

Biology, New School for the Arts and Academics Syllabus, 2019-2020

Instructor information

Alexander Mutsaers
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Office hours: Lunch (12.05-12.45) and after school Tuesday and Thursday by appointment

Room 4A

Website: <https://smutsaersnsaa.weebly.com>

Remind: @f33ek4f

Course description

This course covers life and its interactions with the nonliving environment from the scientific point of view. It is intended as a survey of both the principles of biology and the practice of science. This course will have particular emphasis on Ecology, although cover the breadth of the material over the year.

Prerequisites

An interest in life, science, and complex systemic interactions is valuable, but there are no formal prerequisites.

Course objectives

1. Explain the process of scientific inquiry.
2. Describe how the environment, working through natural selection, has produced the diversity of life found at present and in the fossil record.
3. Describe areas of genetics related to the environment, as well as the molecular basis of heredity.
4. Identify structure and function of atoms and molecules in organisms and ecosystems.
5. Describe populations and natural communities as units of structure and function.
6. Describe levels of organization and interactions within ecosystems.
7. Identify problems associated with direct landscape alteration by humans.
8. Identify problems associated with the pollution of the environment.
9. Describe consequences of uncontrolled-population growth.
10. Describe the role of energy in cellular growth, development, and repair
11. Compare the form and function of prokaryotic and eukaryotic cells and their cellular
12. Explain the importance of water to cells, life, and the water cycle.
13. Describe the conservation of matter and how it changes form through the carbon cycle,
14. Analyze mechanisms of transport of materials (e.g., water, ions, macromolecules) into and out of cells.
15. Describe the purposes and processes of cellular reproduction.
16. Analyze the relationships among various organisms and their environment.
17. Understand the scientific principles and processes involved in biological evolution of species.

Attendance

Prompt daily attendance is expected. All students must be seated in the classroom and prepared to learn when the class begins! Each tardy or unprepared class will cost the student academic points and negatively influence their grade. Additionally, if a student is aware of up-coming absences, it is their responsibility to inform the teacher before the absence(s) and arrange make-up or alternative work. **Any student who accumulates three or more tardies or unexcused absences in the same class in one month will be required to recover instructional minutes on the last Saturday of each month. Saturday attendance will be from 9 a.m. to 10:30 a.m. Failure to attend Saturday recovery hours may result in a schedule change.**

Non-Discrimination policy

NSAA provides an academic and social environment that is free from discrimination and harassment on the basis of race, color, national origin, religion, sex, gender, disability, sexual orientation, gender identity, or any other category protected by law. NSAA seeks to promote a safe environment in which community members are free to express themselves without fear of recrimination.

Accommodations

Students who have accommodation plans may see me privately, or meet with the Executive Dean to discuss them.

NSAA does not discriminate against, race, gender, religion or personal views.

Video and media sensitivity

This class uses short videos to reemphasize and reiterate lecture. Most of these videos, where copyright permissions allow, are available on the course website. We also have a small number of documentaries planned throughout the class. Reference material, which is available to students, is shared with the anatomy class and may have anatomical diagrams or images containing nudity in an anatomical context.

Remind

We will be using the Remind App for text messages in this class. Both parents and students will receive reminders for homework, assignment due dates, and tests or quizzes. Students or parents who do not want to participate must sign a waiver that they will not be participating in the Remind program. The Remind App is free and only requires a cell phone number. The remind App will replace the weekly email reminders that we have used in prior years.

Benchmark and AzMerit Testing

All Students will take Benchmark Tests in all NSAA courses: August 13-14, December 13 & 14, and May 16-17 and the AZMerit Exam (with the exception of seniors) sometime in April 2019. Part of the Benchmark Exam may be included in Semester Final Exams. Students must attend these days and will lose participation point for any absences. Test data is instrumental in being able to refine course work and effectively

plan for the future. Take note: This test data is often used for college entrance and scholarships; students should take the exams seriously and perform to their best ability.

School and Classroom Policies

Bathroom passes will be handed at the start of each quarter. Students will be given four passes, which they may use at any point in the quarter, however additional passes are not distributed. Unused passes may be returned at the end of quarter for 5 points extra credit. Students who need to use the restroom and lack a pass may lose some or all participation points for that day.

Complaints or concerns

Complaints or concerns regarding issues arising in class must be made in writing to be considered. Verbal complaints may not be addressed.

Classroom and lab rules

This course has a lab component and safety is the first priority. A close second is maintaining the classroom as a learning environment. Students are expected to follow instructions and safety procedures at all times, use good judgment, and behave in a careful and courteous manner at all times. Below are guidelines to help ensure everyone survives the class uninjured and knows more about biology at the end of the year.

1. The most important person to look out for your safety is you. If something feels unsafe or you're worried about something going wrong, let Mr. Mutsaers know. It is always okay to ask questions or ask for help on lab activities.
2. **"Practical Jokes," squirting water, joking around, or other horseplay are not permitted at any time.** This is one of the major causes of lab accidents in an educational setting, so consequences may be severe.
3. Do not taste, touch, or smell any lab substance unless specifically instructed to do so in the lab.
4. Students should be respectful of others, their work, and their space at all times. However students should be aware and alert to what others are doing, particularly in the lab.
4. Cell phones, computers, mp3 players, or other potentially distracting devices should be turned off during the class, unless given specific permission (eg during a reading activity, where music can help students concentrate).
5. Food is not permitted in the classroom, nor any beverage other than water. Students should not drink from their water bottles during lab activities.

6. If you or another student is cut, burned, or come into contact with a hazardous chemical during the course of a lab (or at any other time), report it to Mr. Mutsaers immediately.
7. Students should be respectful of others and their views during discussions, especially when those views are different from our own.
8. A student is always responsible for how they act, no matter how they feel.
9. Students should be active and engaged in learning, which includes asking questions, sharing ideas, and participating in discussions.
10. Students should get permission if they need to leave the classroom before the class is concluded.

Lab

This course has a lab component which is completed in class. It is mandatory that all students complete the lab component of the course. For any lab which the student doesn't feel comfortable or safe working through, an alternative activity is provided.

When undertaking a lab, be sure to read and understand the instructions fully before starting.

Honors credit

Honors credit is available to students who wish to go on an honors track. Students must submit a plan with Mr. Mutsaers for extra enrichment assignments and a research paper at the end of the year while maintaining at least 85% cumulative. See Mr. Mutsaers if this is an option you wish to explore.

Plagiarism and academic dishonesty

Students are expected to uphold the highest standards of academic practice in this class. Cheating includes talking when a test or quiz has been passed out, sharing answers, falsifying lab results or measurements, using a phone or other device during a test, or other attempts to circumvent the intent of the assessment. Plagiarism includes quoting material without attribution, using ideas from a source without attribution, falsifying a source or indicating a source says something it does not, or taking credit for something which is not yours. The first instance of academic dishonesty (including plagiarism) will result in a zero on that assignment, the second will result in a failing grade for the class. Students who receive a failing grade for this reason will not be transferred to another course.

Please note that copying from open source, public domain, or other licensed material (such as Wikipedia) is still plagiarism. Papers purchased, downloaded, written by any person other than the student, or otherwise "ghostwritten" are likewise considered

academic dishonesty. Solicitation to cheat or knowing participation in cheating is treated the same as cheating.

Grades and late policy

Grades for each semester are based on approximately 1000 total available points, of which 800 are earned during the semester, and the final 200 on the semester final.

Participation: 400 points, broken into four categories

Bellwork: 100 total points (5 points per week, regardless of the number of days)

Bellwork is done on a separate sheet that is to be turned in on the final day of every week

In class work: 300 total points (15 points per week, regardless of the number of days in the week.)

Homework: 10 points per assignment, approximately 200 points per semester

Quizzes and one paper: typically 200 total points (50 points per quiz or paper)

Semester final: 200 points

Attendance points may not be made up, except in cases of lengthy absences where alternative assignments are provided.

In class work, which includes lab activities, are difficult to make up. As such, most are given no grade (an “NG” grade, which does not count for or against the student) for excused absences, and a zero for unexcused absences. Activities which the student can not participate in due to safety or rule violations are also marked as zero. Lab/class notebook completion is also included in participation grades.

In class work is often done in collaboration with other students, however *each student must complete their lab or assignment independently.*

Homework assignments are required to be completed by the due date. Exceptions can be made, but students who are missing assignments should discuss the matter with Mr. Mutsaers. As the name suggests, most homework assignments are to be completed at home. However some assignments may have portions completed in class, depending on the specific instructions.

Collaboration and discussion on homework assignments is encouraged but answers *must be independently written.* Identically or similarly worded answers will be considered cheating.

Quizzes are required of every student, and are generally completed in class. Missed quizzes must be taken during office hours. All quizzes are open note.

The semester final is open book and open note. The second semester final does not cover material from the first semester directly, but may rely on understanding gained in the first semester.

Textbook

There is no single textbook we use for the course. Most readings are given from Concepts of Biology, an open source textbook from the OpenStax collaboration at Rice University. It is available on the course website.

Extended absences

Arrangements should be made with Mr. Mutsaers for alternative teaching and assessments to be provided in the case of extended absences.

General expectations

Students are expected to arrive to class on time, be active and alert throughout the class. All work handed in should be neat, grammatically correct, and spelled correctly. Spelling and grammar do matter, and points may be deducted if high school appropriate standards are not met.

NSAA Cell Phone Policy

NSAA will institute a school-wide cell phone policy for the 2019-20 school year. All cell phones will be collected in a phone caddy or cell phone center at the beginning of each class. Students will have full access to their phones before and after school, at lunch, and during class passing periods. Phones will not be accessible during bathroom breaks. Limited cell phone usage in class will be allowed per teacher discretion for instructional purposes. Teachers and administrators will have complete discretion to deal with cell phone “emergencies” on a case by case basis.

No photos, video, or audio recordings may be taken in class without written approval from both Katy Cardenas and the instructor.

Tigers

This class touches on topics about which people may have strong opinions. This is a really good thing. Strong opinions are what make discussions interesting and fun, in the same way that tigers make a zoo fun and interesting. However zoos make great efforts to keep the tigers from wandering around eating people, everyone in the class must make an effort to ensure we are respectful of others in (and out of) class.

(Adapted from the Essay "Beware of the Tigers," <http://en.wikipedia.org/wiki/WP:TIGER>)

Safety agreement

I _____ agree to conduct myself in a safe manner in class. This includes

1. Following the rules set out in the syllabus and in class
2. Following the instructions given in class
3. Paying attention to potentially unsafe situations and respond appropriately
4. Report spills, broken glass, or other hazardous situations to the instructor
5. Reporting injuries to the instructor
6. Using gloves and goggles as instructed
7. Actively work to keep yourself safe in lab.

I understand that failure to conduct myself in a safe manner will result in restrictions on participation in labs in the remainder of the class.

Student signature

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Please initial below to indicate your understanding of the cell phone policy.

Student

Parent/Guardian

Social Contract – Due Wednesday, August 14

The undersigned states that he/she has read and understands the syllabus and course policies as well as the NSAA Student Handbook and parent/student compact and agrees to abide by the rules and policies set forth in these documents.

Student Name

Student Signature

Parents must also sign the bottom of this page attesting that they have read and understood the policies and expectations of this course.

Parent Name (Printed)

Parent Signature