



Introductory Biology

Unit of Study Outline

1. Unit of study information

This course is a basic survey of the world of biology, ranging in scale from biological molecules to entire ecosystems, including basic organism function and biological diversity. The course will focus on the following topics: basic biochemistry, cell biology, genetics, ecology, and the process of evolution

2. Pre-requisite units and assumed knowledge

Basic English reading and writing skills

3. Learning aims and outcomes

On completion of the course the students should be able to:

- Describe, apply, and integrate the basic concepts of biology including the fundamentals of cell biology, genetics, evolution, ecology, diversity of life, and structure and function of organisms.
- Analyze and evaluate the relationships between science and society, including the impact of technology.
- Develop thinking skills necessary in science, including the acquisition of appropriate study techniques, ability to ask critical questions, and application of problem solving skills.
- Be able to search for, interpret, and communicate scientific information.

4. Weighting of final grade

Final Exam	30%
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Midterm Exams	30%
Written assignments	30%
Class Participation	10%

5. Grading

A	100-95	A-	94-90	B+	89-87
B	86-83	B-	82-80	C+	79-77
C	76-73	C-	72-70	D+	69-67
D	66-63	D-	62-60	F	59 or lower

6. Policies

Attendance Policy

Attendance in class is mandatory for all students enrolled in the course. Any excused absence must be discussed directly with the teacher. Being late to class within 15 minutes will be recorded as 1 LATE and being late over 15 minutes will be recorded as 1 ABSENCE. 3 LATES equal to 1 ABSENCE. 20% absences of the total teaching hours will cause an F (a failing grade) directly. However, students are still welcome to continue to attend class. F students have no right to drop this course anymore. Each unexcused absence will result in the lowering of the attendance grade by 1 point. Each excused absence will result in the lowering of the attendance grade by 0.5 point.

Participation Policy

Students should participate in their chosen classes actively and effectively. The Participation Grade is related to the Attendance Grade. Students' final attendance grade is the maximum of their participation grade.

Participation grade will be based on a variety of factors including, but not limited to taking part in class discussions and activities, completing assignments, being able to answer questions correctly, obeying class rules, and being prepared for class, frequent visiting your instructors and chatting in English during their office hours is highly recommended.

Policy on Assignments and Quizzes

Students should finish their assignments completely and punctually. Assignment should be submitted on the date appointed by the instructor. If a student cannot hand in the assignment on time, the reasonable excuse will be

needed. Late assignments will receive a maximum grade of 80. An assignment that is late for 3 days will be corrected but receive 0.

You are recommended print all your assignment in the uniform format with the heading of Student's Pledge of no cheating. Written assignment or printed ones without the uniform heading of pledge will receive a maximum grade of 80.

It is mandatory to have weekend assignment every week. Any weekend assignment should be submitted on first class of next week.

It is mandatory to have holiday assignment on the public holidays. Any holiday assignment should be submitted on the first day on returning to school.

Students are required to do a multitude of presentations during the course.

Plagiarism

Any form of cheating is NEVER tolerated. Any student ONCE caught cheating on a quiz, assignment or examination will receive a 0 for that particular work of the whole semester. At the beginning of the semester the definition of plagiarism will be carefully explained. When any thoughts or writings of another person are used, the sources must be clearly identified (using quotes, bibliography and giving reference).

Classroom Policies

1. No eating, cellular phones, electronic dictionaries, smoking, chatting or drowsing in class.
2. Please speak in English rather than Chinese in class.
3. Students are not allowed to attend class without textbooks.
4. Stand up when answering questions.
5. Respect classmates' ideas, opinions, and questions of your classmates.
6. You are welcome to visit the instructor's office in his/her office hours.
7. Take good care of the laboratory facilities. Do not splash water on the desktop.
8. When each class is over, hang the earphone on the hanger. Put the trash into the trash-bin.
9. All your classroom involvement, performance and after-class communications with instructor will affect your participation score.
10. All communications with the teacher must be in English, both inside and outside class time.

7. Texts and other recourses

Reece, J and Campbell, N. (2005) Biology: Concepts & Connection, 7th ed. Pearson Benjamin Cummings

8. Teaching methods

Methods: Taught by reading assigned portion of the texts and discussing certain topics. Students are required to finish their assignments by themselves.

9. Week by week topic and study guide

		Chapter 1. Introduction to Course
Week 1	1.1	Biology: Exploring Life
		Chapter 2. The Life of the Cell
	2.1	The Chemical Basis of Life
Week 2	2.2	The Molecules of Cells
	2.3	A Tour of the Cell
Week 3	2.4	The Working Cell
	2.5	How Cells Harvest Chemical Energy
	2.6	Photosynthesis: Using Light to Make Food
		Chapter 3. Cellular Reproduction and Genetics
Week 4	3.1	The Cellular Basis of Reproduction and Inheritance
	3.2	Patterns of Inheritance
	3.3	Molecular Biology of the Gene
Week 5	3.4	How Genes Are Controlled
	3.5	DNA Technology and Genomics
		Chapter 4. Concepts of Evolution
Week 6	4.1	How Populations Evolve
	4.2	The Origin of Species
	4.3	Evolutionary History Brief
		Chapter 5. The Evolution of Biological Diversity
Week 7	5.1	The Origin and Evolution of Microbial Life
	5.2	Plants, Fungi, and the Colonization of Land
	5.3	The Evolution of Invertebrate Diversity
Week 8	5.4	The Evolution of Vertebrate Diversity
Week 9		Midterm Exam
		Chapter 6. Animals: Form and Function
Week 10	6.1	Unifying Concepts of Animal Structure and Function
	6.2	Nutrition and Digestion
Week 11	6.3	Gas Exchange
	6.4	Circulation
	6.5	The Immune System

	6.7	Control of Body: Temperature and Water Balance
Week 12	6.8	Hormones and the Endocrine System
	6.9	Reproduction and Embryonic Development
	6.10	Nervous Systems
Week 13	6.11	The Senses
	6.12	How Animals Move
		Chapter 7. Plants: Form and Function
	7.1	Plant Structure, Reproduction, and Development
Week 15	7.2	Plant Nutrition and Transport
	7.3	Control Systems in Plants
		Chapter 8. Ecology
	8.1	The Biosphere
Week 16	8.2	Behavioral Adaptations to the Environment
	8.3	Population Ecology
	8.4	Communities and Ecosystems
	8.5	Conservation Biology
Week 17		Final Exam