SPRING 2021

Biology 119, General Biology: Cells, Genetics and Evolution (Section 01)

COURSE DESCRIPTION

An introductory course in the biological sciences covering animal diversity, animal biology, plant biology and ecology. Counts for Natural Science core only when taken with BIOL 116. 3 credits.

COURSE FORMAT

This section of BIOL 119 is fully online. Learning is both self-paced and occurs during scheduled class meetings. To support your self-paced learning, the instructional team has recorded short video lectures, selected reading assignments, and designed online homework assignments. During class meetings, we will be engaging in activities to apply what you have learned. Class meetings are also an opportunity for you to ask questions and work with your peers to deepen your understanding of the material that you have learned through the video lectures and assignments.

Weekly synchronous sessions: Monday and Wednesday, through Zoom (see Canvas for links)

COURSE INSTRUCTORS

Section Instructor

Susan Bandoni Muench (bandoni@geneseo.edu)

- *ISC 257, phone 585-245-5309*
- *Course-specific drop-in office hour: Fridays 9:30-10:20 (use usual MWF Zoom link)*
- *General office hours Mondays 2:30-3:20, Wednesdays 10:30-11:20, Fridays 1:30-2:20, and by appointment. See Canvas for links as links may change.*

Suann Yang (yang@geneseo.edu)

ISC 256, phone 585-245-5311

- *Course-specific, drop-in office hour (Zoom): Fridays 9:30-10:20 (use usual MWF Zoom link)*
- *General, by appointment office hours (Zoom): Thursdays 2:30-4:00. See Canvas for appt link*

Additional Content Instructors

BIOL 119 is a team-taught course. In addition to your instructors of record (above), the instructors listed below contribute content for this course. In this way, you are benefitting from our collective, broad expertise.

Harold Hoops (hoops@geneseo.edu)

Jacob McCartney (mccartney@geneseo.edu)

Salvador Tarun (tarun@geneseo.edu)

Information about office hours for these instructors will be available in Canvas in weekly announcements and in a separate page. You can also email them for appointments or links to office hours.

COURSE GOALS AND CONTENT

This course has two main objectives. The first is to increase your biological knowledge and prepare a firm foundation of knowledge for the courses that follow. The second objective is to help you develop the intellectual skills needed for advanced study of biology: to develop the ability to organize information from various disciplines, to fit it into a conceptual framework, to use it in the synthesis of new ideas and to understand how biologists think and approach scientific questions.

Learning Outcomes for Biol 119:

Upon completion of this course, through multiple choice tests and online assignments, students will be able to:

1. *Describe the diversity and unity of organisms: identifying characteristics that unify major taxa; and recognize the relationships among major taxa.*

2. *Understand the basic form and function of the major groups of organisms and how this structure continuously evolves.*

3. *Describe the mechanisms by which organisms interact with their environment in ways that perpetuate life processes.*

4. *Use models to explain complex biological phenomena.*

5. *Apply knowledge of biological systems to solve novel problems in and outside of class.*

6. *Demonstrate adjustment to college expectations through successful independent completion of self-paced assignments and conscientious participation in class meetings.*

REQUIRED MATERIALS

Textbook

Textbook: *Absolutely required for this course are access to the online Achieve website and at least the eText for the textbook "How Life Works" 3rd Edition, Macmillan publishers. This code will have to be entered via the Canvas website for this course. Through the SUNY Geneseo bookstore you have two options for purchasing this text:*

ISBN: 9781319376826 *($104.99) eText, 12-month Achieve access, 4-year access to i<clicker Reef Polling*

ISBN: 9781319404550 *($119.99) eText,* ***24****-month Achieve access, 4-year access to i<clicker Reef Polling,* ***Looseleaf copy of text.***

If you purchased the textbook and multi-term Achieve access for BIOL 117 for Fall 2020, you are all set for this semester and do not need to repurchase. However, you will still need to enroll in the BIOL 119 course: https://macmillan.force.com/macmillanlearning/s/article/Achieve-Enroll-in-the-second-term-of-a-course-using-multi-term-access

iClicker

Reef Polling by iClicker lets you use your laptop, smart phone, or tablet to answer questions in class or while you are watching lecture videos, and review the material afterwards. It is free with your purchase of the Achieve access. Instructions for getting started with iClicker can be found here: https://www.iclicker.com/achieve-get-started

Instructions for connecting your iClicker and Achieve accounts, and joining courses, can be found here: https://macmillan.force.com/iclicker/s/article/How-to-Connect-Your-iClicker-Reef-Account-with-Achieve

Other Course Materials

Other course materials will be available within the Canvas System https://canvas.geneseo.edu/courses/21790

Self-help guides are available through the Canvas system website as well, https://wiki.geneseo.edu/display/cit/Canvas+Self+Help+Documents

Internet Access and Device for Zoom Video Conferencing

All of the graded work in the course will be digital, and submitted online. Thus, it is important to have regular access to a stable Internet connection. In addition, we will be using Zoom for video conferencing. A laptop with a working video camera and audio will be the best, but a tablet or phone can work in a pinch. For tests, a computer is definitely preferable.

EVALUATION

Graded Work	***Contribution:***
Assignments *In class participation activities (5%)* *Video lecture assignments (5%)* *Achieve reading quizzes (10%)* *Achieve knowledge checks (15%)*	*35%*
Tests *4 unit tests* *1 final test* *Your lowest test grade will be dropped*	*65%*

Overview of Evaluation

There are two components of your grade in the class: (1) Assignments to complete on your own or in class and (2) Tests. The instructional team has designed the assignments to prepare you for the tests. They are opportunities for you to self-evaluate your progress, as well as work more closely on difficult concepts and skills.

In-class Participation Activities (5%)

We expect you to attend scheduled class meetings twice a week (Monday and Wednesday). During these class meetings, we will engage in collaborative learning activities for participation points, graded on completion of criteria specified in each assignment. We will be assigning you to a group, and will be changing group assignments so that you get to meet more students in the class. The opportunity to discuss your ideas with fellow students is important. Research shows that explaining your understanding to others and listening to the explanations of your peers are important steps for successful learning. These assignments will be completed in a variety of ways. In the event we don't complete an activity in class, you are expected to finish it up on your own.

Video Lecture Assignments (5%)

As part of recorded lecture videos, we have included questions for you to check your understanding as you view them. These will occur with i>clicker Reef polling.

Achieve Reading Quizzes (10%)

Each week (except for the week of a test), you will complete an online reading quiz in Achieve (due Fridays, 11:59 PM). These quizzes mostly consist of multiple choice and other objective questions covering each of the reading assignments in the textbook. We have designed these to be completed soon after you complete each week's reading assignment. They are typically 20 questions each.

Achieve Knowledge Checks (15%)

In addition to the reading quizzes, we have created weekly knowledge checks in Achieve, which consist of application and analysis questions. We have designed these to be completed after you have finished the reading assignment and quiz, studied the lecture videos, and participated in class meetings each week. These are due on Mondays, except for the first Monday of a unit. They are typically 20 questions each.

Tests (65%)

There will be 5 total tests given, one for each of the four units covered plus one cumulative final test. The lowest score of the 5 will be dropped at the end of the semester. All tests will be administered online. These will be predominantly multiple choice questions. The test will be opened on set dates per the syllabus and will remain open for 14 hours. However, each student will only have 75 minutes to complete the test and must complete it within that 1-hour time frame once they open the test. To prepare you for the tests, we will distribute a study guide that will help you study in a targeted manner.

RESOURCES FOR SUCCESS

Successful students in BIOL 119 achieve their goals through many unique paths, but these students have several characteristics in common. They recognize the importance of strategic planning for a task, monitoring their performance on the task, reflecting on how their performance on the task relates to what they did or did not do, and finally modifying their plans for similar future tasks. They also know that this cycle of learning is a process that requires them to take the first step, and expect that success in different courses may require different strategies. Thus, your faculty members have designed BIOL 119 with a range of resources for you to incorporate into your strategies for learning. In past semesters, we have found that students who take an active approach to learning–by using these resources regularly–earn on average a full letter grade higher than those who do not. Course-specific items are provided elsewhere in this syllabus. College-wide resources include:

- *KOALA office (https://www.geneseo.edu/dean_office/koala) for online learning*
- *Student Success Resources for Geneseo (https://wiki.geneseo.edu/display/PROVOST/Syllabus+Resources+Related+to+Student+Success)*

Attendance and Expectations for Class

Biology 119 is offered in two formats, synchronous online or hybrid. Each section will have two sessions of instruction per week, either two Zoom sessions, or one Zoom session and one in-person session on either of two days. If you are unable to participate in a class meeting, we can provide alternatives for you to stay caught up with the rest of the class. Active participation is strongly linked to student success in all courses, and research on Introductory Biology courses shows that attendance is a strong predictor of success.

The activities presented during these face-to-face or Zoom sessions are meant to reinforce key concepts covered in the lectures. These concepts have been carefully chosen to reflect the more difficult areas of

the content with which students in past semesters have struggled. Discussion is central to the experience, if you do these activities entirely online, you may consider setting up a Zoom session with a friend to go through these activities. Often it is during these group activities where students become more aware of the areas that they find confusing.

Because all of the sections are following the same schedule, there may be opportunities to make up missed sessions with another section. However, note that all other sections are hybrid in-person. Thus, you must arrange in advance with the instructors in charge. Please be aware that the other sections have different scheduling than ours to be in compliance with New York State requirements for room occupancy under social distancing.

A small portion of the grade comes from participation, defined broadly as engagement in class meetings or specially arranged alternatives. Your participation grade measures your effort and willingness to support your fellow students, even when a task is hard, and even when that participation may be constrained. Again, please communicate with us if you are unable to participate in a class meeting so that we can provide alternatives for you to stay caught up with the rest of the class. If your situation will lead to missing a week or more of class meetings, we also encourage you to communicate with Dean of Students, Leonard Sancilio. The Dean of Students (585-245-5706) can assist and provide direction to appropriate campus resources. For more information, see https://www.geneseo.edu/dean_students.

Supplemental Instruction

Supplemental instruction (SI) will also be available for this class. SI sessions are facilitated by trained peer leaders and will focus on mastery of the content and concepts in Biol 119. SI sessions will be online and times will be placed on the announcements for when these meetings will occur. SI will increase your chances of achieving a better grade in this class by providing guided practice and assistance with studying. Additional information will be provided by your SI (Kaitlyn Bertleff; kcb4@geneseo.edu) and more information on the SI program can be found at the following link: https://www.geneseo.edu/supplemental-instruction

Faculty Office Hours

Your faculty instructor will have online office hours as designated on the first page of the syllabus. These sessions are usually one to one (via an online link) or in small groups. During the designated hours for your course you can "drop in" without an appointment. In online office hours, instructors have a variety of tools to create opportunities for confidential discussion when needed. Meetings during other designated times may also be made by appointment. Always feel free to contact your section instructors and also to contact the instructor in charge of a given content section (see course instructors and content instructors).

ACCESSIBILITY

SUNY Geneseo is dedicated to providing an equitable and inclusive educational experience for all students. The Office of Accessibility will coordinate reasonable accommodations for persons with documented physical, emotional, or cognitive disabilities, as well as medical conditions related to pregnancy or parenting. Students with letters of accommodation should submit a letter to each faculty member at the beginning of the semester and discuss specific arrangements. Please contact the Office of Disabilities https://www.geneseo.edu/accessibility-office

- *Student responsibility: Please submit your letter of accommodations to us at the beginning of the semester and make an appointment to discuss arrangements.*
- *Instructor responsibility: We are committed to working with you to figure out how to create a just learning environment while meeting the learning outcomes of the course. Unless you communicate otherwise, we will keep all accommodations confidential.*

PROFESSIONALISM

Class participation is very valuable for developing deeper understanding. In this course, we are using class time only for active learning, discussion and student questions. For synchronous online sessions, please plan to attend and turn on your camera if at all possible. Active engagement in class can provide tremendous benefits to your learning. One of the best ways to ensure an optimal learning environment for you and your colleagues is to minimize potential distractions, which you can do by finding a comfortable and quiet place to work and closing other windows on your computer. Remember that when you don't participate fully, the impact is not limited to you but can spill over to other students. Most learners benefit from processing complex ideas through discussion. Engaging in discussion with peers in breakout sessions will help both you and your group members internalize complex ideas.

COMMUNICATION

Set up Canvas to provide daily messages via email or text message in order to ensure that you receive any updates or changes to the schedule. Check the announcements section regularly. Discussion forums will be available for course-related questions; use these to ask and answer questions that may be shared by many students. Besides online office hours, the fastest way to get in touch with your instructors is via email. Please include your name (not just your email address) and the course name or number (Biol 119) in all emails sent to instructors as we each teach and advise many students. As always, please use your Geneseo email account on all such correspondence rather than alternate email addresses you may have. We will strive to reply to your emails within 24 hours. To preserve work-life balance, we reserve the option to delay answering emails sent after 5 pm or on the weekends until the start of the next business day.

MISSING ASSIGNMENTS

The benefits of completing the online assignments are greatest if you use these as part of the learning process to accompany lecture videos and class meetings. However, we understand that during this pandemic, issues may arise that prevent meeting deadlines. Please reach out to us if you anticipate any problems with meeting the deadline for an assignment, and be prepared to propose and discuss reasonable solutions.

MISSING TESTS

All tests are required, and making up a test requires a valid excuse. Examples of valid reasons for missing tests include (but are not limited to) personal illness, death or serious illness in the family, representing the college, religious observances, and required training for work or military service. Where possible, discussion of alternative arrangements should take place ahead of the test. For emergencies arising on the day of the test, you should contact us promptly (usually within 24 hours) to arrange an alternative time to take your test. Because we drop the lowest test score, one option is that you may choose to skip a test if you are sick or have an emergency. This can sometimes help to minimize your stress during difficult times. If you are unable to complete a test for a prolonged period of time, you may receive an alternative test in order for instructors to be able to return tests to your fellow students promptly.

Remember that tests will be open during a 14-hour period and you can choose to take it at any time during that open window. However, you only have 1 hour to complete the test from the time at which you first open it.

APPEALING GRADES

Any graded work may be submitted for re-evaluation along with a written appeal submitted via email and should include a brief explanation of your concerns, including your understanding of the test question or assignment directions and why you believe your work meets the requirements. Appeals should be sent in within one week of receiving the graded work. When you submit your appeal, we will schedule an individual conference to go over our response.

EXPLANATION OF FINAL GRADES

Grades are determined using the scale presented below. There are no quotas for particular letter grades. Helping others can only help you, and cannot hurt your grade in any way. Scores will be rounded up or down to the nearest whole number. The point distribution is the standard Geneseo distribution; Canvas is set to display this. The distribution is as follows:

- *>93%, A*
- *90-92%, A-*
- *87-89%, B+*
- *83-86%, B*
- *80-82%, B-*
- *77-79%, C+*
- *73-76%, C*
- *70-72%, C-*
- *60-69%, D*
- *<60%, E*

ACADEMIC INTEGRITY

We expect you to act with integrity, producing work that is clearly your own unless an assignment is designed to be collaborative. Academic dishonesty devalues the work of other students. Cheating on tests is a serious breach of trust and will be treated accordingly. Examples of cheating on tests include (but are not limited to) collaboration or communication with others in any form. Plagiarism is the misrepresentation of the originality of your work, for example cutting and pasting text into your assignments. Breaches of academic integrity will result in a failing grade for the test or assignment, and may result in a failing grade for the course. Should serious academic cheating be identified the procedures addressing these incidents are addressed in detail through the Dean of Academic Planning and Advising's webpage.

POLICY EXCEPTIONS AND CHANGES

Policies are designed to address common issues and concerns. We cannot anticipate every possible problem that may arise, and therefore policies can have limits and exceptions! If you are experiencing problems in completing class work for any reason, please make an appointment to talk with us. Please

note that in light of the current pandemic it is also possible that the entire campus will have to return to a fully online format. In that case, policies may change again and we will post those changes if and when they occur.

COPYRIGHT

Many of the materials that are provided to students in this course have been created by Biol 119 instructors or by the publisher of our textbook. Students would be best to assume that all course materials are protected by legal copyright. Copyright protection means that reproduction of this material is prohibited without the author's consent. Thus, students are prohibited from sharing or posting copyrighted material to any websites outside our course Canvas site. Students are also prohibited from reproducing material to be shared with other more limited groups (eg. sorority/fraternity test bank). Be aware that UUP (Union of University Professionals, the union representing faculty on this campus) is taking legal action against these and other sites, and that posting or selling copies of materials to such sites may put a student in legal jeopardy.

IMPORTANT DATES

Date	*Event*
February 7	*Last day to add individual courses without instructor permission*
February 8	*First day of in person classes*
February 14	*Add/drop period ends; Registrar can accommodate requests for late adds between February 8 and February 13, only with instructor permission*
February 24	*Test #1 (Wed) opens at 8 am and closes at 10 pm*
March 2	*Rejuvenation day*
March 24	*Rejuvenation day; Semester is half over!*
March 26	*Test #2 (Fri) opens at 8 am and closes at 10 pm*
April 21	*Test #3 (Wed) opens at 8 am and closes at 10 pm*
April 22	*Rejuvenation day*
May 12	*Test #4 (Wed) opens at 8 am and closes at 10 pm*
May 12	*Last day to withdraw from full semester courses*
May 12	*Last day to elect Pass/Fail for full semester courses*
May 19	*Final Test opens at 8 am and closes at 10 pm*

WEEKLY SCHEDULE

The course is organized with a predictable rhythm of activities and assignments. Exceptions are marked so you can plan ahead. Each unit after the first will be available in Canvas on the Friday before the unit begins.

Unit 1: Hidden diversity

The content for Unit 1 is created by Drs. Tarun, Hoops and Muench

Week 1: Bacteria and Archaea

Date	***Event***	***What's due? (11:59 PM)***
1 Feb	*Class meeting in Zoom*	
3 Feb	*Class meeting in Zoom*	
5 Feb	*Drop-in hours*	*Bacteria and Archaea reading quiz*

Week 2: Eukaryotic diversity and multicellularity

Date	***Event***	***What's due? (11:59 PM)***
8 Feb	*Class meeting in Zoom*	*Bacteria and Archaea knowledge check, i>clicker Reef assignments, and participation assignments*
10 Feb	*Class meeting in Zoom*	
12 Feb	*Drop-in hours*	*Eukaryotic diversity and multicellularity reading quiz*

Week 3: Fungi

Date	***Event***	***What's due? (11:59 PM)***
15 Feb	*Class meeting in Zoom*	*Eukaryotic diversity and multicellularity knowledge check, i>clicker Reef assignments, and participation assignments*
17 Feb	*Class meeting in Zoom*	
19 Feb	*Drop-in hours*	*Fungi reading quiz*

Week 4: Review

Date	***Event***	***What's due? (11:59 PM)***
22 Feb	*Class meeting in Zoom*	*Fungi knowledge check, i>clicker Reef assignments, and participation assignments*
24 Feb	*Test 1*	

26 Feb	*Drop-in hours*	*Post-test assignment*

Unit 2: Plants

The content for Unit 2 is created by Drs. Tarun, Yang, and Hoops

Week 5: Photosynthesis

Date	***Event***	***What's due? (11:59 PM)***
1 Mar	*Class meeting in Zoom*	
3 Mar	*Class meeting in Zoom*	
5 Mar	*Drop-in hours*	*Photosynthesis reading quiz*

Week 6: Plant evolution, form, and function

Date	***Event***	***What's due? (11:59 PM)***
8 Mar	*Class meeting in Zoom*	*Photosynthesis knowledge check, i>clicker Reef assignments, and participation assignments*
10 Mar	*Class meeting in Zoom*	
12 Mar	*Drop-in hours*	*Plant evolution, form, and function reading quiz*

Week 7: Plant growth and defense

Date	***Event***	***What's due? (11:59 PM)***
15 Mar	*Class meeting in Zoom*	*Plant evolution, form, and function knowledge check, i>clicker Reef assignments, and participation assignments*
17 Mar	*Class meeting in Zoom*	
19 Mar	*Drop-in hours*	*Plant growth and defense reading quiz*

Week 8: Review

Date	***Event***	***What's due? (11:59 PM)***
22 Mar	*Class meeting in Zoom*	*Plant growth and defense knowledge check, i>clicker Reef assignments, and participation assignments*
24 Mar	*No class meeting*	
26 Mar	*Test 2 (Friday!!)*	*Post-test assignment*

Unit 3: Animals

The content for Unit 3 is created by Drs. McCartney, Muench, and Tarun

Week 9: Animal form, function, and homeostasis

Date	***Event***	***What's due? (11:59 PM)***
29 Mar	*Class meeting in Zoom*	
31 Mar	*Class meeting in Zoom*	
2 Apr	*Drop-in hours*	*Animal form, function, and homeostasis reading quiz*

Week 10: Neuromuscular function

Date	***Event***	***What's due? (11:59 PM)***
5 Apr	*Class meeting in Zoom*	*Animal form, function, and homeostasis knowledge check, i>clicker Reef assignments, and participation assignments*
7 Apr	*Class meeting in Zoom*	
9 Apr	*Drop-in hours*	*Neuromuscular function reading quiz*

Week 11: Immune system

Date	***Event***	***What's due? (11:59 PM)***
12 Apr	*Class meeting in Zoom*	*Neuromuscular function knowledge check, i>clicker Reef assignments, and participation assignments*
14 Apr	*Class meeting in Zoom*	
16 Apr	*Drop-in hours*	*Immune system reading quiz*

Week 12: Review

Date	***Event***	***What's due? (11:59 PM)***
19 Apr	*Class meeting in Zoom*	*Immune system knowledge check, i>clicker Reef assignments, and participation assignments*
21 Apr	*Test 3*	
23 Apr	*Drop-in hours*	*Post-test assignment*

Unit 4: Ecology

The content for Unit 4 is created by Drs. McCartney and Yang

Week 13: Population and community ecology

Date	***Event***	***What's due? (11:59 PM)***
26 Apr	*Class meeting in Zoom*	
28 Apr	*Class meeting in Zoom*	
30 Apr	*Drop-in hours*	*Population and community ecology reading quiz*

Week 14: Ecosystem and global ecology

Date	***Event***	***What's due? (11:59 PM)***
3 May	*Class meeting in Zoom*	*Population and community ecology knowledge check, i>clicker Reef assignments, and participation assignments*
5 May	*Class meeting in Zoom*	
7 May	*Drop-in hours*	*Ecosystem and global ecology reading quiz*

Week 15: Review

Date	***Event***	***What's due? (11:59 PM)***
10 May	*No class (Tuesday schedule)*	*Ecosystem and global ecology knowledge check, i>clicker Reef assignments, and participation assignments*
11 May	*Test 4*	
12 May	*No class (Thursday schedule)*	*Post-test assignment*

Week 16: Final Test (May 19)

Details TBA