



蘇州大學
Soochow University

BIO 102 Introduction to Biology II

Winter 2024

Course Credits: 4

Contact Hours: 56 hours

Instructor: TBA

Email: TBA

COURSE OBJECTIVES

In BIO 102, students will build upon the fundamentals covered in BIO 101 to further explore the cell structure, function, and behavior of organisms, develop an understanding of the unity and diversity of life. Topics covered include genetics, mechanisms of evolution, and the diversity of bacteria, plants, and protists. Students will also examine and compare the immune, circulatory, nervous, and hormonal systems in humans and other species. Hands-on laboratory exercises will provide students with opportunities to engage in scientific inquiry and experimentation.

Upon completion of this course, students will be able to:

1. Demonstrate a comprehensive understanding of the fundamental principles and concepts of biology;
2. Analyze and interpret biological data and experimental results related to cell structure, molecular biology and genetics;
3. Explain the fundamental concepts of evolution, including Darwinian evolution, the evolution of populations, the origin of species and the history of life on Earth;
4. Gain an overview of the diversity of life forms on Earth, differentiate between bacteria, archaea, and protists, exploring their structures, metabolic processes, and diversity;
5. Describe and compare the structure and function of systems such as circulation, gas exchange, immune response, endocrine regulation, and nervous systems across different species;
6. Stay updated with current research and discoveries in the field of biology and understand their implications for health sciences, and society;



7. Engage in hands-on laboratory exercises to apply scientific methods, conduct experiments, and practice scientific techniques relevant to the course material

PREREQUISITES

BIO 101 Introduction to Biology I

GRADING

Grades will be determined by accumulating points, with 100 points being the maximum, as follows:

ITEM	POINTS
2 Assignments	20 Points
Midterm 1	15 Points
Midterm 2	15 Points
5 Lab Reports	20 Points
Final Exam	30 Points
Total	100 Points

Late submissions will be graded at the end of the course. Grades will be assigned according to the following rule:

$A \geq 90 > B \geq 80 > C \geq 70 > D \geq 60 > F$.

We reserve the right to make adjustments to the overall grading policy.

COURSE MATERIALS

Required Texts:

Jane B. Reece, Lisa A. Urry, Michael L. Cain, Steven A. Wasserman, Peter V. Minorsky, Robert B. Jackson, *Campbell Biology*, Benjamin Cummings / Pearson, 2017.

Recommended (Optional) Texts or Other Materials:

Judith G Morgan & M. Eloise Carter, *Investigating Biology Laboratory Manual*, 9th Edition. Pearson, 2019.



COURSE TOPICS

MODULE	TASKS
Module 1	Topics: Topic 1: Review from BIO 101 Topic 2: DNA Tools and Biotechnology Topic 3: Genomes and Their Evolution Topic 4: Descent with Modification: A Darwinian View of Life Assessments: Lab#1 Assignment#1
Module 2	Topics: Topic 5: The Evolution of Populations Topic 6: The Origin of Species Topic 7: The History of Life on Earth Topic 8: Phylogeny and the Tree of Life Assessments: Lab#2
Module 3	Topics: Topic 9: Viruses Topic 10: Bacteria and Archaea Topic 11: Protists; Plant Diversity Topic 12: Fungi Assessments: Lab#3 Assignment#2 Midterm#1
Module 4	Topics: Topic 13: Animal Nutrition Topic 14: Circulation and Gas Exchange Topic 15: The Immune System Topic 16: Hormones and the Endocrine System Assessments: Lab#4 Midterm#2



Module 5	<p>Topics: Topic 17: Neurons, Synapses, and Signaling Topic 18: Nervous Systems Topic 19: Animal Behavior Topic 20: Population Ecology</p> <p>Assessments: Lab#5 Final Exam</p>
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ATTENDANCE

1) Class attendance is required. Missing classes without permission will lead to decrease in overall grade.

Missing less than two classes: no penalty.

Missing more than two classes: 7% will be taken off from the overall grade.

If the instructor reports a student's frequent missing of class to the Soochow University Academic Administration Office, the student might get a written warning and might be prohibited from attending final exam.

2) Participants in this course are expected to arrive in class promptly and adequately prepared. The primary objective of this course is to critically engage with the readings and the subject matter. Therefore, course participants are expected to have completed the reading prior to class and prepare thoughtful reflections/commentaries to share with fellow colleagues.

LEARNING REQUIREMENTS

- 1) Late assignments are not acceptable and are subjected to grade deductions.
- 2) Assignments submitted in the wrong format will be counted as not submitted.
- 3) Failure to submit or fulfill any required course component results in failure of the class.
- 4) Make-up for midterm and final exams only with valid excuses, as defined by the University.
- 5) In order to earn a Certificate of Completion, participants must thoughtfully complete all assignments by stated deadlines and earn an average quiz score of 50% or greater.



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TECHNOLOGY POLICY

The use of electronic devices in class is distracting, both for the user and for the rest of the class. Only non-programmable calculators can be used in the tests and exam. Any attempts to use cell phones and other electronic communication devices will be seemed as cheating. Laptops are discouraged, unless you use them for activities DIRECTLY related to the course (e.g., note taking, reading course documents).

ACADEMIC INTEGRITY POLICY

Soochow University highly values the academic integrity and aims to promote the academic fairness, honesty and responsibility. Any academic dishonesty behaviors and any attempts to cheats and plagiarism will be reported to the university administration office. A written warning and the relevant penalties will be imposed. The record might be shown on the official university transcript.

DISABILITY ACCOMMODATION

Soochow University is committed to maintaining a barrier-free environment so that students with disabilities can fully access programs, courses, services, and activities at Soochow University. Students with disabilities who require accommodations for access to and/or participation in this course are welcome.

Note:

Please contact the University Administrative Office immediately if you have a learning disability, a medical issue, or any other type of problem that prevents professors from seeing you have learned the course material.