



General Biology II | Lecture and Lab

Academic Year 2020-2021

Course Information

Course Numbers

BIO116/BIO116L

Total Credits

4 (3 Lecture + 1 Lab)

Time Requirement

75 hrs (Lecture 45hrs + Lab 30hrs)

Course Details

Recommended Prerequisites

High School Diploma or equivalent; General Education courses are highly recommended

Course Description

This course is the second in a two-part series covering a general study of life processes, emphasizing basic concepts of biology suitable for health science majors and as a general education elective for non-science majors. Concepts to be covered in this second part include: cellular division: mitosis vs. meiosis, basic genetics: chromosomes, replication and inheritance patterns, protein synthesis and the molecular functioning of cells, molecular biological techniques and their application to modern biological problems, comparative anatomy and physiology of animal organ systems, natural selection, evolution and speciation, diversity of Life, organisms and their environment; ecology and animal behavior.

Lecture and Laboratory Communication

A website will be set up on Canvas by your instructor.

Log in with your Username and password: <https://scuhs.instructure.com>

Faculty Information

Refer to the Canvas course webpage for this information.

Class Meeting Times

Refer to Canvas course webpage for this information.

Instructional Materials

Required Text(s)

Lecture: Hoefnagels, 3e Biology: The Essentials

Lab

SCU General Biology Laboratory Manual (available on Canvas)

Course Purpose

Student Learning Outcomes

At the conclusion of this course, a successful student should be able to:

1. Demonstrate thorough knowledge and understanding of the fundamental principles and core concepts of biology.
2. Assess problems in the field of biology and develop solutions or strategies to solve those problems based on logic and the knowledge acquired during this course.
3. Professionally construct and express their ideas, thoughts, and concepts in biology through written and verbal communication.
4. Demonstrate competency in laboratory safety and in routine biological laboratory skills.

Course Schedule

(subject to slight modifications by the instructor)

| Day | Lecture | Assessment |
|-----|---|-------------------------|
| 1 | Module 1: Forces of Evolutionary Change | Reading Assignments |
| | Module 2: Evidence for Evolution | Quizzes |
| | Module 3: Speciation and Extinction | Module Exams |
| 2 | Module 4: Evolution and Diversity of Microbial Life | Reading Assignments |
| | Module 5: Evolution and Diversity of Plants | Quizzes |
| | Module 6: Evolution and Diversity of Animals | Module Exams |
| 3 | Module 7: Animal Tissues and Organ Systems | Reading Assignments |
| | Module 8: The Nervous System | Quizzes |
| | Module 9: The Endocrine System | Module Exams |
| 4 | Module 10: The Skeletal and Muscular Systems | Reading Assignments |
| | Module 11: The Circulatory and Respiratory Systems | Quizzes |
| | Module 12: The Digestive and Urinary Systems | Module Exams |
| 5 | Module 13: The Immune Systems | Reading Assignments |
| | Module 14: Animal Reproduction and Development | Quizzes Module Exams |

Tentative Grading Procedures

Lecture

| Assessment | Points per assignment | Total number of assignments |
|--------------------|-----------------------|-----------------------------|
| Reading Assignment | 25 | 14 (1 per module) |
| Quiz | 10 | 14 (1 per module) |
| Module Exam | 50 | 14 (1 per module) |

Lab Schedule

(subject to slight modifications by the instructor)

| Laboratory | Assessment |
|---|--------------|
| 1) Evidence of Evolution | Lab notebook |
| 2) Simulation of Natural Selection | |
| 3) Endangered Species | Lab notebook |
| 4) Introduction to Cladogram | |
| 5) Cladogram: Evolutionary Relationships | Quiz 1 |
| 6) Survey of Diversity of Life: Part 1 | Lab notebook |
| 7) Survey of Diversity of Life: Part 2 | Midterm Exam |
| 8) Plant Morphology | Lab notebook |
| 9) Plant Sexual Reproduction | Lab notebook |
| 10) Bones & Muscles | |
| 11) Visual Perception | Quiz 2 |
| 12) Mechanical Digestion & Intestinal Absorption of Nutrients | Lab notebook |
| 13) Kidney Filtration | Lab notebook |
| 14) Fetal Pig Dissection | |
| 15) Reproduction: Miracle of Life | Final Exam |

Tentative Grading Procedures

| Assessment | Weight (%) |
|---------------|-------------|
| Lab Quizzes | 20 |
| Lab Notebook | 25 |
| Lab Midterm | 25 |
| Lab Final | 25 |
| Participation | 5 |
| Total | 100% |

Lab Notebook:

- Pre-Lab: 45% of Total Assignment points (includes title, purpose, hypothesis, materials and procedure)
- Post Lab: 45% of Total Assignment points
- Neatness, grammar and clarity: 10% of Total assignment points

Grading scale:

Please note letter grades will be assigned only at the end of the trimester.

A = 90% to 100%

B = 80% - less than 90%

C = 70% - less than 80%

D = 60% - less than 70%

F = less than 60%

W = Withdrawal

Grading procedures:

The format of assessments may include multiple choice, short answer, labelling, fill-in-the-blank, or matching examinations. Participation points are required and will be assigned by the instructor as the course progresses using any of the following: in class mini quizzes, activities, online quizzes. For online quizzes students must have a phone, tablet, laptop or other internet connected device to participate. Students must be in class during the participation activities to receive participation marks.

Academic Integrity

Visit SCU's [Academic Integrity](#) page to review policies for professionalism and academic integrity.



Teaching Methods and Activities

Each week's material is divided into two or three modules, for a total of 14 modules. The course will follow a linear format, meaning you will complete all the modules in sequence. The material in each module will include a combination of readings, videos, and written and interactive assignments. You'll also complete an exam at the end of each module. You may engage in discussions with your peers throughout the course. You can read about each of the course components below. Each module takes about 5 hours to finish. The flow of the modules on Canvas should be followed.

The course requires a significant time commitment from students. This commitment is both in terms of reading lecture PowerPoints prior to reading the chapters, as well as reviewing the material and doing "Check Your Understanding" activities after. In the five weeks of classes, we will cover 14 chapters of the book. Not every topic will be covered in great depth, but students are expected to study each topic in detail.

Introduction: These sections introduce the content covered in each module and outline the learning objectives. Reading the Introduction will help you identify the central concepts of the module and connect what you will learn to the broader context of the course.

Lecture Outline: These sections contain the lecture slides for each chapter. They provide a comprehensive summary of the chapter. Reading the lecture slides prior to doing the reading assignments on Learning Smart will help you to formulate your thoughts and promote active learning.

Reading Assignment: These sections are created on "Connect" through SmartBook. They improve reading productivity and provide students with better knowledge retention. SmartBook is an intelligent eBook that applies the adaptive technology of LearnSmart to ensure a focus on content the student hasn't learned while also promoting long-term retention of learned material. Learn more about this technology at LearnSmart.

Key Point: Its content helps you gain a deeper understanding of the concepts presented in the learning modules and in the textbook. Often, Key Point pages feature animations, games, videos, or other interactive learning resources.

Check Your Understanding: On Check Your Understanding pages, you will practice the module content you've covered using interactive study tools. These interactive study tools will help you assess your progress and identify areas for improvement. Additionally, interactives give you an opportunity to review and apply information presented in your course and in the online textbook before taking exams.

Exams: There will be 14 exams given at the end of each module. There will be questions that come directly from the textbook chapters, activities, and videos. Questions may come in the form of multiple choices, free response, or fill in the blank. Students will have 30 minutes to complete each exam. These exams are all on Connect. Please pay attention to the due dates. They are final and will not be extended. You must use Remote Exam Proctoring software to proctor your exams (all 14 exams). You need to have both video and audio on. You need to start the recording prior to starting the test and end after finishing the test. Your face should be in the field of view.

Online Learning at SCU: MySCU is SCU's online campus portal. It includes SCU's learning management system (Canvas). It acts as a single point of access for a variety of campus information. It houses resources such as university policies, campus safety procedures, financial aid forms, class schedules, campus news, library databases, and other electronic resources for faculty, staff, and students. Incoming students receive login credentials and learn to navigate MySCU during orientation.



Required Attire

Close-toed shoes, professional attire and lab coats are mandatory during all lab hours. No shorts, heels, or flip-flops will be allowed in the laboratory; hair longer than shoulder-length must be pulled back and held with a clip or hair tie. Gloves, goggles and additional safety equipment will be required per experiment.

Classroom Expectations

Please be professional, prompt, prepared, and polite always.

The professor will adhere to all policies as found in the Student Handbook. Cellular phones must be kept on silent during class and lab times. Students may not use a phone as a calculator. As a safety precaution, no food or drinks are allowed inside the lab, but there will be a designated break for eating and drinking outside of the lab.

Best Practices for Studying

- Read the lecture PowerPoints and watch the videos prior to reading the chapters in each module to become comfortable with some of the terms associated with each topic, using “self-study” icon before you answer the questions of each chapter through the assignments. Review each chapter after you finish reading assignments to enhance your understanding of what was covered. Take notes when you do the reading assignments.
- Participate by doing the assignments on time and by asking questions either through Canvas or by typing your question on the comment bar of the videos.
- Stay on top of the homework and assignments. Do the assigned problems as close to the time as when the topic is covered to increase the depth of your understanding of specific concepts. It will help you learn the material more efficiently and effectively.
- Do not wait until the night before the homework is due to start the assignment. You will get more out of it if you take the time to really learn the concepts and review the material without being rushed.
- Stay focused by finding an environment where you can study with few distractions.

University Policies

Accommodations

As a learning-centered community, Southern California University of Health Sciences recognizes that all students should be afforded the opportunity to achieve their academic and individual potential. The University recognizes and supports the standards set forth in Section 504 of the Rehabilitation Act and

the American with Disabilities Act (ADA). In accordance with its mission and federal and applicable state laws, the University is committed to making reasonable accommodations for qualified applicants for admission and enrolled students with disabilities. A student who needs accommodation(s) due to a disability should contact the Academic Support Office located in the Learning Resource Center.

Faculty and Dr./Patient Relationships

SCU faculty are highly skilled. However, per University Policy, health care is offered to students through the University Health System only. Neither preclinical nor clinical faculty can provide advice, assessment, treatment,



or other elements that would be considered part of a Doctor-Patient relationship outside of a clinical setting established for that purpose.

Learning Activities

Students are expected to spend at least two hours for each lecture hour of course time per week in activities and assessments outside the classroom. Examples of activities include but are not limited to writing papers; reading articles or text; small group work; presentations; completing assignments; preparation for assessments; online activities and other activities that do not include direct instructor interaction and involvement.

All university policies apply to this course and all others. For full policy information please consult the university SCU Policy Manual. For a quick reference guide to the following policies: make-up examination, F-challenge examination, grade posting, results of failing grades, student support information, syllabus amendments, special needs, student conduct, and attendance, please consult the academic policies document housed on the [Online Student Services](#).