **3.0 Units**
Course Advisory: Eligibility for ENGL 001.
General Education: Option A: Area B2; Option C: Area D7, Area E
Transferable to CSU
Hours: 48-54 lecture.
A survey of human development throughout the life cycle, including physical, social, intellectual, and emotional development from conception to death. Includes direct observation.

CDFS 075   **3.0 Units**
Care of Infants and Toddlers: Social and Emotional Foundations
Course Advisory: Eligibility for ENGL 001.
Transferable to CSU
Hours: 48-54 lecture.
Examine relationship-based infant/toddler group care, with an emphasis on social and emotional development. Theoretical foundations of quality care are addressed including the importance of home-family connections, cultural continuity, and responsive practice. Skills for individualizing care, routines, and working with children with special needs are explored.

CDFS 076   **3.0 Units**
Care of Infants and Toddlers: Curriculum and Environments
Course Advisory: Eligibility for ENGL 001.
Transferable to CSU
Hours: 48-54 lecture.
Based on theory and an holistic approach to development, this course explores quality environments and curriculum for infants and toddlers. Through observation and assessment, students develop skills for creating meaningful cognitive, physical, literacy, and social and emotional experiences in group care.

CDFS 077   **Art and Scientific Inquiry for ECE**   **3.0 Units**
Transferable to CSU
Hours: 48-54 lecture.
An exploration of art and science curriculum appropriate to the development of young children. Emphasis is placed on children's use of art and science to foster creativity, inquiry, and knowledge about themselves and the physical world. The curriculum planning process as applied to early childhood STEAM (science, technology, engineering, art, and mathematics) experiences is emphasized. Field trip may be required.

CDFS 078   **Literacy and Music for ECE**   **3.0 Units**
Transferable to CSU
Hours: 48-54 lecture.
An exploration of language, literacy, music, and movement in early childhood education. Emphasis is placed on understanding and creating developmentally appropriate and culturally inclusive classroom experiences that promote emergent literacy and musical expression. Students will evaluate materials for quality and engage in teaching practices that promote children's holistic learning such as singing, instrument use, movement activities, teacher-child interaction, storytelling, puppetry, and dramatic play.

CDFS 080   **Early Childhood Administration**   **3.0 Units**
Prerequisite: CDFS 038 and CDFS 062 with a minimum grade of C.
Transferable to CSU
Hours: 48-54 lecture.
An overview of the fundamental duties and responsibilities of Early Childhood Administration, including preparation, implementation and evaluation of the program goals and budget controls. Meets requirements set by the California Commission on Teacher Credentialing for Site Supervisor and Program Director permit and State of California Community Care Licensing.

Child Development and Family Studies

CDFS 081   Early Childhood Staff Supervision   3.0 Units
Prerequisite: CDFS 038, CDFS 050, and CDFS 062 with a minimum
*   grade of C.*
Transferable to CSU
Hours: 48-54 lecture.

A presentation of the fundamentals involved in becoming a more effective supervisor and methods and procedures in dealing with selection, supervision and evaluation of staff in an early childhood setting. Meets the requirements set by the California Commission on Teacher Credentialing for the Site Supervisor and Program Director Permit and State of California Community Care Licensing.

CDFS 082   2.0 Units
Adult Supervision: The Mentor Teacher
Prerequisite: CDFS 038, CDFS 050, and CDFS 062 with a minimum
*   grade of C.*
Transferable to CSU
Hours: 32-36 lecture.

Methods and principles of supervising student teachers in early childhood classrooms. Emphasis on the role of experienced classroom teachers who function as mentors to new teachers while simultaneously addressing the needs of children, parents and other staff. Required for the Master Teacher, Site Supervisor, and Program Director Permits issued by the California Commission on Teaching Credentialing.

CDFS 099   1.0 to 3.0 Units
Early Childhood Education Honors
Prerequisite: Completion of 24.0 units of college credit with a minimum
*   GPA of 3.3; a minimum of 5.0 units in the discipline with a minimum*
*   grade of B; an ability to work independently; permission of the School*
*   Dean based on instructor availability.*
Course Advisory: Eligibility for ENGL 001.
Transferable to CSU
Hours: 48-162 lab by arrangement.

An independent study and research class in the areas of infant, toddler, and preschool early education programs. The student and instructor design an outlined program of study. Students may continue CDFS 099 over multiple semesters not to exceed 3 units.

Communication Studies (AA-T)

CAREER PATHS:

Speech-Language Pathologist
Communication Teacher
Media and Communication
Public Relations Specialist

Additional Career Paths and related data, including state-by-state wage info and growth in the field, can be found at www.onetonline.org.

This program map represents one possible pathway. See a counselor to create a customized education plan. Map is for the 2019-2020 catalog year.

SOLANO
COMMUNITY COLLEGE

Communication Studies

Associate in Arts for Transfer
GE Pattern: IGETC
Program Total Units: 61-62

For more information
please contact:
(707) 864-7114

1 FIRST SEMESTER

Total Recommended Units: 14-15

| COMM 001 | 3 units |
| Intro to Public Speaking (IGETC 1C) | |

| COMM 012 | 3 units |
| Intercultural Communication (IGETC 4) | |

| ENGL 001 | 4 units |
| English Composition (IGETC 1A) | |

| LR 010 | 1 unit |
| Library Research and Information Competency | |

| IGETC 2 | 3-4 units |
| Suggested: Math 011 or 012 | |

2 SECOND SEMESTER

Total Recommended Units: 17

| COMM 006 | 3 units |
| Argumentation and Debate | |

| COMM 010 | 3 units |
| Interpersonal Communication | |

| IGETC 4 | 3 units |

| IGETC 5A or 5B | 4 units |
| With Lab | |

| IGETC 1B | 4 units |
| Suggested: ENGL 002 or ENGL 004 | |

3 THIRD SEMESTER

Total Recommended Units: 15

| COMM 002 | 3 units |
| Fundamentals of Persuasive Speaking | |

| Transferable Elective | 3 units |
| Course #001-049 | |

| IGETC 3A | 3 units |
| Suggested: ART 012 or CINA 011 or MUSC 013 or THEA 013 | |

| IGETC 3B/Am Inst Grp 1 | 3 units |
| Suggested: HIST 017 or 018 or 028 or 029 or 037 | |

| IGETC 4 | 3 units |

4 FOURTH SEMESTER

Total Recommended Units: 15

| COMM LIST A, B, or C of ADT | 3 units |

| IGETC 4/Am Inst Grp 2 | 3 units |
| Suggested: PLSC 001 or 005 | |

| IGETC 3 A or B | 3 units |

| Transferable Elective | 3 units |
| Course #001-049 | |

| IGETC | 3 units |
| 5A or 5B without lab. Whichever previously not taken. | |

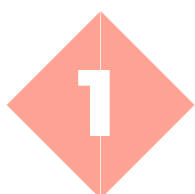Required Courses/Courses in Discipline   GE Courses/Categories

GET STARTED NOW!

▶ **Get started on your Pathway now with these recommended courses!** *Then* –See a counselor to create a **CUSTOMIZED** education plan personalized to your career and transfer goals!

▶ Required courses may change depending on a student's career and transfer goals, including requirements for cross-cultural and foreign language courses, and/or specific requirements for an individual CSU or UC.

▶ Unique transfer requirements for a specific institution can be found at **www.assist.org.**

LET US HELP YOU!

How to Apply: solano.edu/ar/apply.php

■ **Questions? Talk to a Counselor Now!**
Main Campus, Fairfield: (707) 864-7101
Vacaville Center: (707) 863-7836
Vallejo Center: (707) 642-8188
Travis AFB: (707) 863-7878
Visit online at solano.edu/counseling

■ **Contact Our Career Center to Learn Your Career Options!**
Call 707-864-7124, or email at CareerCenter@solano.edu
Visit online at solano.edu/career

■ **You Can Afford College! Learn more about Financial Aid!**
Call 707-864-7103, or email at FinancialAid@solano.edu
Visit online at solano.edu/financial_aid

■ **College is Accessible!** Contact our Disability Services Program (DSP) at 707-864-7136.

Communication Studies

Associate in Arts in Communication Studies for Transfer (ADT: A.A.-T)

Program Description
The Communication Studies Program is broad-based and concerned with the preparation and delivery of messages in interpersonal, public and business situations. This program focuses on understanding the communication process and improving communication skills. The program prepares the students to pursue professional goals in a variety of career possibilities including: Community College Teacher, Speech Writer, Communication Consultant, Lawyer, Minister, Personnel Director, Sports Broadcast Journalist, Public Relations, Political Campaign Aide, Sales, Counselor.

Associate in Arts Degree for Transfer
The Associate in Arts in Communication Studies for Transfer (AA-T) is especially appropriate for students who plan to complete a bachelor's degree in Communication Studies at a CSU campus. Students completing this degree (AA-T in Communication Studies) are guaranteed admission to the CSU system, but not to a particular campus or major. Students transferring to a CSU campus that does accept the AA-T in Communication Studies will be required to complete no more than 60 units after transfer to earn a bachelor's degree. This degree also prepares students for communication studies degree programs at other four-year institutions, but does not come with the same guarantees. In all cases, students should consult with a counselor for more information on university admission and transfer requirements.

To earn the Associate in Arts in Communication Studies for Transfer degree, a student must:
1. Complete 60 semester units that are eligible for transfer to the California State University, including both of the following:
   a. The Intersegmental General Education Transfer Curriculum (IGETC) or the California State University General Education – Breadth Requirements
   b. A minimum of 18 semester units in a major or area of emphasis, as determined by the community college district.
2. Obtain a minimum grade point average of 2.0.

Program Outcomes
Students who complete the Associate in Arts in Communication Studies for Transfer Degree will be able to:
1. Critically evaluate speeches, debates, and other communicative performances.
2. Comprehend the skills and techniques necessary to be organized, confident communicators in a variety of classroom settings.
3. Understand the process of communication and communication methods in a multiple contexts.
4. Communicate utilizing a variety of performance methods.

REQUIRED COURSES .... **Units**
COMM 001 Introduction to Public Speaking 3
Two courses from List A 6
Two courses from List B 6
One course from List C 3

List A: (select two courses)
COMM 006 Argumentation and Debate 3
COMM 008 Group Communication 3
COMM 010 Interpersonal Communication 3

List B: (select two courses)
COMM 002 Fundamentals of Persuasive Speaking 3
COMM 012 Intercultural Communication 3
COMM 015 Oral Interpretation of Literature 3
COMM 050 Forensics/Speech Workshop 1-4
COMM 060 Business and Professional Communication. 3
Any List A course not used 3

List C: (select one course)
ANTH 002 Cultural Anthropology 3
COMM 075 Sports Broadcasting 3
PSYC 001 Introduction to Psychology 3
SOC 001 Introduction to Sociology 3
Any List A or List B course not used 3

Required Major Total Units **18**
CSU General Education or iGETC Pattern units **37-39**
CSU Transferable Electives
(as needed to reach 60 transferable units)* **9-11**
Total Degree Units **60**

* 6 units may be double counted toward both the major area of emphasis and CSU General Education or IGETC Pattern. Consult with a counselor for more information on completing this degree.

Communication Studies

Sports Broadcasting

Program Description
The Certificate of Achievement in Sports Broadcasting offers students hands-on experience in the basics of television and internet sports broadcasting. Areas of concentration include performance and technical training for a variety of televised sporting events and productions. The Certificate is geared for those who are interested in obtaining employable skills in a short timeframe. The Certificate of Achievement may be completed in one year and serves as a professional development opportunity.

Certificate of Achievement
A Certificate of Achievement can be obtained by completing the 12-unit major with a minimum grade of C or a P if taken on a Pass/No Pass basis.

Program Outcomes
Students who complete the Sports Broadcasting Certificate of Achievement will be able to:
1. Obtain and demonstrate skill set for entry level positions in broadcasting and electronic media productions.
2. Amass a minimum of 200 experience hours working on sports production tasks and to acquire recorded audio/video content to compile a demo tape.
3. Broadcast production assignments totaling 200 hours, exams, self-evaluation journals, and viewer response and evaluations.
4. Demonstrate ability to work as an individual as well as an effective team member on sports productions.

REQUIRED COURSES.. **Units**
COMM 075A Sports Broadcasting – Fall Sports............... 3
COMM 075B Sports Broadcasting – Spring Sports.......... 3
COMM 080A TV Sports Production – Fall Sports............ 3
COMM 080B TV Sports Production – Spring Sports....... 3
Total Degree Units 12

Communication Studies

COMM 001   Introduction to Public Speaking   3.0 Units
Course Advisory: Eligibility for ENGL 001. Option C: Area A1
Transferable to UC/CSU
Hours: 48-54 lecture.
Instruction and practice in the various forms of public address and the techniques for orally presenting ideas clearly, concisely, and coherently. Students are required to outline speeches frequently and/or complete a detailed manuscript of the speech; to read a college-level public speaking textbook and apply its principles in the preparation of their speeches; to critically analyze public speeches of various types. (*C-ID COMM 110*)

COMM 002   3.0 Units
Fundamentals of Persuasive Speaking
Course Advisory: Eligibility for ENGL 001.
General Education: Option A: Area D3; Option B: Area 1C; Option C: Area A1, Area A3
Transferable to UC/CSU
Hours: 48-54 lecture.
Instruction and practice in the various forms of persuasive speaking including, but not limited to, sales presentations, speeches of praise/blame, propaganda, and opposing viewpoints. Students are required to outline persuasive speeches frequently; to read a college-level persuasive speaking textbook and apply its principles in the preparation of their persuasive speeches; to critically analyze persuasive speeches; and to deliver persuasive speeches of various types. These speeches will be presented in class, in person, to an audience of peers. Faculty evaluation will be done in the classroom in person. (*C-ID COMM 190*)

COMM 006   Argumentation and Debate   3.0 Units
Course Advisory: Eligibility for ENGL 001.
General Education: Option A: Area D3; Option B: Area 1C; Option C: Area A1, Area A3
Transferable to UC/CSU
Hours: 48-54 lecture.
Instruction and practice in the principles of argumentation and in the various forms of debate including the analysis of propositions, research, evidence and reasoning. Students are required to practice various forensic debating techniques through the presentation of their outlined advocate/government and opposition cases after investigating major contemporary issues; to read a college level argumentation and debate textbook and apply its principles in the preparation of their cases, and to critically analyze debate cases. These debates will be presented in class, in person, to an audience of peers. Faculty evaluation will be done in the classroom in person. (*C-ID COMM 120*)

COMM 008   Group Communication   3.0 Units
Course Advisory: SCC minimum English standard.
General Education: Option A: Area D3
Transferable to UC/CSU
Hours: 48-54 lecture.
Designed to increase students' understanding of group communication behaviors related to problem-solving, decision-making, leadership, group roles, norms and conformity and to prepare students to function more effectively in groups. This course is for students majoring in speech communication, business, international business, education, nursing, and all fields of study and certifications that require group and team-building skills. (*C-ID COMM 140*)

COMM 010   Interpersonal Communication   3.0 Units
Course Advisory: Eligibility for ENGL 001.
General Education: Option A: Area D3
Transferable to UC/CSU
Hours: 48-54 lecture.
Communication principles as applied to different interpersonal communication situations including verbal and non-verbal communication, listening, overcoming barriers to communication, and conflict resolution. *(C-ID COMM 130)*

COMM 012   Intercultural Communication   3.0 Units
Course Advisory: SCC minimum English standard.
General Education: Option A: Area E; Option B: Area 4G; Option C: Area D3, Area D7,
SCC Graduation Requirement
Transferable to UC/CSU
Hours: 48-54 lecture.
An introduction to the challenges and promises of intercultural communication with application to American culture, subcultures, and different cultures of the world. Specific focus will be on development of the ability to acknowledge and understand the unique voice of people from the African, Asian, Latino/a, Middle Eastern, and Pacific Island cultures as well as co-cultures within the United States. Through lectures, readings, films, group discussions, written and oral assignments, students will learn the skills necessary to achieve positive outcomes when communicating with others that are perceived as different. *(C-ID COMM 150)*

Communication Studies

COMM 015   Oral Interpretation of Literature   3.0 Units
Course Advisory: Eligibility for ENGL 001.
General Education: Option A: Area
Transferable to UC/CSU
Hours: 48-54 lecture.

Study of literature through oral performance that includes development of skills in the analysis and interpretation of prose, poetry, and dramatic literature. Emphasis on vocal and physical techniques to orally communicate understanding of the literature performed.
(C-ID COMM 170)

COMM 049   Speech Honors   1.0 to 3.0 Units
Prerequisite: Completion of 30 or more units of transferable college
*   credit including 6 units of transferable COMM; ENGL 001 with a*
*   minimum grade of B; an ability to work independently; and*
*   permission of the School Dean based on instructor availability.*
Transferable to CSU
Hours: 48-162 lab by arrangement.

An independent study program designed for students who have completed the available Communication Studies offerings and wish to continue work in one of these areas, or work with an instructor in a specialized area of oral communication. The student and instructor design an outlined program of study. Students may take this course up to the maximum number of units over multiple semesters.

COMM 050   1.0 to 4.0 Units
Forensics/Speech Workshop
Course Advisory: Eligibility for ENGL 001.
Transferable to CSU
Hours: 16-18 lecture, 0-162 lab.

Provides training in the principles of all forms of competitive speaking, oral interpretation and debate, including participation in intercollegiate competitions and appearances before campus and community groups. Students attend intercollegiate forensic tournaments and festivals or speak before campus or community audiences. Participation may include weekends and off campus travel. This is an Open entry/Open exit course. *(C-ID COMM 160)*

COMM 060   3.0 Units
Business and Professional Communication
Course Advisory: Eligibility for ENGL 001.
General Education: Option A: Area D3
Transferable to CSU
Hours: 48-54 lecture.

Presents practical communication skills to allow students to achieve effective verbal communication in business situations, community activities and other areas of daily life. Areas of discussion include basic practical communication skills. Assignments and exercises are employed to allow students to achieve effective verbal communication in business situations, community activities, and other areas of daily life, including giving and receiving instructions, interviewing, verbal and non-verbal communication.

COMM 075A   3.0 Units
Sports Broadcasting - Fall Sports
Course Advisory: Eligibility for ENGL 001.
Transferable to CSU
Hours: 24-27 lecture, 72-81 lab.

A professional approach to the basics of on-air and internet sports broadcasting of football, soccer, volleyball and tennis. Areas of concentration include performance training for play-by-play description, color commentary, compiling and organizing statistical data for football, soccer, volleyball and tennis broadcasts. The course includes an in-depth approach to careers in broadcast communication with concentration on all aspects of research preparation and delivery presentation to establish and sustain a career in sports broadcasting in one or more of the following sports: football, soccer, volleyball and/or tennis. Students will be required to attend weekly athletic events to fulfill activity hours. Events typically on TWRF.

Communication Studies

COMM 075B   **3.0 Units**
Sports Broadcasting - Spring Sports
Course Advisory: Eligibility for ENGL 001.
General Education: Communication Studies
Transferable to CSU
Hours: 24-27 lecture, 72-81 lab.

A professional approach to the basics of on-air and internet sports broadcasting of baseball, softball, basketball, hockey and swimming. Areas of concentration include performance training for play-by-play description, color commentary, compiling and organizing statistical data for baseball, softball, basketball, swimming and hockey broadcasts. The course includes an in-depth approach to careers in broadcast communication with concentration on all aspects of research preparation and delivery presentation to adequately and effectively establish and sustain a career in sports broadcasting in one or more of the following sports: baseball, softball, basketball, hockey and/or swimming. Students will be required to attend weekly athletic events to fulfill activity hours. Events typically on TWRFS.

COMM 080A   **3.0 Units**
TV Sports Production - Fall Sports
Course Advisory: Eligibility for ENGL 001.
Transferable to CSU
Hours: 24-27 lecture, 72-81 lab.

Instruction and training in the fundamentals of televised sports productions, both in the studio and on location. The course focuses on all aspects of production: directing, board operation, computer graphics, videography, instant replay and pre- and post-production editing as it pertains to football, soccer, tennis and volleyball. Students required to attend weekly athletic events to fulfill activity hours. Events typically on TWRF afternoons and/or evenings.

COMM 080B   **3.0 Units**
TV Sports Production - Spring Sports
Course Advisory: Eligibility for ENGL 001.
Transferable to CSU
Hours: 24-27 lecture, 72-81 lab.

Instruction and training in the fundamentals of televised sports productions, both in the studio and on location. The course focuses on all aspects of production: directing, board operation, computer graphics, videography, instant replay and pre- and post-production editing as it pertains to basketball, baseball, softball, basketball, hockey and swimming. Students required to attend weekly athletic events to fulfill activity hours. Events typically on TWRFS afternoons and/or evenings.

Computer Information Science

Computer Programming

Program Description
This program is designed to prepare the student for employment as a computer programmer trainee.

Certificate of Achievement and Associate in Science Degree
A Certificate of Achievement can be obtained upon completion of the 33-unit major. The Associate in Science Degree may be obtained by completing the 33-unit major, general education requirements, and electives. All courses in the major must be completed with a minimum grade of C or a P if the course is taken on a Pass/No Pass basis.

Program Outcomes
Students who complete the Computer Programming Certificate of Achievement/Associate Degree will be able to:
1. Construct applications that use GUI (graphical user interface) components and access databases for data permanence.
2. Develop a programming solution to a data structure problem using object-oriented methodologies and appropriate data structures and algorithms.
3. Implement a well-designed, properly normalized relational database after analyzing user requirements and business rules.

REQUIRED COURSES... **Units**
(listed in recommended sequence)
CIS 001 Introduction to Computer Science 3
BUS 092 Business Communication....................................... 3
CIS 022 Introduction to Programming............................... 3
CIS 055 MS Windows Operating Systems......................... 3
CIS 023 Data Structures and Algorithms........................... 3
CIS 015 Programming in Visual Basic.NET....................... 3
CIS 089 Essential Networking Technologies..................... 3
CIS 078 Access - Database Management System.............. 3
CIS 052 UNIX Operating System 3
CIS 020 Assembly Programming 3
3 units from Recommended Electives............................... 3
    Required Major Total Units 33

Recommended Electives (select 3 units)................... **Units**
ACCT 001 Principles of Accounting - Financial 4
ACCT 002 Principles of Accounting – Managerial........... 4
BUS 005 Introduction to Business...................................... 3
CIS 035 Introduction to Java Programming 3
CIS 060 Introduction to the Internet................................ 1.5
CIS 061 Creating Web Pages... 3
CIS 066 Microsoft Word.. 3
CIS 068 Object Oriented Game
    Programming with Flash 3
CIS 073 Microsoft Excel.. 3
CIS 080 SQL Database Management Systems................... 3
OCED 090 Occupational Work Experience 1- 8
OCED 091 General Work Experience..............................1-6

Solano General Education.. **21**
Electives (as needed to reach 60 units)............................ 6
    Total Degree Units Solano GE.................................... 60

Note: Students planning to transfer to a four-year college and major in Management Information Systems/ Computer Science should see a counselor regarding Business Articulation Agreements for a particular university campus.

This is a Gainful Employment Program. For additional information, please visit
http://www.solano.edu/gainful_employment/ and select "Computer & Info Science: Computer Programming."

Computer Information Science

Microcomputer Applications

Program Description
This option is designed to prepare the student for employment as a microcomputer applications specialist.

Certificate of Achievement and Associate of Science Degree
A Certificate of Achievement can be obtained upon completion of the 30-unit major. The Associate in Science Degree may be obtained by completing the 30-unit major, general education requirements, and electives. All courses in the major must be completed with a minimum grade of C or a P if the course is taken on a Pass/No Pass basis.

Program Outcomes
Students who complete the Microcomputer Applications Certificate of Achievement/Associate Degree will be able to:
1. Demonstrate knowledge of application software such as word processing, spread sheets, personal information management, database, operating systems, and networking, presentation and html editors.
2. Understand Visual Basic programming.
3. Demonstrate effective oral and written communication.

REQUIRED COURSES... **Units**
(listed in recommended sequence)
CIS 001 Introduction to Computer Science 3
CIS 015 Programming in Visual Basic.NET....................... 3
CIS 055 MS Windows Operating Systems......................... 3
CIS 061 Creating Web Pages................................... 3
CIS 066 Microsoft Word....................................... 3
CIS 073 Microsoft Excel...................................... 3
CIS 078 Access - Database Management System.............. 3
CIS 089 Essential Networking Technologies.................... 3
CIS 090 Introduction to PowerPoint............................. 1.5
CIS 091 Microsoft Outlook.................................... 1.5
BUS 092 Business Communication.................................... 3
   Required Major Total Units 30

Solano General Education... 21
Electives (as needed to reach 60 units)............................ 9
   Total Degree Units Solano GE.................................... 60

This is a Gainful Employment Program. For additional information, please visit
*http://www.solano.edu/gainful_employment/*and select "Computer & Info Science: Microcomputer Applications."

Computer Information Science

Web Development and Administration

Program Description
This specialty is designed to prepare the student for employment as a web site administrator and developer.

Certificate of Achievement and Associate in Science Degree
A Certificate of Achievement can be obtained upon completion of the 33-unit major. The Associate in Science Degree may be obtained by completing the 33-unit major, general education requirements, and electives. All courses in the major must be completed with a minimum grade of C or a P if the course is taken on a Pass/No Pass basis.

Program Outcomes
Students who complete the Web Development and Administration Certificate of Achievement/Associate Degree will be able to:
1. Properly use design elements and an html editor in creating web pages.
2. Describe and explain the use of a database in a website utilizing input forms, queries, and data base results.
3. Develop a project incorporating CSS, search forms, tables, photo galleries, shared borders, themes, interactive components, dynamic web pages and publish to a website.

REQUIRED COURSES.. **Units**
CIS 001 Introduction to Computer Science 3
CIS 061 Creating Web Pages.. 3
CIS 062 Creating Web Interactivity with Flash................. 3
CIS 069 Multimedia for the Web.. 3
CIS 072 Extensible Markup Language (XML)................ 1.5
CIS 075 Client-Side Web Programming 3
CIS 080 SQL Database Management Systems.................... 3
CIS 081 Server-Side Web Programming............................ 3
CIS 083 Web Server Administration.................................. 3
CIS 089 Essential Networking Technologies..................... 3
CIS 111 Web Design with Cascading Style Sheets......... 1.5
3 units from List A... 3
    Required Major Total Units 33

List A: (Select 3 units) .... **Units**
CIS 015 Programming in Visual Basic.NET...................... 3
CIS 022 Introduction to Programming.............................. 3
CIS 023 Data Structures and Algorithms.......................... 3
CIS 035 Introduction to Java Programming 3
CIS 068 Object Oriented Game Programming
    with Flash.. 3
CIS 078 Access - Database Management System.............. 3
CIS 120 Developing XML Web Services......................... 1.5
CIS 121 PHP Programming with MySQL......................... 3

Solano General Education... **21**
Electives (as needed to reach 60 units)............................ 6
    Total Degree Units Solano GE................................... 60

This is a Gainful Employment Program. For additional information, please visit
*http://www.solano.edu/gainful_employment/*and select "Web Development & Administration."

Computer Applications Specialist Job-Direct Low Unit Certificate

The required courses must be completed with a minimum grade of C.

REQUIRED COURSES.. **Units**
BUS 100 Work Readiness 1.5
CIS 066 Microsoft Word... 3
CIS 073 Microsoft Excel... 3
CIS 078 Access - Database Management System.............. 3
    Total Units 10.5

Database Specialist Job-Direct Low Unit Certificate

The required courses must be completed with a minimum grade of C.

REQUIRED COURSES.. **Units**
CIS 072 Extensible Markup Language (XML) 1.5
CIS 078 Access - Database Management System.............. 3
CIS 080 SQL Database Management Systems.................... 3
    Total Units 7.5

Computer Information Science

Digital Media and Web Development Job-Direct Low Unit Certificate

The required courses must be completed with a minimum grade of C.

REQUIRED COURSES.. **Units**
CIS 061 Creating Web Pages 3
CIS 062 Creating Web Interactivity 3
CIS 070 Adobe Photoshop for the Web 3
CIS 087 Adobe Illustrator for the Web 3
    Total Units **12**

Microsoft Office Specialist Job-Direct Low Unit Certificate

The required courses must be completed with a minimum grade of C.

REQUIRED COURSES.. **Units**
CIS 066 Microsoft Word... 3
CIS 073 Microsoft Excel 3
CIS 078 Access-Database Management System 3
CIS 090 Introduction to PowerPoint 1.5
CIS 091 Microsoft Outlook 1.5
    Total Units **12**

Web Developer Job-Direct Low Unit Certificate

The required courses must be completed with a minimum grade of C.

REQUIRED COURSES.. **Units**
CIS 001 Introduction to Computer Science 3
CIS 061 Creating Web Pages 3
CIS 069 Multimedia for the Web 3
CIS 072 Extensible Markup Language (XML).............. 1.5
CIS 075 Client-Side Web Programming 3
CIS 081 Server-Side Web Programming............................ 3
    Total Units **16.5**

Web Programmer Job-Direct Low Unit Certificate

The required courses must be completed with a minimum grade of C.

REQUIRED COURSES.. **Units**
CIS 015 Programming in Visual Basic.NET....................... 3
CIS 035 Introduction to Java Programming 3
CIS 068 Object Oriented Game Programming
    with Flash 3
CIS 075 Client-Side Web Programming 3
CIS 081 Server-Side Web Programming 3
    Total Units **15**

Computer Information Science

CIS 001   Introduction to Computer Science   3.0 Units
Course Advisory: SCC minimum English and Math standards;
*   keyboarding 30 wpm.*
General Education: Option A: Area D3
Transferable to UC/CSU
Hours: 48-54 lecture, 16-18 lab.

An introduction to the hardware and software components of basic computer information systems. Also, an examination of information systems and their role in business. A review of historical, social and cultural implications of computer technology in today's society. Course content will include hands-on familiarization with a computer operating system and common application software. Additionally, the course includes an introduction to computer programming using the Visual Basic.Net language. Students will learn to develop problem specifications, conduct detailed analysis, design algorithms, and construct structured computer programs. *(C-ID BUS 140)*

CIS 015   Programming in Visual Basic.NET   3.0 Units
Prerequisite: CIS 001 with a minimum grade of C.
Transferable to UC/CSU
Hours: 48-54 lecture, 16-18 lab.

An introduction to Object Oriented Programming (OOP) using Visual Basic.NET, emphasizing problem-solving techniques using structured design and development. An extensive coverage of the Visual Basic computer language will be conducted using the Microsoft.Net environment. Students will construct forms and define procedures, events, properties, methods and objects to solve a variety of business-oriented problems.

CIS 020   Assembly Programming   3.0 Units
Prerequisite: A minimum grade of C in CIS 015, CIS 022 or CIS 035.
General Education: Option A: Area D3
Transferable to UC/CSU
Hours: 32-36 lecture, 48-54 lab.

A hardware-oriented programming course dealing with programming a computer at the assembler language level. Emphasis will be on the assembly language of computers. *(C-ID CIS 142)*

CIS 021   3.0 Units
Discrete Structures for Computer Science
Prerequisite: A minimum grade of C in CIS 023 and Math 020.
General Education: Option B: Area 2
Transferable to UC/CSU
Hours: 32-36 lecture, 48-54 lab.

An introduction to the discrete structures used in Computer Science with an emphasis on their applications. Topics covered include: Functions, Relations and Sets; Basic Logic; Proof Techniques; Basics of Counting; Graphs and Trees; and Discrete Probability. *(C-ID COMP 152)*

CIS 022   Introduction to Programming   3.0 Units
Prerequisite: CIS 001 with a minimum grade of C.
General Education: Option A: Area D4
Transferable to UC/CSU
Hours: 48-54 lecture, 16-18 lab.

An introduction to computer programming. The course's content will include 'hands-on' development of structured algorithms and programs through top-down design, modular and object oriented programming, and standardized control structures. Taught using an object-oriented computer programming language such as C++, C#, Java, etc. *(C-ID COMP 122)*

CIS 023   Data Structures and Algorithms   3.0 Units
Prerequisite: CIS 022 with a minimum grade of C.
General Education: Option A: Area D3
Transferable to UC/CSU
Hours: 32-36 lecture, 48-54 lab.

A study of the basic concepts associated with the creation and manipulation of data structures and their related processing algorithms. Topics include software engineering principles, the selection, design, and implementation of data structures including arrays, sequential and random access files, strings, stacks, queues, linked lists, and binary trees, and the development of efficient algorithms for sorting, searching, and manipulating these data structures. Taught using an object-oriented computer programming language such as C++, C#, Java, etc. *(C-ID CIS 132)*

CIS 035   Introduction to Java Programming   3.0 Units
Prerequisite: A minimum grade of C in CIS 015, CIS 022 or CIS 023.
Transferable to UC/CSU
Hours: 32-36 lecture, 48-54 lab.

Introduces Object Oriented Programming (OOP) using the Java programming language. Includes hands-on development of Java applets and Java applications using objects, classes, interfaces and Graphical User Interface (GUI) components.

Computer Information Science

CIS 049   **1.0 to 3.0 Units**
Computer and Information Science Honors
Prerequisite: Completion of 24.0 units of college credit with a minimum
   GPA of 3.3; a minimum of 5.0 units in the discipline with a minimum
   grade of C; an ability to work independently; permission of the School
   Dean based on instructor availability.
Course Advisory: SCC minimum English and Math standards.
Transferable to CSU
Hours: 48-162 lab by arrangement
Designed for honor students who intend to major in one of
the Computer and Information Science options. Students
are expected to design their own projects and must submit
them to the instructor for approval. Students may take
this course up to the maximum number of units over
multiple semesters.

CIS 050   Microcomputer Applications   3.0 Units
Course Advisory: SCC minimum English and Math standards; Basic
   keyboarding skills at 30 wpm.
Transferable to CSU
Hours: 48-54 lecture.
An introduction to microcomputers and the more
frequently used applications software. The course is
designed for the microcomputer user who is not a
computer science major. The purpose of this course
is to help students to understand the concepts and
fundamentals of working with: an operating system with
its associated graphical user interface, word processing,
spreadsheets, databases and presentation software.

CIS 052   UNIX Operating System   3.0 Units
Course Advisory: CIS 055 with a minimum grade of C; SCC minimum
   English and Math standards.
Transferable to CSU
Hours: 48-54 lecture.
An analysis of the UNIX operating system, its terminology,
user utilities, file structure, file security, commands,
shells, shell programming, system architecture, and
system administration. Emphasis will be placed on the
shell environment, shell programming and utilities. The
course will include hands-on exercises for the students
to complete using the UNIX operating system (Currently
taught using LINUX).

CIS 055   MS Windows Operating Systems   3.0 Units
Course Advisory: CIS 001 with a minimum grade of C; basic
   keyboarding skills.
Transferable to CSU
Hours: 48-54 lecture.
How to use the Graphical User Interface (GUI) and the
command line interface in carrying out system tasks in
the MS Windows operating systems. Topics include file
management, hard disk management, system tools, batch
files, connectivity, and the registry.

CIS 060   Introduction to the Internet   1.5 Units
Course Advisory: SCC minimum English and Math standards.
Transferable to CSU
Hours: 24-27 lecture.
Prepares students to use the Internet, a world wide
computer network. Emphasis is on introducing features
of the Internet, including electronic mail, the World Wide
Web, Gopher, FTP (file transfer protocol), Telnet, and
Usenet, as well as other Internet services and utilities.
Students will explore hands-on the vast resources of the
Internet, learn to access information using a variety of
methods, and will construct a simple Web page.

CIS 061   Creating Web Pages   3.0 Units
Course Advisory: CIS 001; SCC minimum English and Math standards.
Transferable to CSU
Hours: 48-54 lecture.
Prepares students to develop web sites that interact with
databases. Emphasis is on the creation of Web sites with
interactive Web pages, data access Web pages, and web
pages with interactive components. Students will explore
hands-on access to the Internet and an HTML editor to
create and maintain Web sites.

CIS 062   Creating Web Interactivity   3.0 Units
Course Advisory: A minimum grade of C in both CIS 001 and CIS 061;
   SCC minimum English and Math standards.
Transferable to CSU
Hours: 48-54 lecture.
Covers the creation of vector-based graphics, animation,
and interactivity within the Web environment. Emphasis
will be placed on applying design principles to the
elements of motion and interactivity. The basic operating
principles of Adobe Animate will be applied in order to
create Web content with animation, interactive buttons,
and sound. Issues of optimal delivery and web accessibility
will also be covered. A portfolio-quality professional level
capstone project will be developed and presented.

CIS 066   Microsoft Word   3.0 Units
Course Advisory: CIS 001 or CIS 050 with a minimum grade of C;
   ability to keyboard at 30 wpm.
Transferable to CSU
Hours: 48-54 lecture.
An in-depth study of the functions of the word processing
program. Students will learn how to use basic and
advanced program features to create and design business
documents.

Computer Information Science

CIS 069   Multimedia For the Web   3.0 Units
Course Advisory: CIS 061 with a minimum grade of C; SCC minimum English and Math standards.
Transferable to CSU
Hours: 48-54 lecture.

An in-depth look at designing multimedia for the Web. Topics include developing graphic elements such as buttons, background textures and images for a Web site, using Cascading Style Sheets to position graphics, using Adobe Animate CC to create web site interactivity, adding audio and/or video to a Web site, and manipulating Web multimedia file formats.

CIS 070   Adobe Photoshop for the Web   3.0 Units
Course Advisory: CIS 001 or CIS 050 with a minimum grade of C; SCC minimum English and Math standards.
Transferable to CSU
Hours: 48-54 lecture.

Emphasizes the use of computer technology to create and manipulate raster and vector digital images. Students use Photoshop techniques to produce digital creations for the web. Layers, filter effects, blending modes, and other editing tools will be used to produce digital images appropriate for print and electronic reproduction. The elements of Photoshop for use in industry-standard web and print production will be explored.

CIS 073   Microsoft Excel   3.0 Units
Course Advisory: CIS 001 with a minimum grade of C; ability to keyboard at 30wpm.
Transferable to CSU
Hours: 48-54 lecture.

A thorough study of spreadsheet operation and enables the student to use the spreadsheet to perform mathematical computations and analysis. Students will create graphic representations of the information contained in a spreadsheet, perform list management routines, use functions, perform 'what if' analysis, customize toolbars and menus, and create macros using Visual Basic for Applications.

CIS 078   3.0 Units
Access - Database Management System
Course Advisory: CIS 001 with a minimum grade of C.
Transferable to CSU
Hours: 48-54 lecture.

An introduction to relational database management using microcomputers. Micosoft's Access database management program is used. Students will learn how to create and maintain relational database structures, organize and manipulate data, ask questions of the data, create custom forms for entering data and custom reports for printing the data. How to publish objects on the Internet's World Wide Web is presented. The student will learn how to construct a complete application combining previously created tables, queries, forms, and reports. Visual BASIC Applications (VBA) and Structured Query Language (SQL) are introduced. Advanced database design is explored and the student learns how to 'normalize' a database structure.

CIS 080   SQL Database Management Systems   3.0 Units
Course Advisory: CIS 001; CIS 078; SCC minimum English and Math standards.
Transferable to CSU
Hours: 48-54 lecture.

Provides knowledge and skills in advanced database systems that use the SQL language such as IBM's DB2, Oracle, Sybase and Microsoft's SQL Server. This course is designed for the end user, the database designer and the database administrator. Microsoft SQL Server 2008 is the database system currently used for this course.

CIS 081   Server-Side Web Programming   3.0 Units
Course Advisory: A minimum grade of C in both CIS 001 and CIS 061; SCC minimum English and Math standards.
Transferable to CSU
Hours: 48-54 lecture.

Emphasizes the creation of interactive web sites using a server-sided scripting language such as ASP.Net, CGI, or Perl. Topics include core features of the server-side scripting language, control structures, functions, arrays, form validations, regular expressions, environmental variables, and database-driven web applications.

CIS 083   Web Server Administration   3.0 Units
Course Advisory: CIS 001 and CIS 061 with a minimum grade of C; SCC minimum English and Math standards.
Transferable to CSU
Hours: 48-54 lecture.

Web server installation and administration for the internet and intranet. Topics covered include the installation, configuration, management and tuning of web services, security, online transaction processing, and FTP services.

Computer Information Science

CIS 085   Digital Publishing with InDesign   3.0 Units
Course Advisory: CIS 001 or CIS 050 with a minimum grade of C; SCC
*   minimum English and Math standards.*
Transferable to CSU
Hours: 48-54 lecture.

An introduction to the graphics software program, Adobe InDesign. Students will learn to produce and publish publications, employing vector graphics, and typography as well as color and print management. This course will establish an understanding of the basic features in Adobe InDesign for use in both print and digital media.

CIS 087   Adobe Illustrator for the Web   3.0 Units
Course Advisory: CIS 001 or CIS 050 with a minimum grade of C;
*   SCC minimum English and Math standards.*
Transferable to CSU
Hours: 48-54 lecture.

An introduction to the graphics software program, Adobe Illustrator. Students will learn to create vector shapes, import, export and modify graphics, and use Illustrator tools. This course will establish an understanding of the basic features in Adobe Illustrator for use in digital media.

CIS 089   Essential Networking Technologies   3.0 Units
Course Advisory: CIS 001 with a minimum grade of C; SCC minimum
*   English and Math standards.*
Transferable to CSU
Hours: 48-54 lecture.

A general introductory overview of networking. Network design, media, protocols, architectures, operations, and administration will be discussed. Local area networks, wide area networks, and network connectivity (including Internet) are covered. This course is the foundation of all other network classes and helps prepare the student to be successful when taking various certified examinations.

CIS 090   Introduction to PowerPoint   1.5 Units
Course Advisory: CIS 001 or CIS 050 with a minimum grade of C; ability
*   to keyboard 30 wpm.*
Transferable to CSU
Hours: 24-27 lecture.

An introduction to features and design concepts utilized in developing powerful presentations using a package software such as Microsoft PowerPoint.

CIS 091   Microsoft Outlook   1.5 Units
Course Advisory: CIS 001 or CIS 050 with a minimum grade of C; basic
*   keyboarding skills; SCC minimum English standard.*
Transferable to CSU
Hours: 24-27 lecture.

An introduction to Outlook's features. Students will work with the Contact address book; Inbox and e-mail; Journal; Notes; Tasks; use Calendar to track and schedule appointments, events and meetings; work with forms and templates; use Outlook with other applications.

CIS 106   Computer Literacy   1.0 Unit
Course Advisory: SCC minimum English and Math standards.
Hours: 16-18 lecture, 8-9 lab.

A brief introduction to information technology for novices. Including an introduction to computer components, as well as hands-on activities utlizing the Windows operating system, word processing and spreadsheet software and the internet.

CIS 110   Wireless LANs   1.5 Units
Course Advisory: CIS 001 with a minimum grade of C; SCC minimum
*   English and Math standards.*
Hours: 24-27 lecture, 8-9 lab.

Planning, designing, installing and configuring wireless LANs. The course offers in-depth coverage of wireless networks with extensive step-by-step coverage of IEEE 802.11b/a/g/pre-n implementation, design, security, and troubleshooting.

CIS 112   3.0 Units
Introduction to Robotics Programming
Prerequisite: CIS 001.
Hours: 48-54 lecture.

Introduction to programming a 360-degree, 5-axis articulating arm via the Industry Standard Smart Terminal hand held computer and the PC interface. The student will learn all the basic physical parts of the system; how to utilize many of the 150 programming language commands to maniuplate the robot to do work in three dimensional work spaces over time; Industry Standard Robotic Safety Standards in the work place and how to implement.

Computer Information Science

CIS 113   **3.0 Units**
Introduction to Programmable Logic Controllers
Prerequisite: CIS 001.
Hours: 48-54 lecture.

An introduction on how to design, program and operate the Programmable Logic Controller (PLC) to control a number of process applications used by industries all over the world. The Programmable Logic Controller (PLC) is a microprocessor-based controller designed to provide easily programmed control of almost any type of process. The student will learn to program Input Modules, Output Modules, Processor Module, Power Supply, Programming device, and I/O chassis.

CIS 162   A+ Computer Hardware Technology   4.0 Units
Course Advisory: SCC minimum English and Math standards.
Hours: 48-54 lecture, 48-54 lab.

Presents the structure of modern personal computer architecture including the names, purpose, and characteristics of components such as motherboards, CPUs, RAM, disk drive storage, printers and networks. This course also addresses upgrading computer components, optimizing computer performance, preventative maintenance, safety, and computer hardware troubleshooting. Prepares the student for CompTIA A+ Hardware Service Technician Certification.

CIS 164   **4.0 Units**
A+ Computer Operating Systems Technology
Course Advisory: CIS 162; SCC minimum English and Math standards.
Hours: 48-54 lecture, 48-54 lab.

Presents the purpose and capabilities of computer operating systems, operating system components and utilities. The course emphasizes initial investigation of personal computer operating systems and demonstrates the uses of the operating system and other software for isolating troubles and completing the repair of personal computers. Prepares the student for CompTIA A+ Operating Systems Technologies certification.

CIS 166   Computer Network+ Technology   4.0 Units
Course Advisory: SCC minimum English and Math standards.
Hours: 48-54 lecture, 48-54 lab.

Presents the architecture of computer networks, including the names, purpose, and characteristics of network components such as network interface card (NIC), hubs, routers, cabling and connectors; as well as topologies, protocols and standards. This course also addresses network implementation, network support and troubleshooting. Prepares the student for CompTIA Network+ Computer Network Certification. As a team, in a laboratory environment, the class will assemble and implement a complete network, with a server running a Microsoft server network operation system (NOS) and several computers running the Microsoft Windows XP Professional Operating System. All of the required cabling will be assembled in the lab by the students under the supervision of the instructor.

CIS 168   Computer Security+ Technology   4.0 Units
Prerequisite: CIS 166 with a minimum grade of C.
Hours: 48-54 lecture, 48-54 lab.

Presents the vulnerability, threats, and risks to data and other computer assets from spyware, Trojan horses, viruses, worms, and other security attacks. This course also addresses the fundamental policies and procedures for maintaining the security of a computer network. Prepares the student for the Computing Technology Industry Association's (CompTIA) Security+ Certification.

CIS 172   **1.5 Units**
Computer Forensics: Evidence Recovery
Course Advisory: SCC minimum English and Math standards.
Hours: 16-18 lecture, 24-27 lab.

An introduction to the physical aspects of data collection from computer systems and computer networks. Topics include the hardware and software used to collect data; the techniques used to ensure integrity and preserve data; and the requirements of preparing collected data for later forensic investigation. Students will learn to process a digital crime scene as well as the corporate environment for both criminal/civil cases and incident response.

CIS 173   Computer Forensics Investigations   3.0 Units
Prerequisite: CIS 001.
Course Advisory: Eligibility for ENGL 001
Hours: 32-36 lecture, 48-54 lab.

An introduction to the tools and techniques of preserving and investigating digital evidence in a systematic and scientifically reliable manner using modern computer forensic software applications. The student is introduced to the interpretation and analysis of recovered data for the purpose of collecting legal evidence. The student is exposed to data in an array of formats and applications from several computer types and operating systems as well as deleted, encrypted, and damaged information. Evidence reporting practices are also introduced.

CIS 174   3.0 Units
Computer Forensics: Operating Systems Internals
Prerequisite: CIS 173 with a minimum grade of C.
Hours: 32-36 lecture, 48-54 lab.

Explore the internal workings of computer operating systems and perform forensic examinations of various operating systems. Students will analyze FAT, NTFS, Ext2, Ext3, UFS1, and UFS2 file systems and data structures. Students will learn to recognize systems that have been compromised by viruses or other intrusive programs, and will be able to locate corrupt, hidden or deleted data.

Cosmetology

Cosmetology

Program Description
The Cosmetology program is approved by the Board of Barbering and Cosmetology. It is designed to prepare the student to take the California State Board of Cosmetology examination for licensure and is subject to its regulations regarding the education and training of cosmetologists. Units include theory and practice in fundamental skills in all phases of beauty culture. There is no reciprocity for transfer students. All students are required to complete all technical, practical, and program requirements.

Certificate of Achievement and Associate in Science Degree
A Certificate can be obtained by completing the 43.5-unit major. The Associate in Science Degree can be obtained by completing the 43.5-unit major, and general education requirements. All courses in the major must be completed with a minimum grade of C or a P if the course is taken on a Pass/No Pass basis.

Program Outcomes
Students who complete the Cosmetology Certificate of Achievement/Associate Degree will be able to:
1. Compare and contrast the skills as required by the California State Board of Barbering and Cosmetology.
2. Interpret and apply cosmetology theories.
3. Students will have completed the mandated clinic laboratory hours, technical subjects, practical operations and business fundamentals.

REQUIRED COURSES	Units
COSM 100 Cosmetology I	17.5
COSM 101 Cosmetology II	17.5
COSM 102 Cosmetology III	8.5
Required Major Total Units	**43.5**

Solano General Education	**21**
Electives (as needed to reach 60 units)	**0**
Total Degree Units Solano GE	**64.5**

The Cosmetology program is approved by the California State Board of Barbering and Cosmetology.

This is a Gainful Employment Program. For additional information, please visit
http://www.solano.edu/gainful_employment/ and select "Cosmetology."

Cosmetology

COSM 100   Cosmetology I   **17.5 Units**
Course Advisory: SCC minimum English and Math standards.
Hours: 80-90 lecture, 600-675 lab.

This is the first course in a series that provides the fundamental training towards the state mandated minimum hours designed to prepare the student for the California State Board of Cosmetology examination for licensure. A combination of both lecture and laboratory activities introduces the student to theoretical concepts, principles and practice in the beauty industry. Critical thinking skills are developed in the areas of communication, hair care, nail care, record keeping, and business decorum. Students enrolling in this course must attend the Mandatory Information Sessions. See the schedule of classes for location, dates and times. The cost of start-up materials, uniforms, textbooks, and equipment kit is approximately $1.000.00. To qualify for the State Board of Cosmetology examination for a cosmetology license, students must have completed all state mandated clocked time including the following: designated subject areas of technical instruction, designated subject areas of practical operations, completed the 10th grade or the equivalent, be at least 17 years of age, and current state or federally issued photographic identification. For more information; www.barbercosmo.ca.gov.

COSM 101   Cosmetology II   **17.5 Units**
Prerequisite: COSM 100 with a minimum grade of C.
Hours: 80-90 lecture, 600-675 lab.

The second in a series of courses in Cosmetology to provide the training towards the state mandated hours of intensive training and study designed to prepare the student for the California State Board of Cosmetology examination for cosmetology licensing. Focus is on the continued study of the beauty industry. This course provides the students with the opportunity to synthesize and utilize cosmetology knowledge and skills in providing more advanced services for multiple clients.

COSM 102   Cosmetology III   **8.5 Units**
Prerequisite: COSM 101 with a minimum grade of C.
General Edcation: Cosmetology
Hours: 40-45 lecture, 288-324 lab.

The third in a series of courses in Cosmetology designed to provide the training towards the state mandated hours and prepare the student for the California State Board of Cosmetology examination for license. Topics include the principles and practices of cosmetology with emphasis on the essential knowledge and skills for license and working within the cosmetology industry. Students are able to increase practical application skills and processes by providing multiple clients with hair care, skin care and nail care services in the client laboratory.

COSM 106   Cosmetology IV   **0.5 to 3.0 Units**
Prerequisite: COSM 100 with a minimum grade of C.
Hours: 24-162 lab.

A course designed to meet the needs of students who are preparing to take the state examination for cosmetology licensure or have not completed state mandates to qualify for the cosmetology state examination. This course reviews basic skills and mandates required by the state board. Reinforcement of entry level industry skills is emphasis of this course. This course is designed to give Cosmetology students a chance to make up hours for Board of Cosmetology certification requirements. Open entry/ Open exit.

Counseling

Program Description

These courses are designed to assist students in making a successful adjustment to college, develop academic and career plans and goals, acquire learning skills, obtain job-seeking skills and employment, and develop interpersonal skills for life and work.

Associate Degree

Not offered in this discipline.

COUN 005   Career/Life Planning   3.0 Units
Course Advisory: Eligibility for ENGL 001; SCC minimum Math standard.
General Education: Option A: Area B2; Option C: Area E
Transferable to UC/CSU
Hours: 48-54 lecture.

Helps students demonstrate an understanding and appreciation of the impact and significance of career choices on their social, psychological and physiological experiences throughout the life span. This course is also designed to help students identify their interests, skills, values and personality traits (self-assessment profile), conduct career research and exploration, and learn current job seeking skills. Students will analyze the relationship between themselves, their life choices and the ongoing process of career planning and self-development throughout the life span. UC limitation of credit: 3 units COUN courses numbered 001-009.

COUN 006   University Transfer Success   1.0 Unit
Course Advisory: Eligibility for ENGL 001; SCC minimum Math standard.
Transferable to UC/CSU
Hours: 16-18 lecture.

Provides students with a concrete plan for understanding and succeeding in transferring to a four-year college or university. Topics include the following: Major selection; college options; application processes; academic preparation and student education plans. UC limitation of credit: 3 units Counseing courses numbered 001-009.

COUN 007   College Study Techniques   3.0 Units
Course Advisory: Eligibility for ENGL 001; SCC minimum Math standard.
General Education: Option C: Area E
Transferable to UC/CSU
Hours: 48-54 lecture.

Provides an exploration of the intellectual, psychological, physiological and sociological factors that impact lifelong learning, well-being and success. Topics include: value of education and student responsibility; psychology of student attitudes, motivation, behaviors and self efficacy; critical thinking and effective study strategies; health issues and lifestyle choices; relying on others in a diverse world; effective written and oral communication; time management, campus and community resources; transfer and educational planning. UC limitation of credit: 3 units Counseling courses numbered 001-009.

COUN 008   1.0 Unit
Math, Engineering and Science Achievement (MESA) Enrichment
Course Advisory: Eligibility for ENGL 001; SCC minimum Math standard.
Transferable to UC/CSU
Hours: 16-18 lecture.

Assists students in acquiring the knowledge and skills necessary to reach their educational goals in mathematics, engineering and science-related fields. Topics to be covered include: strengths assessment; math and science study skills; transfer preparation and career strategies. Students will synthesize and compare and contrast information to draw conclusions on course topics. UC limitation of credit: 3 units Counseling courses numbered 001-009.

COUN 015   Valuing Diversity   3.0 Units
Course Advisory: Eligibility for ENGL 001; SCC minimum Math standard.
General Education: Option A: Area E; Option B: Area 4C, Area 4G;
    Option C: Area D3, SCC Graduation Requirement
Transferable to UC/CSU
Hours: 48-54 lecture.

An examination of the complexities of interpersonal relationships among several cultures in our society including self-concept, values, beliefs, communication and lifestyle. This course will invite exploration of individual cultural perception in order to promote respect for differences and to develop a sense of community. Examination requirements include written essays that demonstrate critical thinking.

COUN 023   Psychology for Modern Life   3.0 Units
Course Advisory: Eligibility for ENGL 001.
General Education: Option A: Area B2; Option B: Area 4I; Option C:
    Area D9, Area E
Transferable to UC/CSU
Hours: 48-54 lecture.

Examines the fundamental concepts of psychology as they relate to daily life. Topics include methods of psychology, stages of personality development, personal relationships, values, communication, motivation, emotions, lifestyle and attitudes. Concepts will be intoduced to foster the student's understanding of his/her own personal development. Theories and research will be applied across a diversity of settings.

COUN 058   Life Management   3.0 Units
Course Advisory: SCC minimum English standard.
General Edcation: Option A: Area B2; Option C: Area E
Transferable to CSU
Hours: 48-54 lecture.

A survey of the areas of life which influence decision-making. Students are introduced to areas of human development (emotional, intellectual, physical, and social) which influence decision making. They will analyze and evaluate differences in values, motivation, and goals. Includes introduction to financial, time and stress management, and communication skills. Requires written papers and problem-solving exercises.

COUN 062   3.0 Units
Helping Skills: Creating Alliances & Facilitating Change
Course Advisory: COUN 083; Eligibility for ENGL 001; and SCC minimum
    Math standard.
Transferable to CSU
Hours: 48-54 lecture.

An introduction to the basic helping skills that enable the student to build an alliance, effect change and empower others within a multicultural society. A helping model is introduced and helping skills such as attending, active listening, demonstrating empathy, assessment and referral are discussed, role played and applied in an experiential manner to a number of common challenges. In addition, the pertinent legal and ethical guidelines of the professional helping relationship are presented, discussed and applied throughout the course.

COUN 064A   Practicum I   4.0 Units
Prerequisite: COUN 062; HS 051; HS 053.
Transferable to CSU
Hours: 32-36 lecture, 96-108 lab by arrangement.

The first of a two-course sequence in a supervised Human Services practicum experience at an approved agency or educational setting. In order to develop and apply culturally sensitive and ethically sound helping skills, students will work a minimum of 100 hours and participate actively in a two hour weekly seminar. Placement at most sites will involve a criminal background check.

COUN 064B   Practicum II   4.0 Units
Prerequisite: COUN 064A.
Course Advisory: HS 055
Transferable to CSU
Hours: 32-36 lecture, 96-108 lab by arrangement.

The second semester of a two-course sequence in a supervised Human Services Practicum, required for Human Services majors. Students will further develop culturally and ethically competent helping skills as they continue to work in their approved site or work in a new approved site. Students will continue to hone and apply more advanced and educationally informed helping skills. This additional 100 hours in an approved site and its supporting 2 hour weekly seminar will meet the Human Services certificate and Associate degree requirement and will help students further clarify their potential for a longer range educational and career path in Human Services, Social Work or Counseling. Practicum Sites often require students to pass a criminal background check.

Counseling

COUN 091   Foundations for College Success   0.5 Unit
Course Advisory: Possession of all relevant academic records and other
*   test results and transcripts including SAT, ACT, AP and IB; SCC*
*   minimum English and Math standards.*
Transferable to CSU
Hours: 8-9 lecture.

Provides an in-depth introduction to college and the required initial student education plan. It seeks to maximize the new student's successful experience by introducing Solano College's student support services; certificate, associate degree and transfer preparation requirements; and the essential personal motivators for college success. Students will provide their academic records, e.g. high school and college transcripts, assessments and tests such as SAT/ACT/AP/IB which will assist them in creation of the initial student education plan.

COUN 098   Performance Psychology   3.0 Units
Course Advisory: SCC minimum English and Math standards.
General Education: Option C: Area E
Transferable to CSU
Hours: 48-54 lecture.

Explores the psychological, social and physiological factors influencing optimal performance in life's endeavors including academics, performing arts, sport, and in interpersonal and business relationships. Topics include student evaluation of self care, life balance, confidence, arousal management, motivation, goal attainment, concentration, positive self talk, commitment, uses of imagery and visualization, active listening and demonstrating empathy. Briefly listed as 009 for 2016-2017 catalog.

COUN 102A   0.5 Unit
Time Management & Goal Setting
Course Advisory: SCC minimum English and Math standards.
Hours: 8-9 lecture.

Introduces goal setting and time management techniques such as analyzing time usage, prioritizing and developing a schedule to assist students to achieve their educational and career goals. Other COUN 102 series courses may be taken concurrently. NOTE: Not open for credit to students who have completed COUN 007 with a minimum grade of C.

COUN 102B   0.5 Unit
Test Taking, Test Anxiety & Memory
Course Advisory: SCC minimum English and Math standards.
Hours: 8-9 lecture.

Introduces test taking, test anxiety and memory concepts and techniques to assist students in achieving their educational and career goals. Other COUN 102 series courses may be taken concurrently. Note: Not open for credit to students who have completed COUN 007 with a minimum grade of C.

COUN 102C   Study Systems   0.5 Unit
Course Advisory: SCC minimum English and Math standards.
Hours: 8-9 lecture.

Introduces note-taking, reading and study environment concepts/strategies and identifies attitudes and learning styles to assist students in achieving their educational and career goals. Other COUN 102 series courses may be taken concurrently. Note: Not open for credit to students who have completed COUN 007 with a minimum grade of C.

COUN 103   Disability and Success   3.0 Units
Course Advisory: SCC minimum English and Math standards.
Hours: 48-54 lecture.

College, career, and life preparation course to assist students with disabilities in accessing services and completing their community college and career goals. It includes the SCC Disability Service Program, the College community, community agencies serving people with disabilities, laws and disabilities, coping with a disability, self advocacy, success in the classroom, and a final "Plan for Personal Disability Management." Student will receive a letter grade.

COUN 310   1.0 Unit
Transition to College for Students with Disabilities
Hours: 16-18 lecture.

Transition course for high school seniors who are planning on entering the Community College system and receiving Disability Services. It includes the Student Support and Success Program process of entering into college, the difference between college and high school for students with disabilities. Students will obtain a beginning understanding of how to navigate successfully through the Community College system and Disability Services. Pass/No-Pass Only.

Counseling

COUN 510   Assessment/Orientation/Planning 0.0 Units

Hours: 1 lecture, 2 lab

Mandatory new student assessment, orientation and initial counseling. Includes reading, writing and mathematics assessments; overview of the programs and services that support student retention and success, time management practices, policies and procedures of Solano College and a preliminary Student Education Plan (SEP).

Administration of Justice (AS-T)

CAREER PATHS:

Police Detective

Lawyer

Criminal Investigator and Special Agent

Substance Abuse and Behavorial Disorder Counselor

Mental Health and Substance Abuse Social Worker

Criminal Justice and Law Enforcement Teacher

Additional Career Paths and related data, including state-by-state wage info and growth in the field, can be found at www.onetonline.org.

This program map represents one possible pathway. See a counselor to create a customized education plan. Map is for the 2019-2020 catalog year.

SOLANO COMMUNITY COLLEGE

Administration of Justice

Associate in Arts for Transfer
GE Pattern: CSUGE
Program Total Units: 62

For more information please contact:
(707) 864-7229

---

1 FIRST SEMESTER

Total Recommended Units: 15

CJ 001	**3 units**
Introduction to Criminal Justice	
ENG 001	**4 units**
College Composition (CSUGE A2)	
LR 010	**1 units**
Introduction to Library Research and Information Competency	
CSUGE AREA B4	**4 unit**
Suggested: Math 011	
CSUGE AREA A1	**3 units**
Suggested: COMM 001	

2 SECOND SEMESTER

Total Recommended Units: 17

CJ 002	**3 units**
Concepts of Criminal Law	
CJ 011	**3 units**
Community Relations	
SOC 001 or PSYCH 001	**3 units**
(CSUGE D)	
CSUGE Area B2	**4 units**
Suggested: with lab	
CSUGE Area A3	**4 units**
Suggested: ENGL 002 or ENGL 004	

3 THIRD SEMESTER

Total Recommended Units: 15

CJ 053	**3 units**
Legal Aspects of Evidence	
CSUGE Area C2	**3 units**
Suggested: HIST 017, 018, 028, 029, or 037	
CSUGE Area B1	**3 units**
Suggested: without lab	
CSUGE Area C1	**3 units**
CSUGE Area E	**3 units**

4 FOURTH SEMESTER

Total Recommended Units: 15

CJ 051	**3 units**
Criminal Investigation	
CJ 064	**3 units**
Principles and Procedures of the Criminal Justice System	
CJ 056	**3 units**
Juvenile Procedures	
CSUGE Area D	**3 units**
Suggested: PLSC 001 or PLSC 005	
CSUGE Area C1 OR C2	**3 units**

Required Courses/Courses in Discipline ◼ **GE Courses/Categories**

GET STARTED NOW!

▶ **Get started on your Pathway now with these recommended courses!** *Then* –See a counselor to create a **CUSTOMIZED** education plan personalized to your career and transfer goals!

▶ Required courses may change depending on a student's career and transfer goals, including requirements for cross-cultural and foreign language courses, and/or specific requirements for an individual CSU or UC.

▶ Unique transfer requirements for a specific institution can be found at **www.assist.org.**

LET US HELP YOU!

How to Apply: solano.edu/ar/apply.php

◼ **Questions? Talk to a Counselor Now!**
Main Campus, Fairfield: (707) 864-7101
Vacaville Center: (707) 863-7836
Vallejo Center: (707) 642-8188
Travis AFB: (707) 863-7878
Visit online at solano.edu/counseling

◼ **Contact Our Career Center to Learn Your Career Options!**
Call 707-864-7124, or email at CareerCenter@solano.edu
Visit online at solano.edu/career

◼ **You Can Afford College! Learn more about Financial Aid!**
Call 707-864-7103, or email at FinancialAid@solano.edu
Visit online at solano.edu/financial_aid

◼ **College is Accessible!** Contact our Disability Services Program (DSP) at 707-864-7136.

Criminal Justice

Associate in Science in Administration of Justice for Transfer (ADT: A.S.-T)

Program Description
This program offers core and selective courses which provide the student with a base of knowledge and proficiencies in the area of criminal justice. The program operates with the cooperation and participation of local criminal justice agencies. All instructors in the program have experience in the criminal justice field. Courses are scheduled both day and evening to accommodate full-time or part-time students seeking to acquire or upgrade skills and to prepare the criminal justice student for a four-year degree in the CSU system.

Associate in Science in Criminal Justice for Transfer
The Associate in Science in Administration of Justice for Transfer degree is designed for students who plan to complete a bachelor's degree in Administration of Justice at a CSU campus. Students completing an Associate in Science in Administration of Justice for Transfer degree are guaranteed admission to the CSU system, but not to a particular campus or major. Students transferring to a CSU campus that accepts the Associate in Science in Administration of Justice will be required to complete no more than 60 units after transfer to earn a bachelor's degree. The Associate in Science in Administration of Justice for Transfer degree also provides students with the learning experience on how to preserve and maintain social order by gaining critical skills in these key areas: law enforcement; corrections, probation, and parole; juvenile justice, delinquency, and juvenile corrections; criminology theory and crime control; and criminal justice leadership and administration. With this transfer degree, students will gain an understanding of both adult and juvenile justice systems, as well as the skills to apply innovative programmatic efforts. From due process to constitutional protections to the importance of case law in American criminal justice, the student will be exposed to the specific legal and ethical challenges for each branch of the U.S. criminal justice system.

To earn the Associate in Science in Administration of Justice for Transfer, students must:
1. Complete 60 semester units that are eligible for transfer to the California State University, including both of the following:
   a. The Intersegmental General Education Transfer Curriculum (IGETC) or the California State University General Education – Breadth Requirements
   b. A minimum of 18 semester units in a major or area of emphasis, as determined by the community college district.
2. Obtain a minimum grade point average of 2.0.

ADTs also require that students must earn a C or better in all courses required for the major or area of emphasis. A "P" (Pass) grade is not an acceptable grade for courses in the major.

Program Outcomes
Students who complete the Associate in Science in Administration of Justice for Transfer will be able to:
1. Demonstrate an understanding of the American Criminal Justice system and the scope of responsibilities of the various local, state, and federal law enforcement agencies beginning with arrest through parole.
2. Articulate the system's objectives, the crime problem, and role expectations of criminal justice personnel, and describe the various agencies and each subsystem within the system.
3. Describe the system's responsibilities to the community, factors in crime causation, the social implications of crime and communication barriers between the system and the community.
4. Articulate the differences between the major criminological theories of the causes of crime and how those theories relate to policies toward crime and criminal behavior.
5. Analyze legal concepts and make rational decisions about case processing.
6. Demonstrate knowledge of the rules of evidence, legal definitions, and concepts of evidentiary law. Apply basic investigative proficiencies.
7. Demonstrate critical thinking and analytical skills acquired in the social sciences in preparation for continuance of college-level education at a four-year college.

Criminal Justice

REQUIRED COURSES.. **Units**
CJ 001 Introduction to Criminal Justice 3
CJ 002 Concepts of Criminal Law 3
Select Two Courses from List A... 6
Select Two Courses from List B 6

List A (select two courses)... **Units**
CJ 011 Community Relations.. 3
CJ 051 Criminal Investigation 3
CJ 053 Legal Aspects of Evidence 3
CJ 056 Juvenile Procedures 3

List B (select two courses) .... **Units**
CJ 064 Principles and Procedures of the
    Criminal Justice System 3
PSYC 001 Introduction to Psychology................................. 3
SOC 001 Introduction to Sociology 3
    Total Units **18**

Required Major Total Units **18**
CSU General Education or IGETC Pattern Units ... **37-39**
CSU Transferable Electives
    (as needed to reach 60 transferable units)* 5-12
    Total Degree Units. 60

* 0 - 9 units may be double counted toward both the major area of emphasis and CSU General Education or IGETC Pattern. Consult with a counselor for more information on completing this degree.

Criminal Justice

Criminal Justice, Corrections

Program Description
This program offers core and selective courses which provide the student with a base of knowledge and proficiencies in the area of corrections. The program operates with the cooperation and participation of local corrections agencies. All instructors in the program have experience in the corrections field. Courses are scheduled both day and evening to accommodate full-time or part-time students seeking to acquire or upgrade skills in the corrections field.

Certificate of Achievement and Associate in Science Degree
The Certificate of Achievement can be obtained upon completion of the 30-unit major. The Associate in Science Degree can be obtained upon completion of the 30-unit major, general education requirements, and electives. All courses in the major must be completed with a minimum grade of C or a P if the course is taken on a Pass/No Pass basis.

Program Outcomes
Students who complete the Criminal Justice, Corrections Certificate of Achievement/Associate Degree will be able to:
1. Demonstrate an understanding of the American Criminal Justice system and the scope of responsibilities of the various local, state, and federal law enforcement agencies beginning with arrest through parole.
2. Articulate the system's objectives, the crime problem, and role expectations of criminal justice personnel, and describe the various agencies and each subsystem within the system.
3. Describe the system's responsibilities to the community, factors in crime causation, the social implications of crime and communication barriers between the system and the community.
4. Articulate the differences between the major criminological theories of the causes of crime and how those theories relate to policies toward crime and criminal behavior.
5. Analyze legal concepts and make rational decisions about case processing.
6. Demonstrate knowledge of the rules of evidence, legal definitions, and concepts of evidentiary law. Apply basic investigative proficiencies.
7. Demonstrate critical thinking and analytical skills acquired in the social sciences in preparation for continuance of college-level education.

REQUIRED COURSES .... **Units**
CJ 001 Introduction to Criminal Justice 3
CJ 002 Concepts of Criminal Law 3
CJ 011 Community Relations 3
CJ 051 Criminal Investigation 3
CJ 052 Investigative Report Writing 3
CJ 053 Legal Aspects of Evidence 3
CJ 058 Fundamentals of Crime and Delinquency 3
CJ 059 Interviewing and Counseling 3
6 units from List A 6
   Required Major Total Units 30

List A: (Select 6 units) .... **Units**
CJ 057 Criminal Justice Career Development 3
CJ 060 Probation and Parole 3
CJ 062 Legal Aspects of Correction................................... 3
CJ 091 Vocational Work Experience – Corrections 1-3

CSU General Education or IGETC Pattern units 37-39
Total Degree Units CSU GE or IGETC 64-66

Solano General Education... 21
Electives (as needed to reach 60 units)........................... 9
   Total Degree Units Solano GE................................... 60

* 3 units may be double counted toward both the major area of emphasis and CSU General Education or IGETC Pattern. Consult with a counselor for more information on completing this degree.

This is a Gainful Employment Program. For additional information, please visit
http://www.solano.edu/gainful_employment/ and select "Criminal Justice: Corrections."

Criminal Justice

Criminal Justice, Law Enforcement

Program Description
This program was established with the cooperation of the Solano County Criminal Justice Advisory Committee and offers courses for both pre-service and in-service students. All instructors have experience in law enforcement, and courses are scheduled day or evening to accommodate full-time and part-time students seeking to acquire or upgrade skills in the field.

Certificate of Achievement and Associate in Science Degree
The Certificate of Achievement can be obtained upon completion of the 30-unit major. The Associate in Science Degree can be obtained upon completion of the 30-unit major, general education requirements, and electives. All courses in the major must be completed with a minimum grade of C or a P if the course is taken on a Pass/No Pass basis.

Program Outcomes
Students who complete the Criminal Justice, Law Enforcement Certificate of Achievement/Associate Degree will be able to:
1. Demonstrate an understanding of the American Criminal Justice system and the scope of responsibilities of the various local, state, and federal law enforcement agencies beginning with arrest through parole.
2. Articulate the system's objectives, the crime problem, and role expectations of criminal justice personnel, and describe the various agencies and each subsystem within the system.
3. Describe the system's responsibilities to the community, factors in crime causation, the social implications of crime and communication barriers between the system and the community.
4. Articulate the differences between the major criminological theories of the causes of crime and how those theories relate to policies toward crime and criminal behavior.
5. Analyze legal concepts and make rational decisions about case processing.
6. Demonstrate knowledge of the rules of evidence, legal definitions, and concepts of evidentiary law. Apply basic investigative proficiencies.
7. Demonstrate critical thinking and analytical skills acquired in the social sciences in preparation for continuance of college-level education.

REQUIRED COURSES.. **Units**
CJ 001 Introduction to Criminal Justice 3
CJ 002 Concepts of Criminal Law 3
CJ 011 Community Relations... 3
CJ 051 Criminal Investigation 3
CJ 052 Investigative Report Writing.................................. 3
CJ 053 Legal Aspects of Evidence 3
CJ 058 Fundamentals of Crime and Delinquency 3
CJ 059 Interviewing and Counseling 3
6 units from List A.. 6
   Required Major Total Units 30

List A: (select 6 units).. **Units**
CJ 056 Juvenile Procedures 3
CJ 057 Criminal Justice Career Development 3
CJ 064 Principles and Procedures of
   the Criminal Justice System... 3
CJ 090 Vocational Work Experience
   Law Enforcement 1-3

CSU General Education or IGETC Pattern units....37-39
Total Degree Units CSU GE or IGETC 64-66

Solano General Education... **21**
Electives (as needed to reach 60 units)........................... **9**
   Total Degree Units Solano GE................................... **60**

* 3 units may be double counted toward both the major area of emphasis and CSU General Education or IGETC Pattern. Consult with a counselor for more information on completing this degree.

This is a Gainful Employment Program. For additional information, please visit
http://www.solano.edu/gainful_employment/ and select "Criminal Justice: Law Enforcement."

Criminal Justice

CJ 001   Introduction to Criminal Justice   3.0 Units
Course Advisory: ENGL 001 with a minimum grade of C.
General Education: Option A: Area B2; Option B: Area 4H, Area 4J;
*   Option C: Area D0, Area D8*
Transferable to UC/CSU
Hours: 48-54 lecture.
Introduction to the characteristics of the criminal justice system in the United States. Focus is placed on examining crime measurement, theoretical explanations of crime, responses to crime, components of the system, and current challenges to the system. The course examines the evolution of the principles and approaches utilized by the justice system and the evolving forces which have shaped those principles and approaches. Although justice structure and process is examined in a cross cultural context, emphasis is placed on the US justice system, particularly the structure and function of US police, courts, and corrections. Students are introduced to the origins and development of criminal law, legal process, and sentencing and incarceration policies. *(C-ID AJ 110)*

CJ 002   Concepts of Criminal Law   3.0 Units
Course Advisory: ENGL 001 with a minimum grade of C.
Transferable to UC/CSU
Hours: 48-54 lecture.
A study of the history, philosophy and development of law and various legal systems; case law and legal research; corpus delicti, mental elements, capacity to commit crimes, and defenses; classification of crimes and penalties; elements of major crimes. *(C-ID AJ 120)*

CJ 011   Community Relations   3.0 Units
Course Advisory: SCC minimum English and Math standards.
Transferable to UC/CSU
Hours: 48-54 lecture.
Examines the complex, dynamic relationship between the justice system and the community in addressing crime and conflict. The emphasis is on the challenges and prospects of administering justice within a diverse multiculteral population. Topics covered may include crime prevention, restorative justice, conflict resolution and ethics. *(C-ID AJ 160)*

CJ 051   Criminal Investigation   3.0 Units
Course Advisory: CJ 001; SCC minimum English and Math standards.
Transferable to CSU
Hours: 48-54 lecture.
Addresses the techniques, procedures, and ethical issues in the investigation of crime, including organization of the investigative process, crime scene searches, interviewing and interrogating, surveillance, source of information, utility of evidence, scientific analysis of evidence and the role of the investigator in the trial process. Introduces the fundamentals of investigation, crime scene search and recording, collection and preservation of evidence, scientific aid, interviews and interrogation, follow-up and case preparation. *(C-ID AJ 140)*

CJ 052   Investigative Report Writing   3.0 Units
Course Advisory: CJ 001; CJ 002; CJ 051; Eligibility for ENGL 001.
Transferable to CSU
Hours: 48-54 lecture.
Presents investigative report writing in criminal justice relative to police, probation, institutional and parole activities. Includes practical experience in preparing field notes, statements, and reports.

CJ 053   Legal Aspects of Evidence   3.0 Units
Course Advisory: CJ 001; SCC minimum English and Math standards.
Transferable to CSU
Hours: 48-54 lecture.
A study of the origin, development, philosophy and constitutional basics of evidence; constitutional and procedural considerations affecting arrest, search and seizure; kinds of degrees of evidence and rules governing admissibility; judicial decisions interpreting individual rights and case studies. *(C-ID AJ 124)*

CJ 056   Juvenile Procedures   3.0 Units
Course Advisory: Eligibility for ENGL 001.
Transferable to CSU
Hours: 48-54 lecture.
Presents the organization, function, and jurisdiction of juvenile agencies; the processing and detention of juveniles; juvenile case disposition; juvenile statutes and court procedures. *(C-ID AJ 220)*

CJ 057   Criminal Justice Career Development   3.0 Units
Course Advisory: CJ 001; SCC minimum English and Math standards.
Transferable to CSU
Hours: 48-54 lecture.
Examines criminal justice career positions, employment standards and current occupational opportunities in the field. Includes practical aspects of various jobs and provides information and practice in entrance examination taking, oral interviews, and general preparation for various occupations within the criminal justice field.

Criminal Justice

CJ 058   **3.0 Units**
Fundamentals of Crime and Delinquency
Course Advisory: CJ 001; SCC minimum English and Math standards.
Transferable to CSU
Hours: 48-54 lecture.
Introduction to major types of criminal behavior, patterns of career offenders, factors which contribute to the production of criminality of delinquency. Includes methods used in dealing with violators in the justice system; the changing roles of police courts and after-care process of sentence, probation, prisons, and parole; changes of the law in crime control and treatment processes.

CJ 059   Interviewing and Counseling   **3.0 Units**
Course Advisory: CJ 001; SCC minimum English and Math standards.
Transferable to CSU
Hours: 48-54 lecture.
Overview of the interviewing and counseling techniques available to practitioners in law enforcement, the courts, and corrections emphasizing communication and practical skills.

CJ 060   Probation and Parole   **3.0 Units**
Course Advisory: CJ 001; CJ 058; SCC minimum English and
*   Math standards.*
Transferable to CSU
Hours: 48-54 lecture.
Presents the philosophy and history of correctional services. A survey of the correctional sub-systems of institutions by type and function, probation concepts and parole operations. A discussion of correctional employee responsibilities as applied to offender behavior modifications through supervisory control techniques. Covers rehabilitation goals as they affect individual and intimate cultural groups in both confined and field settings.

CJ 062   Legal Aspects of Correction   **3.0 Units**
Course Advisory: CJ 058; SCC minimum English and Math standards.
Transferable to CSU
Hours: 48-54 lecture.
Presents the legal aspects of corrections and code provisions relative to all phases of the correctional system.

CJ 064   **3.0 Units**
Principles and Procedures of the Criminal Justice System
Course Advisory: CJ 001; SCC minimum English and Math standards.
Transferable to CSU
Hours: 48-54 lecture.
Detailed study of the role and responsibility of each sub-system within the criminal justice system; an examination of the philosophy, history, structure, operation and interrelation of each sub-system component; a description of procedure from initial entry of the individual into the system to the final disposition.