



Academic Year  
**2014 - 2015**

## Biological Sciences

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Cupertino, CA 95014  
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Biological, Health, Environmental  
Sciences Division  
Kirsch Center Room 228  
408-864-8773

Counseling Center  
Student and Community  
Services Bldg. 2nd Fl.  
408-864-5400

Career Services Info.  
Student and Community  
Services Bldg. 2nd Fl.  
408-864-5400

Please visit the Counseling Center to apply for certificates and degrees, and for academic planning assistance.

### A.A./A.S. Degree Requirements

1. Completion of all General Education (GE) requirements (31-42 quarter units) for the A.A./A.S. degree. GE units must be completed with a minimum 2.0 GPA ("C" average).
2. Completion of all major requirements. Each major course must be completed with a minimum "C" grade. Major courses can also be used to satisfy GE requirements (except for Liberal Arts degrees).  
Note: A maximum of 22 quarter units from other academic institutions may be applied toward the major.
3. Completion of a minimum of 90 degree-applicable quarter units (GE and major units included). All De Anza courses must be completed with a minimum 2.0 GPA ("C" average). All De Anza courses combined with courses transferred from other academic institutions must be completed with a minimum 2.0 GPA ("C" average).  
Note: A minimum of 24 quarter units must be earned at De Anza College.

Major courses for certificates and degrees must be completed with a letter grade unless a particular course is only offered on a pass/no-pass basis.

## Biological Sciences

### A.S. Degree

The purpose of the Biological Sciences AS Degree is to provide a lower division science foundation for those interested in pursuing a Bachelors degree in Biology/Biological Sciences. This major prepares students for transfer to any University of California or California State University campus. A major in Biological Sciences prepares students for advanced academic work and for careers in civil service, industry or teaching. It also provides a background for professional training in such fields as biotechnology, public health, nutrition, laboratory and field research, medicine, dentistry, pharmacy and veterinary medicine.

Student Learning Outcomes - upon completion, students will be able to:

- design and complete a biological research project applying scientific methods.
- correlate structure and function in biological systems.

1. Meet the A.A./A.S. degree requirements.
2. Complete the following.

BIOL 6A	Form and Function in the Biological World	6
BIOL 6B	Cell and Molecular Biology	6
BIOL 6C	Evolution, Systematics, and Ecology	6
CHEM 1A	General Chemistry	5
CHEM 1B	General Chemistry	5
CHEM 1C	General Chemistry and Qualitative Analysis	5

Complete a minimum of 15 units from one (1) of these two (2) options:

15-18

#### Option 1: Organic Chemistry

CHEM 12A	Organic Chemistry (5)
CHEM 12B	Organic Chemistry (5)
CHEM 12C	Organic Chemistry (5)

#### Option 2: Physics

PHYS 2A	General Introductory Physics (5)
PHYS 2B	General Introductory Physics (5)
PHYS 2C	General Introductory Physics (5)
<i>or</i>	
PHYS 4A	Physics for Scientists and Engineers (Mechanics) (6)
PHYS 4B	Physics for Scientists and Engineers (Electricity and Magnetism) (6)
PHYS 4C	Physics for Scientists and Engineers (Fluids, Waves, Optics, and Thermodynamics) (6)

Major	Biological Sciences	48-51 units
GE	General Education (31-42 units)	
Electives	Elective courses required when major units plus GE units total is less than 90	
Total Units Required . . . . .		90 units

Recommended elective courses:

BIOL 13, 15, 26, 40A, 40B, 40C  
ES 1, ESCI 19  
MATH 1A, 1B, 1C, 1D, 10

Students may complete either the Organic Chemistry or the Physics option in order to receive the A.S. Degree in Biological Sciences from De Anza College.

For students planning to transfer to a four-year institution, it may be beneficial to complete both the Organic Chemistry option and the Physics option. Course sequences in chemistry and physics are required in most B.S. Biology programs. For your specific transfer situation, please visit the Counseling Center and consult with the four-year institution.