NJIT New Jersey's Science & Technology University

BIOL 206: Sections 002, 004, 006, & 008
Foundations of Biology:
Ecology and Evolution Lab

Syllabus
Spring 2021

Course Information

Instructor Information

Lab Instructors: Christine Sosiak (ces43@njit.edu)

Gianpiero Fiorentino (gf6@njit.edu)

Lab Coordinators: Dr. Mary Konsolaki (konsolaki@njit.edu),

Dr. Caroline DeVan (caroline.m.devan@njit.edu)

Office Hours (Virtual):

Konsolaki: Tuesday - Thursday 2:00-3:00pm or by appointment

DeVan: Monday 10:30am – 12:00pm & Friday 1:00-2:30pm or by appointment

Sosiak: by appointment

Fiorentino: by appointment

Course Requirements

Prerequisite: Concepts in Biology (BIOL 200)

Corequisite: Foundations of Biology: Ecology & Evolution Lecture (BIOL 205)

Internet connection (DSL, LAN, or cable connection desirable)

Mac or PC with webcam (Chromebooks are not compatible)

Class Meeting Information

Meeting Times:

Bio 206-002: Wednesdays 7:30 - 10:20 AM
Bio 206-004: Tuesdays 12:30 PM – 3:20 PM
Bio 206-006: Thursdays 9:00 AM – 11:50 AM
Bio 206-008: Wednesdays 11:00 AM – 1:50 PM

Meeting Location: This course is fully online and synchronous. See Canvas for meeting links.

Course Description

This course is the laboratory component of Foundations of Biology: Ecology and Evolution. The labs are designed to complement and elaborate upon concepts learned in the lecture, to give you hands-on experience performing research - making observations, gathering and analyzing data, and to introduce you to common procedures and analyses used in the study of ecology and evolution.

Textbook & Course Materials

Required Text

There is no required textbook for this lab. All lab materials will be posted on Canvas.

SimBio Software

Many labs will require the use of a program called SimBio. This program must be downloaded and installed on your computer. The link to download this program will be posted to Canvas. **If you have used SimBio previously you will need to re-download it for it to work correctly. This program is not compatible with ChromeBooks. A mac or PC is required for this course.**

Course Structure

This course will be delivered online through a combination of the Canvas learning management system and Webex Meeting Rooms. You must use your NJIT UCID to log in. If you are matriculated at NJIT you should already have a UCID. If you are a student from Rutgers or any other institution and do not yet have one you can request one here or call the NJIT helpdesk for assistance (973-596-2900). Please be sure that you have gone into your profile and changed your preferred e-mail to an account you check regularly. **Canvas will automatically assign your email as your NJIT e-mail address and this is where all messages sent through Canvas will go.** You can change your contact information on Canvas, but you should also make sure you forward your NJIT email to your normal email (directions on Canvas).

In Canvas, you will access lab handouts and lab assignments.

Synchronous vs Asynchronous Delivery
This course is designed to be completed synchronously on Webex with your lab instructor. All labs will take place at their scheduled time. During these meetings you will complete lab activities and work in groups to complete a course research project. *If for some reason you cannot attend a particular class meeting, you must notify your instructor in advance.*

Course Week starts on the day of your lab and ends the night before your next lab.
All assignments for the week must be completed by 9:00 PM the night before your lab, except where otherwise indicated.

Schedule:

Bio 206-002: Homework due 9pm on Tuesdays
Bio 206-004: Homework due 9pm on Mondays
Bio 206-006: Homework due 9pm on Wednesdays
Bio 206-008: Homework due 9pm on Tuesdays

Technical Assistance

If you need technical assistance at any time or to report a problem with Canvas you can:

Email the IST Service Desk

Chat with live support at any time or call (877-889-7685)

Submit a helpdesk ticket

Course Learning Outcomes

At the completion of this course, students will be able to:

1. Explain how laboratory activities illustrate lecture concepts.
2. Use evidence to support scientific conclusions.
3. Research topics using electronic and print sources and attribute sources properly.
4. Design and carry out an experiment to test a scientific question.
5. Analyze and interpret scientific data using a statistical analysis.
6. Communicate scientific results in written format.

You will meet the outcomes listed above through a combination of the following learning activities in this course:

- Pre-lab lectures and discussions of labs;
- Completion of lab activities, including simulations and experiments;
- Writing a manuscript-style lab report.

Course Outline

Important Note: Refer to the course calendar on Canvas for specific activities and due dates. Activity and assignment details will be explained in detail within each week's corresponding learning module. If you have any questions, please post it to the Discussion forum. The course outline is likely to change as we go through the semester.

Week 1 - Week of Jan 18

- No class this week

Week 2 – Week of Jan 25

- Introduction to course & research project

Week 3 – Week of Feb 1

- Research Project: Scientific Method
- Simbio – Experimental Design

Week 4 – Week of Feb 8

- Research Project: invasive species
- Simbio – Barnacle Zone

Week 5 – Week of Feb 15

- Research Project:
    - background on plant morphology
    - find specimens across native and introduced ranges

Week 6 – Week of Feb 22

- Research Project:
    - hypotheses & predictions
    - protocol for data collection (measuring plant traits)

Week 7 – Week of Mar 1

- Research Project: data collection (measure plant traits)

Week 8 – Week of Mar 8

- Research Project:
    - data analysis & scientific figures
    - present results

Week 9 – Week of Mar 15

- spring break - no class

Week 10 – Week of Mar 22

- Simbio – Darwinian Snails

Week 11 – Week of Mar 29

- Research Project:
    - discussion of results
    - scientific writing

Week 12 – Week of Apr 5

- Research Project:
    - Draft Lab Report due
    - Peer review

Week 13 – Week of Apr 12

- Research Project: student presentation planning

Week 14 – Week of Apr 19

- Simbio – Flowers & Trees

Week 15 – Week of Apr 26

- Research Project: student presentations

Week 16 – Week of May 3 (May 4 last day of classes for semester)

- **Final draft of lab report due May 4 @ 9pm**

Grading Policy

Graded Course Activities

Visit each weekly Module in Canvas for details about each assignment listed below.

Descriptions	**Point Value**	**Total Points**
Participation (12)	2	24
In-class Assignments (12)	8	96
Homework (12)	20	240
Lab Report and Presentation	120	120
Total		**500**

Participation
To get full participation points for each class you must arrive on time, and participate in the class activity throughout the entire class period. Your lowest participation grade will not be counted towards your final grade.

In-class Assignments
In class assignments will be based on the class activity and will be assessed in a variety of ways, e.g., a short assignment or quiz for SimBio lessons or a progress report or deliverable for research days. These in-class assignments are due by the end of class. Your lowest in-class assignment grade will not be counted towards your final grade.

Homework

For each lab, there is a homework assignment. For the SimBio labs, your homework will be a quiz based on the simulation. On the research days, the homework will be either preparation for the next class or specific deliverables related to completing the research project. Homework will be due the following week (see your sections weekly schedule above).

Lab Report and Presentation

You will design and execute a research project that explores the effects of invasion on the plant morphology of Purple Loosestrife (*Lythrum salicaria*). Purple loosestrife originated in Eurasia and has invaded North America over the last ~100 years. Your research project will utilize herbarium specimens to measure loosestrife morphology (for example leaf size), to see if it has different morphology in its native and invasive ranges. We will work together as a group to measure a number of morphological traits so we can test several versions of this hypothesis. If time permits, you will test a second hypothesis that asks whether loosestrife morphology varies with an environmental variable such as rainfall or temperature. You will work on your lab report over the semester in a series of smaller assignments (homework) and you will present your results periodically to the rest of the class. At the end of the research project you will write a lab report detailing your research and results. The first draft of this report will receive both peer review and feedback from your instructors. You will also present a group presentation summarizing your findings.

Late Submission

In-class assignments, homework and lab report submissions will be penalized 10% per day if submitted late. SimBio quizzes will not be available to take after the due date. Contact your instructor if you require an extension for any assignment/homework/quiz/report.

Viewing Grades

Grades for each assignment in the categories listed above can be found under the 'Grades' tab on Canvas. All grades will be posted within one week of the due date.

Letter Grade Assignment

Final grades assigned for this course will be based on the total points earned from the categories above and are assigned as follows:

Letter Grade	Percentage
A	90-100%
B+	87-89%
B	80-88%
C+	77-79%
C	70-76%
D	60-69%
F	0-59%

Course Policies

Attendance and group work

This course will involve intensive group work with your colleagues. You will be working together to do science! As such, your classmates and group members will be relying on you to come to class prepared and on time. Attendance and participation are mandatory and necessary to earn a good grade.

Contact Information and Communication

We will be using a Discussion forum on Canvas for all inquiries related to the course content and assignments. Rather than emailing general course questions to your instructor, you should post your questions in the discussion forum called 'Course Questions'. This will result in a timelier response, and other class members may benefit from the information. Questions of a personal nature should still be directed to your instructor at the email above. We will respond to your posting or email within a 24-hour period.

Remember that you always have access to the 24/7 IST Service desk for help with technical issues.

If you find that you have any trouble keeping up with assignments or other aspects of the course, make sure you let us know as early as possible so that we can help you find a solution.

Technology

To successfully complete this course, you will need a mac or PC computer with a webcam, a stable internet connection (DSL, LAN, or cable connection desirable), and access to Canvas and WebEx. Note that Chromebooks are not compatible with our various software. If you do not have a webcam, strong internet connection, or have trouble accessing needed equipment, please contact the Dean of Students office.

Course Materials

All course materials (including recordings of lectures) are for students' personal use only and may not be posted or shared in any form or anywhere.

Academic Dishonesty

The course has a zero-tolerance policy for academic dishonesty, including plagiarism and cheating. The punishment for dishonesty in this course will be a zero on the assignment and a consultation with the Dean of Students after which further action may be required. If you have any questions about what constitutes plagiarism or cheating, please ask your instructors or refer to NJIT's Academic Integrity Code.

Support Services

Your classroom as well as your college experience is meant to be a place where the free flow of ideas is encouraged and nurtured. It is not acceptable for any community member to make hurtful and demeaning remarks, or otherwise disrupt your learning experiences or your safety. As such, there are many NJIT support systems and policies of which you should be aware.

Basic Needs

Students who face challenges securing their food or a safe and stable place to stay are urged to contact the Dean of Students (doss@njit.edu).

Student Parents

If circumstances arise that necessitate your absence from class - such as the illness of a child, closing of day care for inclement weather, etc. - please contact me as soon as possible so we may make arrangements to keep you up-to-date with course material and activities. If you should need any other kind of assistance for circumstances relating to your status as a student and parent, please consider contacting the Dean of Students and Campus Life at 973.596.3466 for a referral to appropriate services including on and off campus support.

Emergency Support

Crises Happen: If you experience a life emergency and are unsure which support services to turn to, NJIT Public Safety can connect you to emergency support systems - call 973.596.3111.

For medical, psychological or psychiatric emergencies you can also call: University Hospital Crisis 973.623.2323.

If you want to report a concern about another students' well-being you can also reach out to the NJIT CARE Team (https://www.njit.edu/care/) or the Dean of Students Office.

Consensual, Healthy Personal & Professional Relationships

Your body is your own and NJIT strives to protect its community members from any unwanted advances. Title IX prohibits discrimination based on sex, including harassment, domestic and dating violence, sexual assault, and stalking. Sexual violence undermines students' academic success. Anyone dealing with sexual misconduct should consider talking to someone about their experience, so he/she/they can get the support needed.

Confidential Resource:

- Center for Counseling and Psychological Services (C-CAPS) Campbell Hall, Room 205 (Main Level) **|** 973.596.3414

Non-Confidential Resources:

- NJIT Public Safety 973.596.3111
- Dean of Students Office, 255 Campus Center | 973.596.3466

Mental Health and Stress Management

Center for Counseling and Psychological Services (C-CAPS) is committed to advancing the mental health and wellbeing of its students. If you or someone you know is feeling overwhelmed, depressed, and/or in need of support, services are available.

https://www.njit.edu/counseling/gethelp

Diminished mental health, including significant stress, mood changes, excessive worry, or problems with eating and/or sleeping can interfere with optimal academic performance. The source of symptoms might be related to your course work; if so, please speak with me. However, problems with relationships, family worries, loss, or a personal struggle or crisis can also contribute to decreased academic performance. Please seek out help as needed.

Campbell Hall, Room 205 (Main Level) | 973.596.3414

Special Accommodations

If you have a disability or a personal circumstance that will affect your learning in this course, please let me know as soon as possible so that we can discuss the best ways to meet your needs. Any student who needs accommodation for disabilities should also contact the Office of Accessibility Resources and Services (OARS): https://www.njit.edu/studentsuccess/accessibility

Kupfrian Hall, Room 201973.596.5417 | oars@njit.edu

Religious/Cultural Observance

Students who have religious or cultural observances that coincide with this class should let me know by email within the first two weeks of class. I strongly encourage you to honor your cultural and religious holidays! However, if I do not hear from you within the first two weeks, I will assume that you plan to attend all class meetings.

Supporting Academic Integrity

Our community functions best when its members treat one another with honesty, fairness, respect, and trust. The college promotes the assumption of personal responsibility and integrity, and prohibits all forms of academic dishonesty and misconduct.

Issues of Concern (Non-Emergency)

Alert the Dean of Students Office (doss@njit.edu) about issues of concern, including academic and non-academic violations (https://www5.njit.edu/doss/reporting/).