

Technology inspired by nature Bio 105

Course Information (blackboard.syr.edu)

Class schedule: Mon & Wed 2:15 – 3:35, Life Sciences Room 001

Instructor: Dr. David Althoff
Office: LSC 440
Phone: 443-1096
e-mail: dmalthof@syr.edu

Office hours: W 4 - 5 or by appt.

Prerequisites: an open mind and willingness to learn

Final Exam: Wednesday, December 8, in class.

Learning outcomes:

Once students have successfully completed this course they will be better able to: (1) recognize biological processes important in generating biodiversity, (2) describe the scientific method, (3) illustrate the importance of biology to human society, and (4) foster the development of technology based on the natural world.

General Approach:

Class will be primarily composed of lectures, short videos, and demonstrations of the material when possible. There may be some small group discussions and problem solving exercises in class.

Textbooks and supplies: There is no textbook. All necessary information will be presented during lecture.

Class Policies:

Attendance is very strongly recommended. Please arrive to class on time. Refrain from using cell phones and computers during lectures as it can be very disruptive to other students. Participation is actively encouraged. This course is for your benefit, so please ask questions and be engaged. Students are encouraged to have a doubtful mind and evaluate the presented material.

Assignments and Grading:

Students will be evaluated via 3 exams and one final exam. The exams will consist of 50 multiple choice questions concerning material covered in lecture. Each exam will be

worth 100 points. Your final grade will be based on the performance of your 3 best exams. That is, you can drop your lowest exam score. If you are satisfied with your performance for the first three exams, you can choose not to take the last exam.

Medical and Personal Emergencies: I am always willing to work with a student if she/he has a medical or personal emergency.

Unforeseen events always happen and they seem to be concentrated around exam times. If you have to miss an exam (**for whatever reason**), you will receive a 0 and that will be considered your exam drop.

In instances when a person has to miss another exam time **MAKE-UP EXAMS WILL BE LONG ESSAY FORMAT** and must be completed within one week of the original exam date. It is **your responsibility** to make arrangements with me. I will also need documentation for the reason you missed the exam.

Academic Integrity

The Syracuse University Academic Integrity Policy holds students accountable for the integrity of the work they submit. Students should be familiar with the Policy and know that it is their responsibility to learn about instructor and general academic expectations with regard to proper citation of sources in written work. The policy also governs the integrity of work submitted in exams and assignments as well as the veracity of signatures on attendance sheets and other verifications of participation in class activities. Serious sanctions can result from academic dishonesty of any sort. For more information and the complete policy, see <http://academicintegrity.syr.edu>

Academic Accommodations

Students who may need academic accommodations due to a disability are encouraged to discuss their needs with the instructor at the beginning of the semester. In order to obtain authorized accommodations, students should be registered with the Office of Disability Services (ODS), 804 University Avenue, Room 309, 315-443-4498 and have an updated accommodation letter for the instructor. Accommodations and related support services such as exam administration are not provided retroactively and must be requested in advance."

For more information about services and policy, see [Office of Disability Services](#)

Getting help

Write down a concept you didn't understand and hand it to me at the end of each lecture or e-mail me later. I'll answer it and review in the next class.

Compare notes and study with someone else in the class.

Stop by my office hours or set up a time to talk with me.

BIO 105 COURSE SCHEDULE (subject to change)

Date	Lecture topic	Major topic
30-Aug	Intro / Principles of Biology	
1-Sep	Burdock & Velcro	
6-Sep	No Class— <i>Labor Day</i>	
8-Sep	Geckos	Manufacturing
13-Sep	Clamming up	
15-Sep	Spider silk	&
20-Sep	Keeping Clean	
22-Sep	Exam 1	Biomaterials
27-Sep	Nature's chemical defenses	
29-Sep	Nature's chemical defenses 2	
4-Oct	Solar Power	
6-Oct	Termites & Architecture	
11-Oct	Biofuel	Energy
13-Oct	Flight	
18-Oct	Flight2	&
20-Oct	Exam 2	
25-Oct	Swimming	Transportation
27-Oct	Sonar	
1-Nov	Biocomputing	
3-Nov	Robotics -1	
8-Nov	Robotics-2	
10-Nov	Swarm Intelligence	Computing & Bioinformatics
15-Nov	Exam 3	
17-Nov	Insect Societies	
22-Nov	Ant agriculture	
24-Nov	No Class--Thanksgiving	Agriculture
29-Nov	Perennial crop plants	&
1-Dec	Industrial Ecology	Business
6-Dec	The biomimetic future	
8-Dec	Exam 4	

Grading Scale

100 – 95	A
94 – 90	A-
89 – 86	B+
85 – 83	B
82 – 80	B-
79 – 76	C+
75 – 73	C
72 – 70	C-
69 – 66	D+
65 – 60	D
59 --	F

Extra Credit: During each lecture I will present a picture of an unusual organism and describe some facts about its life. During each exam, you can gain 4 exam points by identifying the organism from a picture and writing down an interesting fact.