AUTOMOTIVE TECHNOLOGY

CERTIFICATE OF ACHIEVEMENT
CAREER/TECHNICAL (MAJOR CODE: 02871)

Program Student Learning Outcome Statement:

- Inspect, diagnose, and repair small engines.
- The students will inspect, diagnose, and repair small engines.

GAINFUL EMPLOYMENT:

The U.S. Department of Education requires colleges to disclose a variety of information for any financial aid eligible program that "prepares students for gainful employment in a recognized occupation."

Students who complete this program will have acquired the necessary analytical tools to successfully secure gainful employment in the field of study.

For more information regarding the data provided for this program and what it means to you as a student, please feel free to visit our SWC Gainful Employment website at: www.swccd.edu/gainfulemployment.

FIRST SEMESTER

AT 101	Introduction to Basic Automotive Service	3
AT 102	Automotive Science and Basic Mechanics	3
AT 109	Automotive Braking Systems	3
AT 110	Automotive Suspension, Alignment, and Steering	3

SECOND SEMESTER

AT 120	Engine Performance I	3
AT 130	Automotive Electrical Systems	3
AT 131	Automotive Heating, Cooling, and Air Conditioning	3
AT 140	Engine Repair	3

THIRD SEMESTER

AT 220	Engine Performance II	3
AT 230	Automotive Electronics	3
AT 234	Automatic Transmissions and Transaxles	3
AT 236	Manual Transmission, Transaxles, and Final Drives	3
AT 242	Clean Air Car	3
AT 247	Advanced Emission Systems and Computerized Engine Controls	3
	Total units	**42**

Recommended Electives: AT 290–293.

ASE Certification Areas:

ASE Brakes Certification	AT 109
ASE Suspension Certification	AT 110
ASE Engine Performance Certification	AT 120/AT 220
ASE Automotive Heating, Cooling, and Air Conditioning Certification	AT 131
ASE Electrical Systems Certification	AT 130/AT 230
ASE Engine Repair Certification	AT 140
ASE Automotive Transmissions Certification	AT 234
ASE Manual Transmissions Certification	AT 236

Certificates of Course Achievement are offered in the following areas: Clean Air Car—AT 242 and Automotive Emission Systems and Computerized Engine Controls—AT 247.

BAJA CALIFORNIA STUDIES

SCHOOL OF MATHEMATICS, SCIENCE, AND ENGINEERING

DEAN: Michael Odu, Ph.D., Office 215A, 619-482-6344
FACULTY: Heather Eudy, M.F.A.; Rachel Hastings, Ph.D.; Margery Stinson, M.S.; Ken Yanow, M.S.; Rebecca Wolniewicz, Ph.D.
DEPARTMENT CHAIR: Margie Stinson, M.S.

GENERAL DESCRIPTION

The Baja California Studies certificate allows students to develop a concentration of study devoted to Baja California that complements any major. The certificate is based on interdisciplinary courses that focus on Baja California. It is not a major but provides students a list of courses that help fulfill general education requirements in various disciplines while focusing intensively on Baja California. Students develop a keen appreciation of the rich connections between the arts, humanities, social life, and physical sciences.

CAREER OPTIONS

The Baja California Studies certificate complements any major; therefore, it is an asset to those who seek employment opportunities in a variety of fields. It prepares recipients to assume leadership roles in the complex educational, environmental, civic, and health issues facing Baja California and the border region. In addition to expanding employment opportunities, it prepares students to transfer to a four-year degree institution to continue interdisciplinary, Mexican-American, or Latin American studies.

Some courses within this program may require additional coursework that must be completed prior to enrollment in these courses. Please consult the individual course listings for prerequisites and any other limitations on enrollment.

DEGREE/CERTIFICATE OPTIONS	MAJOR CODE
Certificate of Proficiency	
Baja California Studies	02891

Consult with a counselor to develop a Student Education Plan (SEP), which lists the courses necessary to achieve your academic goal.

CERTIFICATE

BAJA CALIFORNIA STUDIES

CERTIFICATE OF PROFICIENCY

CAREER/TECHNICAL (MAJOR CODE: 02891)

Service learning hours that focus on the Baja California region are required in some courses. The hours will be determined by the individual instructor of each course. It is recommended that the student demonstrate an intermediate to high proficiency in the Spanish language, as measured by the Oral Proficiency Interview (OPI) given and evaluated by an OPI certified Southwestern College Spanish instructor.

Program Student Learning Outcome Statement:

- Upon successful completion of the Baja California Studies Certificate of Proficiency Program, students will be able to use critical thinking skills and logical reasoning to analyze ideas and themes in literature from Baja California and Mexican-American border regions.
- Upon successful completion of the Baja California Studies Certificate of Proficiency Program, students will be able to apply critical thinking skills and the scientific method to assess and evaluate issues relevant to the biology, oceanography and geoscience of southern California and Baja California, Mexico.
- Upon successful completion of the Baja California Studies Certificate of Proficiency Program, students will be able to communicate ideas in ways that are considered clear and appropriate by people of that culture.
- Upon successful completion of the Baja California Studies Certificate of Proficiency Program, students will be able to apply literary theory and critical thinking skills to examine various historical, aesthetic, and socialpolitical contexts present in literature of the Mexican-American border region and Baja California.

FALL SEMESTER

COMM 176	Intercultural Communication	3
ENGL 274	Literature of the U.S.–Mexico Borderlands and Baja California	3
BIOL 143	Biology, Oceanography, and Geoscience of Baja California	3

SPRING SEMESTER

BIOL 145	EcoMundo: Ecology and Environmental Science	3
	Total units	**12**

Recommended Electives: COMM 142.

You will have met four GE requirements in Plan AA–AS, Plan CSU, and IGETC Plan at the completion of this certificate.

GENERAL EDUCATION PLAN

AA–AS Plan	CSU Plan	IGETC Plan	
BIOL 143	Group D5	Group D5	Area 4E
BIOL 145	Group B	Group B2	Area 5B
COMM 176	Group D7	Group D7	Area 4G
ENGL 274	Group C2	Group C2	Area 3B

BIOLOGY

SCHOOL OF MATHEMATICS, SCIENCE, AND ENGINEERING

DEAN: Michael Odu, Ph.D., Office 215A, 619-482-6344
FACULTY: David Brady, M.S.; Lukas Buehler, Ph.D.; Nira Clark, M.A.; Allison Green Ph.D.; Shaunte Griffith-Jackson, Ph.D.; Charles Hoyt, M.S.; Linda Jones, D.C.; Valerie Pennington, M.S.; Sharon Shapiro, D.P.M.; Margie Stinson, M.S.; John Tolli, Ph.D.
DEPARTMENT CHAIR: Margie Stinson, M.S.

GENERAL DESCRIPTION

Biology is a natural science that focuses on physical and chemical processes in living organisms. This discipline explores how organisms acquire and use energy to maintain homeostasis, how they reproduce, and how they interact with each other and their environment. Biological processes are emphasized as a means of answering these questions. Biologists rely heavily on a chemistry foundation since living organisms are chemical systems.