Unity of Life
Biology 111, Fall 2019

Instructor: Gregory Johnson, Ph.D.
Email: gregoryjohnson@pugetsound.edu
Office: Thompson 257D
Office Time: M, 10:00 – 12:00 pm by appointment (sign up using the Canvas Calendar) or by appointment
Lecture: TTh, 9:30 – 10:50 am TH395
Lab: M, 1:00 – 3:50 pm TH251, Dr. Johnson
      T, 1:00 – 3:50 pm HA251, Dr. Johnson
      Th, 1:00 – 3:50 pm HA251, Dr. Sultemeier
Canvas: I will use Canvas to distribute course content including lectures and labs.
Laboratory manual: Provided online before labs as PDF
Lecture Notes: Provided online after class as PDF

COURSE DESCRIPTION

Biology 111 is an introductory-level course in the biological sciences that satisfies a Natural Sciences Approaches requirement. This course is designed for introductory level students intending to major in biology or a related science. Biology majors are required to complete both Biology 111 and 112 before. If you do not plan to major in the sciences you may want to consider enrolling in either of the Biology Department’s non-major’s courses BIOL101 or BIOL102.

Adequate preparation for participation in Unity of Life includes satisfactory completion of one or more years of high school biology and chemistry. If you are considering a major in biology, due to the sequencing of chemistry courses you should concurrently be enrolled in CHEM110/120 or CHEM115/230 and especially if this is the fall semester.

Students in Biology 111 will begin to recognize and understand the cellular structure/function relationships that make life possible. In addition to basic structural features, I will emphasize the capacity of cells to process materials and energy, to reproduce, and to communicate with other cells. As students in Biology 111, you will be asked to go beyond memorizing details to applying these concepts to novel situations, such as considering how cellular processes underlie whole organism function or dysfunction in specific examples. In addition, you will be introduced to some of the principles underlying DNA technology and some recent applications of that technology.

To be successful, students in Biology 111 need to acquire a firm grasp of basic concepts and develop the ability to apply these concepts to new problems. Each student should begin to develop confidence in his or her ability to think logically and critically and to communicate
ideas effectively. Writing clearly is one of the most important skills you will develop in college. One of the goals of this course is to help you recognize the elements of good scientific writing and allow you to begin to develop your scientific writing skills.

OBJECTIVES

1. Introduce you to some of the basic principles of modern biology including the following Core Concepts of Biology:
   a. Evolution
   b. Information Flow
   c. Structure/Function
   d. Transformation of Energy and Matter
   e. Systems
2. Relate these principles to your own existence as an individual and as a member of society.
3. Develop your power of reasoning and analysis through application of scientific methods.
4. Develop your ability to accurately collect and record data, thoughtfully analyze data, and articulate and defend claims based on data.
5. Enhance your use of writing, both as effective communication and as a learning strategy.

RESPONSIBILITY

I will facilitate an effective learning environment in which you can explore the fundamentals of biology. No question is unreasonable. However, ultimately you are responsible for your own education. You must dedicate ample energy and time to learn the material on your own. You are responsible for obtaining information on any schedule changes as well as on class materials you may miss during absence from class.

TIME REQUIREMENTS

Please be aware that assessment in this course will be based on comprehension and application of biological knowledge in addition to basic knowledge. As such, you will need to plan on SIGNIFICANT additional time outside of lecture and lab so that you may move beyond simple acquisition of knowledge. I would suggest between two and three hours of studying for each in class hour, each week. Course material in this class builds on previous material.

READINGS

Our main textbook was written for a comprehensive, yearlong, introductory college biology course. It is readable, well-illustrated, and covers many more topics than we will be able to cover in BIOL111. This book is also used for BIOL112. For each lecture, I've assigned a chapter or a portion of a chapter; this material should be read in preparation for the lecture. I may also hand out supplemental reading material from time to time. This material is required unless I state otherwise. Following each lecture, it is important that you integrate the information in the text with that from lecture.
STUDY STRATEGIES

The online material that is included with your text is critical to this course and some of it has been assigned to enhance your thinking about the topics in this course. It includes animations that help you visualize the processes I cover. An effective method to study is to simulate how you will be tested on the material. This requires your active writing and diagramming of concepts. It is not enough to passively read or think about a concept without writing it down. Another method is to try explaining concepts to someone else so that you hear the gaps in your understanding. The more you intellectually engage your mind with these concepts, the more you will learn and the better prepared you will be for the quizzes and exams. It is important move beyond familiarity with a concept to comprehension of that concept. If you find yourself searching for additional or novel study methods for biology please make an appointment with me.

LABORATORY

You must be registered for a laboratory section. Each laboratory section will meet at its assigned time each week for 2 hours and 50 minutes. You are expected to attend ONLY the laboratory section for which you are registered and to be on time (prelabs are due by the start of lab), labs will start promptly. You may not attend a lab section associated with a different lecture section. Missing more than one lab will constitute excessive non-attendance of this lab-based course and may result in your withdrawal from this course.

The laboratory activities provide an opportunity to make first-hand observations, learn data collection techniques, sharpen one's skill in analysis and reasoning, and practice clear and effective communication. A short introduction to the laboratory will generally be given at the beginning of each lab period. This introduction will provide information not available in your lab manual and to demonstrate new techniques—but it cannot replace your own advance preparation.

You must carefully read through the laboratory description BEFORE the lab to know what it is you are expected to do during the laboratory session. I cannot emphasize this enough! If you do not properly prepare, labs will take you much longer than it should.

You should also review the portions of your text and lecture notes that relate to the laboratory topic. To help you prepare for each lab session, each lab exercise includes a set of pre-lab questions to turn in at the beginning of the lab period. Detailed instructions for each lab will be provided on Moodle throughout the course as PDF. Each lab description includes many questions for thought and most include a page or more of questions to be turned in at the end of the laboratory session. You may find it useful to bring your text and lecture notes to lab to help answer questions.

The second biofilm lab will provide data for writing a full lab report. This assignment is part of your introduction to scientific writing. In science it is essential to communicate observations and reasoning through clear, concise, and well-documented written papers.
APPROPRIATE BEHAVIOR AND SAFETY

Students are expected to behave in an appropriate manner while attending this class.

- **ABSOLUTELY NO FOOD OR DRINK** in the laboratory.
- Long pants, closed-toe shoes, clothing to cover your arms, and chemistry-style goggles are all required for access to lab. For example: sandals, shorts, and safety glasses are all inadequate protection and you will not be allowed in lab. You may wish to also purchase a lab coat. Your instructor will be wearing a lab coat.
- Lack of respect for diversity will not be tolerated in the class. Definitions of diversity vary from one person to another but for your instructor and this class at a minimum it encompasses the following: age, life experiences, profession, race, religion, gender, gender-identity, nation, lifestyle, social class, learning style, philosophy of life, sexual orientation, sexual identity, personality, mental abilities, physical abilities, customs, and values; among others.
- If you leave the room during a test or quiz, your test or quiz will be collected and you will not be permitted to complete the test or quiz. Plan to use the restroom accordingly.
- You may **NOT** make audio recordings of my lectures without my express written consent.
- Use the restroom prior to lectures; doors to the classroom are kept locked. Getting up during lecture is highly disruptive to your peers and your instructor.
- During class time I expect you to be working on materials for this course only.
- **Personal technology:** Please be respectful of others in class:
  - Switch your phones to vibrate or no-ring before coming to class
  - Messaging under the table is distracting both to your peers and your instructor.
  - Any online activity is to be limited to class activities only.
  - You may not use any electronic devices in any way during an exam or quiz.
  - You may not use headphones at any time while in class.
- Telephones located in classrooms and labs are for staff use and medical/safety emergencies only.
- Student access to lab prep areas is prohibited unless authorized by an instructor.

STATEMENT CONCERNING ACADEMIC MISCONDUCT

Plagiarism and any other form of cheating will not be tolerated. I recommend you avoid even the appearance of cheating, particularly during quiz, exam and practical times.

Plagiarism is defined as presenting the work of another as one's own. More than four consecutive words from a source other than the writer constitutes plagiarism when the source is not clearly identified in appropriate documentation format. Your lab report will be submitted via TurnItIn.com, a service compares your paper to everything online including previously submitted lab reports from the University of Puget Sound.
ACADEMIC DISHONESTY POLICY

All students as part of their obligation to University of Puget Sound assume the responsibility to exhibit in their academic performance the qualities of honesty and integrity. All forms of student dishonesty, which may include but not be limited to: cheating, fabrication, facilitating academic dishonesty, and plagiarism are subject to disciplinary action. Examples of academic misconduct may include:

- Representation of the work of others as one's own
- Use of unauthorized assistance in any academic work
- Failure to cite sources used
- Obtaining and/or using tests unless distributed and/or approved by the instructor
- Copying the work of another student on any form of test
- Knowingly help someone else cheat
- Modification, without the instructor's approval, of any form of test, computer program, paper, record, report, assignment, or project for the purpose of obtaining additional credit or an improved grade
- Failure to meet other conditions of academic integrity as identified by the instructor in the course syllabus

Depending upon the severity of the incident, an instructor may, after discussion with the student, impose a penalty or penalties such as:

- Issue a warning.
- Reduce the grade of the assignment, examination, or project assignment, any form of test, or project.
- Give zero credit for the assignment, any form of test, or project.
- Dismiss the student from the course, and issue a withdrawal or failure for a grade.

COPYRIGHT AND FAIR USE

Course materials are for educational purposes only and limited to students enrolled in the course. They are protected by copyright law and may not be copied, downloaded, stored, transmitted, shared or changed in any way.
CLASSROOM EMERGENCY RESPONSE GUIDANCE

Please review university emergency preparedness, response procedures and a training video posted at www.pugetsound.edu/emergency/. There is a link on the university home page. Familiarize yourself with hall exit doors and the designated gathering area for your class and laboratory buildings.

If building evacuation becomes necessary (e.g. earthquake), meet your instructor at the designated gathering area so she/he can account for your presence. Then wait for further instructions. Do not return to the building or classroom until advised by a university emergency response representative.

If confronted by an act of violence, be prepared to make quick decisions to protect your safety. Flee the area by running away from the source of danger if you can safely do so. If this is not possible, shelter in place by securing classroom or lab doors and windows, closing blinds, and turning off room lights. Lie on the floor out of sight and away from windows and doors. Place cell phones or pagers on vibrate so that you can receive messages quietly. Wait for further instructions.

OFFICE OF ACCESSIBILITY AND ACCOMMODATIONS

If you have a physical, psychological, medical, or learning disability that may impact your course work, please contact Peggy Perno, Director of the Office of Accessibility and Accommodations, 105 Howarth, 253.879.3395. She will determine with you what accommodations are necessary and appropriate. All information and documentation is confidential.

CLASS CANCELLATIONS DUE TO WEATHER

Closure of the University of Puget Sound due to weather will be announced on the major radio and television stations, on-line at the university website, or via the main telephone number of the university.

Please be aware that I live some distance from campus and if weather and roads are treacherous near my home, even if they are passable near UPS, I may not be able to make it to class. In such a case I will email the class and attempt to have notice of class cancellation posted.
GRADING (subject to change at discretion of instructor at any time)

Grading Policies
- **No make-up exams** (except in cases of medical or family emergencies, documentation will be required to make up the exam)
- Late lab questions or assignments will have 10% deducted per day late. Labs or assignments will not be accepted after three days. Late prelabs will receive a 20% deduction if not turned in at the beginning of lab and will not be accepted after the end of lab in which it is due.
- No extra credit except where noted below

Grading Scale

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>≥ 94%</td>
</tr>
<tr>
<td>A-</td>
<td>90-93.9%</td>
</tr>
<tr>
<td>B+</td>
<td>87-89.9%</td>
</tr>
<tr>
<td>B</td>
<td>84-86.9%</td>
</tr>
<tr>
<td>B-</td>
<td>80-83.9%</td>
</tr>
<tr>
<td>C+</td>
<td>77-79.9%</td>
</tr>
<tr>
<td>C</td>
<td>74-76.9%</td>
</tr>
<tr>
<td>C-</td>
<td>70-73.9%</td>
</tr>
<tr>
<td>D+</td>
<td>67-69.9%</td>
</tr>
<tr>
<td>D</td>
<td>64-66.9%</td>
</tr>
<tr>
<td>D-</td>
<td>60-63.9%</td>
</tr>
<tr>
<td>F</td>
<td>&lt; 60%</td>
</tr>
</tbody>
</table>

Total Points Possible
875 pts

Exams
450 pts
Three Chapter Exams (100pts each)
One Partial Chapter / Partial Comprehensive Final Exam (150pts)

Learning Curve
50 pts
18 Learning Curve Quizzes are available to you on an ongoing basis during the semester. You can find due dates on the Morris textbook website. Full points are awarded upon completion of the Learning Curve Quiz. You may choose which quizzes to complete with the goal of acquiring 50 points or completion of 10 quizzes. Up to 8 extra credit points can be earned by completing all 18 Learning Curve Quizzes.

Visual Synthesis Maps
45 pts
Three Visual Synthesis Maps have been assigned through the textbook website. Each of these is worth 15 pts and is based on the actual score you get.

Quiz and Participation Grade
100 pts
Assigned at the instructor’s discretion for in class participation activities.

Lab
230 pts
Lab pre- and post-questions, problems (165 pts)
Biofilm Lab Report (50 pts)
Lab Practical (15 pts)
**Special Note on Discussing Exams**

I will not discuss an exam or exam grade within 24 hours of returning the graded exam to you. If you wish to dispute the grade or further discuss how to improve your study habits I will be happy to meet with you after the 24-hour time period. The only exception to this is if I have incorrectly added your grade.

If you wish to dispute a test grade you must return the test directly to me with a typed appeal attached to the front of your test. This appeal should indicate (1) which question(s) you would like re-graded and (2) why you are disputing the grade you received. I will accept appeals up to one week from the date that the test was returned to you.
BIOLOGY 111 STUDENT CONTRACT, SPRING 2019

This contract must be signed in order to receive a grade for Biology 111, Spring 2019, and is due to your professor by Thursday, January 31 at 10:50 am.

I HAVE READ AND UNDERSTAND THE ENTIRE SYLLABUS PROVIDED ON THIS DAY. IN PARTICULAR, I AM AWARE OF THE FOLLOWING: Initial each.

A. Quiz, exam and final exam dates. I understand that no make-up quizzes or exams will be given, and that electronic devices are not allowed during quizzes or exams. Further, I understand that personal travel that conflicts with exam dates will not result in a date-change accommodation. Additionally, I understand that if I miss an exam due to illness that a signed doctor’s note will be required for a date-change accommodation.

B. Final exam date. I understand that the final exam is scheduled at 8:00 am on Tuesday, May 14. Further I understand that no early exams will be given for any reason and I will schedule my travel accordingly.

C. The laboratory schedule and guidelines for lab preparation.

D. I must have my own chemistry-style goggles for lab.

E. I will wear closed-toe shoes, long pants, and have clothing to protect my arms during lab (a lab coat is optional).

F. That missing more than one lab may result in your withdrawal from this course.

G. That I must have a paid account for the Morris textbook online website, Launchpad, to complete online assignments for this course.

H. That all prelab assignments are due at the by the time your lab starts and that late assignments or prelabs will be penalized.

I. If I miss class, it is my responsibility to obtain notes and information about assignments from a classmate.

I HAVE READ AND UNDERSTAND THE STATEMENT ON ACADEMIC HONESTY AND THE PENALTIES ASSOCIATED WITH VIOLATIONS OF THIS POLICY. I PLEDGE TO REFRAIN FROM ANY ACT OF ACADEMIC DISHONESTY, INCLUDING: Initial each.

A. Cheating on exams, quizzes, visual synthesis maps, Learning Curve, or any other assignment.

B. Any form of plagiarism (including copying or paraphrasing of any part of another person’s lab report, prelab, lab assignment, etc.).

C. Alteration, misrepresentation, or misuse of data.

NAME (PRINT): __________________________________________

SIGNATURE: ____________________________________________ DATE: ____________