

# *Welcome to Biology at Fresno State!*

## Biology Overview

Dr. Jason Bush, Professor, Department Chair

[jbush@csufresno.edu](mailto:jbush@csufresno.edu)



- What to do with a Biology degree?
- Biology at Fresno State
- General advising
- Secrets to success in the Biology program
- Supplemental activities

# What to do with a Biology degree?

<http://www.aibs.org/careers/>

Research

Health care (Doctor, vet, etc.)

Environmental management and conservation

Education

New directions in biological careers: a few examples

Biotechnology

Biomathematics

Forensic science

Politics and policy

Business and industry

Economics

Science writing and communication

Scientific Illustration (Art)

# THE BIOLOGY DEPARTMENT

## Biology

One of the largest on campus -

- >1,200 Biology majors, ~85 graduate students
- 18 full time faculty, 4 full time lecturers, 6 staff
- Heavy research focus - faculty funded by Federal, State and other agencies - lots of student opportunities
- Substantial equipment and other resources

# Biology and other Core classes (everybody takes)

- ▶ Introductory Biology (2 semesters, BIOL 1A and 1B/1BL)
- ▶ Ecology, Genetics, Cell Biology, Genetics and Cell Biol lab, Evolution
- ▶ Introductory Chemistry (2 semesters, CHEM 1A/1AL, CHEM 1B/1BL)
- ▶ Physics (1 semester, PHYS 2A)
- ▶ Statistics (1 semester)
- ▶ Calculus (1 semester)
- ▶ Organic Chemistry (1 semester)
- ▶ Biochemistry (1 semester)

# The Biology Major plan at Fresno State

## **Additional Requirements (30 units):**

CHEM 1A and 1AL, 1B and 1AL, 128A, 129A, and 150 or 155A (18 units)

MATH 70 or 75 (4 units)

MATH 101 or PSYCH 42 (4 units)

PHYS 2A (4 units)

## **University GE requirements:**

**(49 units):** Chem 1A and 1AL (5 units), Biol 1A (4 units), and Math 70 or 75 (4 units) count for 13 of these

## **Biology Major Core (21 units):**

Biol 1A (with laboratory), Biol1B and Biol 1BL, Biol 101 (with Laboratory), Biol 102, Biol 103, Biol 104 (Genetics and Cell Biology Laboratory), and Biol 105.

## **Other Major**

## **Requirements (21 units):**

**At least three upper division lab courses: one must be a Diversity course, one must be a Physiology course**

**Diversity Courses:** BIOL 120, 122, 123, 124, 125, 130, 131, 132, 133, 134, 135, 136, 140, 143, 178; MSCI 112, 113, 124, 125, 131

**Physiology Courses:** BIOL 155, 156, 157 and 157L, 160, 161, 162 and 162L; MSCI 135

**One additional lab course (which may be ANY upper division lab course)**

**Remaining units with UD biology electives, one of which may be Biol 67A or 67B (NOT both)**

**B.S. in Biology  
(120 units)**

# Freshman Year

## FALL

GE Chem 1A and 1AL* (Intro Chem)	(5)
GE Math 70** or 75 (Calculus)	(4)
GE English 10	(3)
GE Critical Thinking	<u>(3)</u>
	15

## SPRING

Chem 1B and 1BL (Intro Chem)	(5)
GE Biol 1A* (Intro Biol)	(4)
GE Comm 3, 7, or 8	(3)
GE Breadth-Area C***	<u>(3)</u>
	15

Total 30



# General advising

- High school AP courses in chemistry, physics and biology are considered to be less acceptable by medical schools (and sometimes by dental and pharmacy schools). They want university-level freshman science lab courses.
- Pre-Med, Pre-Pharmacy, Pre-Vet, Pre-Dental, and Pre-CLS and other pre-professional students: You must consult with a pre-professional advisor or the professional school for the specific required biology, chemistry, physics and math courses. They vary significantly!
- CR/NC grading is not permitted in the Biology major, and is not accepted by professional schools for Sci/Math courses\*\*

\*\*Note. This grading practice is relaxed during the COVID-19 pandemic according to university guidelines.

# Secrets to success in Biology:

Hard work and time management!

Lab courses are very time consuming  
So mix science courses  
with GE  
every semester.

GPA is important for your future career path.  
You should aim for a minimum of an equal  
number of A and B grades or a 3.5 GPA.

Figure your schedule in hours not units:

	Units	Contact Hours	Study Hours
Chemistry 1A and 1AL	5	9	18
Math 70 or 75	4	4	8
GE	3	3	3
GE	3	3	3
			(19)
			<b>41</b>
Work			10-20
Commute			5
Family responsibilities			?

**55-70**

Hours per week to take care of your responsibilities

# Supplemental activities

- Pre-professional student organizations  
Pre-med, pre-vet, pre-pharmacy, pre-dental, etc.  
Tri-Beta Honor Society:

## Undergraduate research experience

- Pre-professional advising
- Volunteering
- Apply for scholarships!!!
- Check with ASSIST to see which courses are transferable
- <http://www.assist.org/web-assist/welcome.html>