

ENVIRONMENTAL BIOLOGY SYLLABUS
SYCAMORE HIGH SCHOOL
2019-2020 School Year

This syllabus is intended to provide a guide to class expectations and schedules. If necessary, the syllabus may be changed to accommodate the needs of the class. It is the responsibility of the student to be aware of and understand the requirements listed in this syllabus.

COURSE INFORMATION

Course Title:	Environmental Biology
Semesters:	2
Credit:	1
Level:	10, 11, 12
Time & Classroom:	*Wednesday & Friday, 7:10 - 8:00, Rm G208, Sycamore High School
Start Date:	June 17 (may change based on projects, opportunities, and other factors affecting class)
End Date:	April 15 (may change based on projects, opportunities, and other factors affecting class)
Instructor:	Scott Horlock M.S.
Office Location:	G208, Sycamore High School
Office Hours:	Mon. & Fri. 7:10 – 8:00, Tue. & Thur. 1:30 - 3:30 or by appointment.
Office Phone:	815-899-8160
E-mail Address:	shorlock@syc427.org
Google classroom:	z60ohn8

COURSE DESCRIPTION:

This class will provide students with a unique experience blending traditional class work with authentic research and online studies. Students will study issues in environmental science through the lens of a local watershed. Field techniques will be learned and practiced as students work closely with teachers from Sycamore High School and professional in evaluating the Kishwaukee River Watershed. Traditional environmental topics such as environmental systems and biodiversity, ethics and economics, environmental policy and sustainability, and soils and agriculture will form the backbone of this class with application of content within the community of Sycamore and Dekalb County.

Successful completion of this class will require the following criteria be met:

1. The watershed biology class is a blended class that requires approximately 120 hours of class time including summer field work evaluating chemical, biological, and physical aspects of the East Branch of the South Branch of the Kishwaukee River, field trips, online work, and traditional classroom work. Students will need to arrange for their own transportation to the field sites.
2. Personal research project
 - a. Identification of a research question.
 - b. Designing and performing the research necessary to answer the selected question.
 - c. Presentation of research at the NIU Undergraduate Research Symposium and/or other presentations to community stakeholders.
3. Students will keep a detailed field journal.
4. Students will create dichotomous keys for plants and aquatic insects
5. Students will be required to respond to an email or post on Google classroom within 24 hours when a response is asked for.
6. Participation in threaded discussions in Google classroom.
7. Completion of other required class work.
8. Attendance of up to four weekend field trips.

Prerequisite: Successful completion of biology or biology AB and completion of or concurrent enrollment in chemistry or permission from instructor..

SCIENCE DEPARTMENT CRITICAL OUTCOMES:

1. Students will recognize and investigate problems, and formulate and propose solutions supported by reason and evidence. (Cited from the ISBE State Standards)
2. Students will formulate hypotheses based on observations, and conduct controlled experiments to test the identified hypotheses.
3. Students will follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks. (Cited from the Literacy Core Standards)
4. Students will organize, analyze, and evaluate data.
5. Students will demonstrate an understanding of the relationship(s) between the structure of matter and its properties and functions.
6. Applying conservation laws, students will demonstrate an understanding of matter and energy transformations in various processes and cycles.
7. Students will relate how various forces drive natural processes.
8. Students will use existing organizational and classification systems to connect scientific facts and concepts.
9. Students will demonstrate an understanding of the relationships among science, technology, and society in historical and contemporary contexts. (Cited from the ISBE State Standards)

REQUIRED TEXTBOOK

None at this time

STUDENT MATERIALS / TECHNOLOGY

1. Textbook listed above
2. 2 notebooks (class notes/labs & a field notebook) and writing utensils
3. Calculator: a basic scientific calculator is all that is necessary; students will be required to use their own calculators on all tests and quizzes. Calculators on phones are not acceptable during tests and quizzes.
4. Access to the class website (listed above) and parent portal.
5. Flash drive (optional)
6. Colored pencils/markers (optional)

STUDENT EXPECTATIONS

1. Students are encouraged to use their cellphones in class when it is appropriate and when they have permission. Use of cell phones to text or call is not permitted.
2. Any use of a cell phone while a test or quiz is being given will result in a score of zero and there will not be an opportunity for a re-take.
3. Come to class with a positive attitude and always give your best effort.
4. Show respect for and be considerate of your classmates, yourself and your teachers
5. Come to class on time, be in your seat ready to go when the bell rings
6. Be prepared, come to class with the appropriate materials and assignments.
7. Follow directions
8. Use class/lab time appropriately.
9. Follow laboratory safety rules during lab time.
10. Clean up after yourself
11. If you do not understand something, please ask! Feel free to stop by my office or schedule an appointment.
12. Follow school rules as printed in the student handbook.
13. Unacceptable classroom learning behaviors can result in a "0" for the assignment, "F" for the course or administrative withdrawal from the course.

GRADING SYSTEM

- Field work, field trips, tests and related work: = 45% of grade
- Research project and related work: = 40% of grade
- Online discussions = 15% of grade
- *Late assignments will NOT be accepted.* Requests for exceptions to this policy need to be made *in advance* of an

assignment's due date. This includes assignments that are late due to sporting events and field trips!

Academic Dishonesty:

- Any student suspected of or found cheating on a test or quiz will receive a grade of “zero” on that test or quiz. Any students found copying labs, activities, projects, or homework will split the grade of the finished product. Plagiarism of professional journals or others work will not be tolerated. Continued infractions will result in administrative removal from class. Any use of a cell phone during class where a test or quiz is being given may be considered cheating due to the ability to text message, photograph, etc.

Grading Scale:

A+= 98-100	B+ = 87-89.9	C+ = 77-79.9	D+ = 67-69.9	Below 60% = F
A = 93-97.9	B = 86-83.9	C = 73-76.9	D = 63-66.9	
A- = 90-92.9	B- = 80-82.9	C- = 70-72.9	D- = 60-62.9	

- Grades are calculated and updated as frequently as possible.
- Current grades are posted on the parent portal. If you haven't signed up for an account got to www.syc427.org , click on the *Parent Portal* link, and follow the instructions. Students are encouraged to track their own progress on parent portal as well.
- Scores will not be rounded up (e.g. a 79.99 is a C+).
- Semester grades are calculated using the following formula...
1st /3rd quarter = 40% of the semester grade
2nd/4th quarter = 40% of the semester grade
Semester final = 20% of the semester grade

ABSENCE POLICY/MAKE-UP POLICY

- It is the responsibility of the student to meet with the teacher at an appropriate time (before or after school is recommended) to discuss work that needs to be made up due to an absence.
- A student will be given one day to make up missed assignments for each day of an *excused* absence. For example, if a student misses two days of school, that student will have two days after returning to school to make up missed assignments. *It is the student's responsibility to check with the instructor and make up any missed assignments, including labs, activities, tests and quizzes.*
- For a prearranged absence (field trips, in-school functions, vacations, college visits, AP exams, standardized testing, etc.) it is the student's responsibility to contact the teacher prior to the absence to determine what the student will be missing in class. All homework and other assignments must be completed in advance, unless otherwise arranged with the teacher. Failure to complete assignments in advance may result in loss of all credit for that work.
- Labs that are missed due to an excused absence must be made up within a week of returning to school.

TECHNOLOGY IN THE CLASSROOM

Technology in the classroom includes but is not limited to calculators, net books, lab computers, electronic probeware, audio/visual media equipment, CPS systems, ELMOs, etc. Students are expected to use this technology in an appropriate, safe, and responsible manner. Any student who fails to meet these expectations may lose the privilege of technology use and/or be charged for repair/replacement of the equipment.

INSTRUCTOR WEB PAGE

- The watershed class relies heavily on communicating through Google classroom and/or school email. Students will be notified of new opportunities and last minute changes to the schedule via Google classroom. Be sure that you have turned on notifications and check for updates frequently.
<https://classroom.google.com/u/0/c/MzQ4MTE1NjEzNDFa>

COURSE OUTLINE (Tentative schedule and syllabus may be modified as needed)

Field work (≈ 45% of grade)

- Collection of chemical, biological, and physical data at 10 different field sites once or twice each summer.
 - EBSB
 - Russell Woods
 - Union Ditch 1 - 3
 - Virgil Ditch 1 - 3
 - Sycamore Forest Preserve (2)
- Proper use of the processes and practices of data collection
- Assisting various agencies (e.g. Dekalb County Forest Preserve, Illinois Natural History Survey) with projects and data collection
- Assisting classmates with data collection for research projects
- Create two dichotomous keys, one for plants and one for aquatic insects
- Use a field notebook to document attendance and field work

Research (≈ 40% of grade)

- Design and implement personal research
 - Pose a question
 - Design a methodology for making observations and collecting data that will answer the question(s)
 - Act as a team leader, engaging classmates in the process of data collection
- Organize and analyze data using spreadsheets and statistics
- Conduct a search and review of current peer reviewed literature concerning the selected topic
- Write a literature review and scientific paper
- Create a poster explaining the research project
- Present the poster at NIU's University Research and Artistry Day
- Use a field notebook to document hours and observations

Online discussion boards (≈ 15% of grade)

- Complete assigned readings on time
- Actively participate in group discussion boards
 - Initial post(s) should be early enough to allow other members of the group to adequately respond and a true discussion to take place.
 - Responding posts should be carried on throughout the discussion, not one and done
 - Responses should move the discussion forward

Periodically meet during zero hour (≈ twice a month)

- Monitor research
- Introduce material
- Review content
- tests