

*** Students who plan to pursue a graduate degree in medicine or veterinary studies at a four-year college or university are advised to substitute MATH 250, 251, and 252 for MATH 121 and 122.

TO TRANSFER TO UCSD AND SDSU:

Beginning in Fall 2000 all students majoring in biology who wish to transfer to UCSD or SDSU must have satisfied all biology pre-major requirements prior to admission to the biology major. In the event that a transfer student has been unable to complete all required courses prior to enrolling at UCSD, he/she will be allowed a maximum of three quarters at UCSD to complete any remaining required pre-major coursework. For more information see <http://www.biology.ucsd.edu/sa/ugadmission.html>

Note: Two calculus-based physics course sequences are now available for biology majors. Sequence one—PHYS 170, 172, and 174. Sequence two—PHYS 270, 272, and 274. Check with your transfer institution for specific requirements.

Websites for biology majors:

SDSU: <http://www.sci.sdsu.edu>

UCSD: <http://www.biology.ucsd.edu>

CSU, San Marcos: <http://www.csusm.edu/biology>

Articulation: <http://www.assist.org>

BIOTECHNOLOGY

SCHOOL OF MATHEMATICS, SCIENCE, AND ENGINEERING

DEAN: Michael Odu, Ph.D., Office 215A, 619-482-6344

FACULTY: Lukas Buehler, Ph.D.

DEPARTMENT CHAIR: Margie Stinson, M.S.

GENERAL DESCRIPTION

Biotechnology is a rapidly expanding field of biology that has significant future potential for both improving life and providing a growing source of technical jobs. Biotechnology is the science of using and modifying biological materials in order to develop products and organisms for specific uses. The biotechnology laboratory technician works in a research or industry laboratory.

CAREER OPTIONS

Below is a sample of the career options available for the biotechnology major. Most of these require a certificate or an associate in science degree and are career options at an entry-level technician position in the following areas, which include but are not limited to the biotechnology industry: food, oil, genomics, pharmaceutical industry, forensic science, agriculture, anthropology, NASA projects, and basic research in academic or nonprofit institutions.

DEGREE/CERTIFICATE OPTIONS

MAJOR CODE

Associate in Science Degree: Transfer Preparation

Biotechnology 01512

Certificate of Achievement

Biotechnology 01511

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

ASSOCIATE IN SCIENCE DEGREE

BIOTECHNOLOGY



ASSOCIATE IN SCIENCE DEGREE

TRANSFER PREPARATION * (MAJOR CODE: 01512)

The associate in science degree augments student transfer preparation and qualifies students for entry-level positions in biotechnology research laboratories.

Program Student Learning Outcome Statement:

- Demonstrate skills, based on biotechnology industry requirements, necessary to successfully apply, interview and perform in biotechnology research internships and/or professional jobs.

FIRST SEMESTER

MATH 70	Intermediate Algebra II	4
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SECOND SEMESTER

BIOL 100	Principles of Biology **	3
BIOL 101	Principles of Biology Laboratory **	1
BIOL 205	DNA Science I	2
BIOL 229	Introduction to Biological Research I	3
CHEM 170	Preparation for General Chemistry (4) **	4-5
	OR	
CHEM 200	General Chemistry I (5) **	

THIRD SEMESTER

BIOL 206	DNA Science II	2
BIOL 211	Introduction to Cell and Molecular Biology	4
BIOL 230	Introduction to Biological Research II	3
BIOL 265	General Microbiology	4

Total units 30-31

** Transfer students should substitute higher-level courses required for their major (e.g.: BIOL 210 can replace BIOL 100/101; CHEM 170 or 200 can be replaced by higher-numbered chemistry courses; and MATH 70 can be replaced by higher-numbered math courses.



To earn an associate degree, additional general education and graduation requirements must be completed. See page 64.

- * Students planning to transfer to a four-year college or university should complete courses specific to the transfer institution of choice. University requirements vary from institution to institution and are subject to change. Therefore, it is important to verify transfer major preparation and general requirements through consultation with a counselor in either the Counseling Center or Transfer Center. See catalog TRANSFER COURSES INFORMATION section on page 45 for further information.

CERTIFICATE

BIOTECHNOLOGY

CERTIFICATE OF ACHIEVEMENT

CAREER/TECHNICAL (MAJOR CODE: 01511)

Provides training in the theory and practices of biotechnology, which include introduction to microbiology, cell biology, and molecular biology techniques. Each participant is required to take a qualifying examination prior to certification.

Program Student Learning Outcome Statement:

- Demonstrate skills, based on biotechnology industry requirements, necessary to successfully apply, interview and perform in biotechnology research internships and/or professional jobs.

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

MATH 70	Intermediate Algebra II *	4
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SECOND SEMESTER

BIOL 100	Principles of Biology *	3
BIOL 101	Principles of Biology Laboratory *	1
BIOL 205	DNA Science I	2
BIOL 229	Introduction to Biological Research I	3
CHEM 170	Preparation for General Chemistry (4) OR	4-5
CHEM 200	General Chemistry I (5)	

THIRD SEMESTER

BIOL 206	DNA Science II	2
BIOL 211	Introduction to Cell and Molecular Biology	4
BIOL 230	Introduction to Biological Research II	3
BIOL 265	General Microbiology	4

Total units	30-31
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- * Higher-numbered courses are also acceptable: BIOL 210 can replace BIOL 100/101; CHEM 170 or 200 can be replaced by higher-numbered chemistry courses; and MATH 70 can be replaced by higher-numbered math courses.

BUSINESS ADMINISTRATION

SCHOOL OF BUSINESS AND TECHNOLOGY

DEAN: Mink Stavenga, DBA, Office 470K, 619-482-6569

FACULTY: Yvonne Lucas, M.B.A.; Frank Paiano, M.B.A.;
Elisabeth Shapiro, J.D.; Gail Stockin, M.A.

DEPARTMENT CHAIR: Elisabeth Shapiro, J.D.

GENERAL DESCRIPTION

Business administration is a broad area encompassing administration, management, marketing, finance, entrepreneurship, supervision, banking, small business, merchandising, international trade, accounting, and information systems. Study in this area explores the theories, history, principles, skills, practices, laws, ethics, and technologies governing the increasingly global business environment.

CAREER OPTIONS

Below is a sample of the career options available for the business or business-related major. Most require an associate degree, some require a bachelor's degree, and a few require a graduate-level degree: administrator, manager, salesperson, banker, financial planner, high school or college instructor, lawyer, small business owner/operator, supervisor, economist, city manager, consumer analyst, purchasing agent, personnel officer, product developer, research auditor, controller, financier and insurance agent. Many entry-level employment opportunities are available in retail or wholesale sales, business offices, banks, savings and loans, hospitals, schools, colleges, and government.

