

BISC 001

Structure and Function of Organisms

Sample Syllabus

Description

An exploration of how cellular structures and processes contribute to life and how life displays unity even in its diversity. Students who have passed BIOL 027, 110, or 141 may not schedule this course.

Objectives

At the end of this course, a successful student will be able to:

1. Understand basic chemical processes that take place in living organisms, including organic compounds and the basic macromolecules.
2. Identify cell organelles and describe their functions.
3. Understand basic energy concepts and how enzymes and membranes function.
4. Understand cellular respiration and photosynthesis and how they relate to each other.
5. Understand the cell cycle, mitosis, and meiosis and how they differ.
6. Understand basic genetics (inheritance, Mendel's Laws, DNA structure and function, gene regulation, DNA technology).
7. Understand basic population genetics and evolution (natural selection, genetic variation, gene pools).
8. Understand the classification of organisms, taxonomy, and phylogenetics.
9. Understand how the biological diversity on Earth originated and survey the major groups of organisms (prokaryotes, protists, fungi, plants, animals).
10. Describe some of the issues in medical ethics that have arisen as a result of human tissue culture.

Attendance

You will be expected to check in every day or every other day for any announcements or updates. The amount of time spent looking over the material typically is correlated with quiz and exam grade: the more time spent studying usually translates into a better grade. Although this is an online course, you should expect to spend a similar amount of time on the material that you would for an in-person class. The general rule for studying is as follows: for every one hour of lecture, you should spend 2.5 to 3 hours studying the material. That means for a three-credit course, you should spend 7.5 to 9 hours per week studying and completing assignments if you intend to do well ("A" or "B" level).

Assignments

Weekly Quizzes

Each week a short quiz (about 15 minutes) will be made available on Canvas, covering the material from the previous week's subject(s). Each quiz will be made available starting at 12:01 AM on Monday and will run through 11:59 PM on Wednesday. This is designed to ensure that you keep up with your reading and study. The quizzes will be in a true/false, matching, or multiple-choice type format and are intended to reinforce the main concepts in each chapter. These quizzes will only be open for a limited time, so do not go for extended periods of time (days, weeks) without having logged into the course. I typically do not re-open quizzes unless in the case of technical difficulties from my end. If you miss one or a few quizzes, this will not negatively affect your grade. If you have taken all 14 quizzes, only your 10 best scores will count towards your grade.

Book Discussions

Each week, we will have discussions on Canvas about the book *The Immortal Life of Henrietta Lacks* by Rebecca Skloot. These discussions will consist of one or more discussion questions posted by the instructor, which you will respond to and discuss. The first response will take place within three days of the initial discussion question post and will be at minimum 250 words (longer posts are welcome but will not necessarily improve your grade. Quality of post and not quantity will determine your score). After everyone has had a chance to make an initial response, you will make thoughtful comments on other students' posts on the thread. These comments will be respectful (no name calling, threats, trolling, etc.) even if one does not agree with the post in question. The normal

Penn State guidelines prohibiting harassment and hate speech will be in place and will be enforced. We can discuss controversial topics like adults because we are adults.

Midterm Exam

Approximately every 4 weeks, you will have a midterm exam over the material covered. These exams will include true/false, multiple-choice, and/or matching questions; in addition there may be diagrams to label and/or short free-response questions. Exams will cover material for each “unit”: Exam 1 will cover material from the beginning of the course until the first exam, Exam 2 will cover material after Exam 1 until the second exam, and so forth. These will be delivered online, but they will be proctored using Examiny software. You will have a window of about 72 hours to take your exam, but you must schedule it in advance through the Examiny tab in Canvas. If you make changes to your scheduled exam time less than 24 hours before the start of the exam window, Examiny will charge you a fee of \$3.

Final Exam

The final will be similar in format to the midterm exams. The only differences will be that the final will be slightly (about 50%) longer, and will be cumulative . The cumulative section will be about 33% of the final, and the remainder will be material covered after the third midterm. The final should be scheduled during Finals Week.

Grading

- Book Discussions: 250
- Weekly Quizzes (Best 10 out of 14) 30 pts/each: 300
- Midterm Exams (3, 100 pts/each): 300
- Final Exam: 150

Grading Scale

- 93-100 A
- 90-92 A-
- 87-89 B+
- 83-86 B
- 80-82 B-

- 77-79 C+
- 70-76 C
- 60-69 D
- <59 F

Academic Integrity

Academic integrity is the pursuit of scholarly activity in an open, honest and responsible manner. Academic integrity is a basic guiding principle for all academic activity at The Pennsylvania State University, and all members of the University community are expected to act in accordance with this principle. Consistent with this expectation, the University's Code of Conduct states that all students should act with personal integrity, respect other students' dignity, rights and property, and help create and maintain an environment in which all can succeed through the fruits of their efforts.

Academic integrity includes a commitment by all members of the University community not to engage in or tolerate acts of falsification, misrepresentation or deception. Such acts of dishonesty violate the fundamental ethical principles of the University community and compromise the worth of work completed by others.

Accommodating Disabilities

Penn State welcomes students with disabilities into the University's educational programs. Every Penn State campus has an office for students with disabilities. The [Student Disability Resources \(SDR\) website](#) provides contact information for every Penn State campus . For further information, please visit [Student Disability Resources website](#).

In order to receive consideration for reasonable accommodations, you must contact the appropriate disability services office at the campus where you are officially enrolled, participate in an intake interview, and provide documentation: [See documentation guidelines](#) . If the documentation supports your request for reasonable accommodations, your campus disability services office will provide you with an accommodation letter. Please share this letter with your instructors and discuss the accommodations with them as early as possible. You must follow this process for every semester that you request accommodations.

Counseling and Psychological Services

Many students at Penn State face personal challenges or have psychological needs that may interfere with their academic progress, social development, or emotional wellbeing. The university offers a variety of confidential services to help you through difficult times, including individual and group counseling, crisis intervention, consultations, online chats, and mental health screenings. These services are provided by staff who welcome all students and embrace a philosophy respectful of clients' cultural and religious backgrounds, and sensitive to differences in race, ability, gender identity and sexual orientation.

- [Counseling and Psychological Services at University Park \(CAPS\)](#): 814-863-0395
- [Counseling and Psychological Services at Commonwealth Campuses](#)
- Penn State Crisis Line (Available 24 hrs, 7 days a week): 877-229-6400
- Crisis Text Line (Available 24 hrs, 7 days a week): Text LIONS to 741741

Educational Equity / Report Bias

Penn State takes great pride to foster a diverse and inclusive environment for students, faculty, and staff. Acts of intolerance, discrimination, or harassment due to age, ancestry, color, disability, gender, gender identity, national origin, race, religious belief, sexual orientation, or veteran status are not tolerated and can be reported through Educational Equity via the [Report Bias website](#).