

BIOL-6B: Cell & Molecular Biology

BIOLOGY-006B-04 & -05: Lecture	Tue & Thu 12:30-2:20	SC 1102
BIOLOGY-006B-05: Lab CRN: 00224	Mon/Wed 9:30-12:20	SC 2118
BIOLOGY-006B-04: Lab CRN: 00225	Mon/Wed 1:30-4:20	SC 2118
Course Syllabus, schedule, lecture slides, and lab supplements available from the course website: http://www.deanza.edu/faculty/heyerbruce/bio6b.html		
<ul style="list-style-type: none"> ◆ Required Text: <i>Campbell Biology</i>, 11th ed., Urry, L.A., <i>et al</i>; Pearson Education, 2017. ◆ Required tutorial-homework-quiz website: <i>Mastering Biology</i> <ul style="list-style-type: none"> 🔗 Purchase access code with text, or from: 🔗 http://www.masteringbio.com/ ◆ Required Lab Manual: <i>Biology 6B Laboratory Manual, 2016</i>, Heyer, B., DeAnza College <ul style="list-style-type: none"> 🔗 download and print from the class website. 		
Instructor: Bruce Heyer	Email: heyerbruce @ deanza.edu	
	Office: SC 1212 Office Hours: Tue/Thu 10:30-12:20	Phone: (408) 864-8933

This course is designed to introduce you, the student, to the study and understanding of the structure, genetics, biochemistry, and physiology of cells. The cell is the basic fundamental unit of life. All the processes of life, including harnessing energy, reproduction, inheritance of characteristics, and responding to the environment, can only be fully appreciated with an understanding of their cellular bases. Biol-6B will emphasize processes and structures common to most cells, and prepare you for more extensive, specialized upper-division work. The development of the field of cell biology and the focus of current innovative research in molecular biology will also be discussed. You will become more independent by learning to read, interpret, and evaluate original scientific papers.

The laboratory portion of the course provides hands-on experience using the modern instruments and methods of molecular biology. These elegant techniques provide practical experience for those pursuing careers in biological research.

GRADING

- ◆ **Lab Project Reports:** Five reports; each report counts 20 points. (5 x 20 = 100 points)
- ◆ **Online Homework & Quizzes:** Cumulative score of all exercises and quizzes counts 100 points.
* Exercises and quizzes are on the *Mastering Biology* website.
- ◆ **Lab Exam:** One exam; counts 100 points.
* The lab exam requires a **BB-8** (large) **Examination Blue Book**.
- ◆ **Lecture Exams:** Three exams. Each exam counts 100 points. (3 x 100 = 300 points)
* Each lecture exam requires an **882-E** (green) **Scantron®** form.

The final class grade will be determined as a percentage of the maximum total 600 points:

| 92-100%= A | 89-91%= A- | 86-88%= B+ | 80-85%= B | 77-79%= B- |
 | 74-76%= C+ | 65-73%= C | 53-64%= D | <53%= F

BIOL 6B: Cell & Molecular Biology

2018 Winter Quarter — sections 4 & 5 — Class Schedule

Week	Date	Day	Lecture Topic	Chapter	Lab Topic
1	Jan 08	Mon			S1/A1/A2i: Micropipeting; Solutions & dilutions
	Jan 09	Tue	Introduction / Chemistry Review	2–3	
	Jan 10	Wed			
	Jan 11	Thu	Organic & Biological Chemistry	4–5	
2	Jan 15	Mon	HOLIDAY		Protein electrophoresis 1
	Jan 16	Tue	Enzymes & Metabolism	8	
	Jan 17	Wed			
	Jan 18	Thu	Molecular Inheritance	16	
3	Jan 22	Mon			Protein electrophoresis 2 Cutting DNA 1: digest/ligate
	Jan 23	Tue	Gene Expression	17	
	Jan 24	Wed			
	Jan 25	Thu	Viral & Bacterial Genetics	19, 27.2	
4	Jan 29	Mon			Cutting DNA 2: DNA gel electrophoresis
	Jan 30	Tue	Regulation of Gene Expression	18	
	Jan 31	Wed			
	Feb 01	Thu	Exam 1		
5	Feb 05	Mon			Conjugation 1: Conjugate & culture
	Feb 06	Tue	Biotechnology	20	
	Feb 07	Wed			
	Feb 08	Thu	Into the Cell	6	
6	Feb 12	Mon			Conjugation 2: Plate data & plasmid extraction
	Feb 13	Tue	Cell Membranes	7	
	Feb 14	Wed			
	Feb 15	Thu	Cell Communication	11	
7	Feb 19	Mon	HOLIDAY		Conjugation 3: DNA gels pGLO 1: Transformation
	Feb 20	Tue	Cell Cycle	12	
	Feb 21	Wed			
	Feb 22	Thu	Cancer Biology	18.5	
8	Feb 26	Mon			pGLO 2: Start cultures
	Feb 27	Tue	Exam 2		
	Feb 28	Wed			
	Mar 01	Thu	Meiosis & Sexual Reproduction	13	
9	Mar 05	Mon			pGLO 3: Chromatography
	Mar 06	Tue	Patterns of Inheritance	14	
	Mar 07	Wed			
	Mar 08	Thu	Chromosomes & Genes	15	
10	Mar 12	Mon			pGLO 4: Protein gel
	Mar 13	Tue	Bioenergetics	8	
	Mar 14	Wed			
	Mar 15	Thu	Cellular Respiration	9	
11	Mar 19	Mon			pGLO 5+6: Purify & restriction digest plasmids
	Mar 20	Tue	Photosynthesis	10	
	Mar 21	Wed			
	Mar 22	Thu	Catch-up & Wrap-up		
12					No Monday Lab
	Mar 30	Thu	Exam 3 (11:30–1:30)		