

Biology 102: The Biological World

Weekend College Fall 2008

INSTRUCTOR

Brian Corner

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Office Hours: 11.30am—1.30pm Sundays, after labs, by appointment, or just stop by.

Important Note: BIO102 will be held EVERY weekend during fall semester (except Thanksgiving), not just “WEC weekends”. This is to accommodate the large amount of content demanded by a survey-level biology class.

CLASS TIMES

Please refer to Records & Registration on the Inside Augsburg page (<http://augnet.augsburg.edu>) for the latest information on room assignments for your classes.

Lecture Fri 6.30pm—9.30pm Science 205

Lab Sun 1.15pm—4.45pm Science 214

Please note: All students taking BIO102 must register for BOTH lecture and lab sections.

COURSE OBJECTIVES

The course satisfies the natural world perspective and critical thinking skills requirements for graduation. A survey of the biological world is made as we follow the content of the text chapters. Concepts are emphasized, rather than rote memorization. However, it is impossible to avoid introducing significant amounts of new terminology. Mastery of this new language will enable the biological world to become more accessible, and will heighten appreciation and stewardship of our biological heritage. Current topics and issues in biology will be liberally incorporated into the lectures, particularly as they relate to course concepts. Classroom and laboratory time will be used for discussion of topics to foster critical thinking skills.

TEXTS

Life on Earth, 5th edition, Audesirk T., Audesirk G. and Byers B.E. (2009)

The Future of Life E.O. Wilson (2001). **Please read at least Chapter 1 before the first class!**

Laboratory handouts will be posted to Moodle, and are to be printed, and brought to the laboratory. Lecture outlines (powerpoints) will be made available on Moodle, but personal note-taking is strongly encouraged.

FORMAT

Most materials will be presented in lectures, with outlines and visual aids in PowerPoint or html, augmented with videos and class discussions. General lecture material will be from the text, supplemented regularly with discussion of current events from various media. Lecture outlines, corresponding to the PowerPoint outlines will be posted to Moodle, and may be printed by students and used as a guide during lectures, and to review for exams. Students will each be asked to make a short presentation and help lead a discussion on a biology-related topic of their choice, to be scheduled throughout the semester. Laboratory exercises are selected to illustrate key biological concepts covered in class. A field trip will be conducted during the semester.

Testing will consist of 3 tests during the semester, plus a final exam. Additional small tests may be scheduled as needed. The final exam will be non-comprehensive for lecture and comprehensive for the laboratory. Tests will consist of short answer questions together with multiple-choice questions. The mix is anticipated to be about 60% multiple choice and 40% discussion and short answer items. Students who miss an exam due to extreme hardship (e.g. in cases of illness or bereavement, as supported with documentation) may be offered an opportunity to make up exams, at the discretion of the instructor.

GRADING CRITERIA

Grades will be awarded based upon accumulated points in categories listed in the table below, with the possible inclusion of other minor categories. A grade of 2.0 requires that at least 60% of available course

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points be obtained, or that total points be within one standard deviation of the mean. A grade of 4.0 requires at least 92% of available course points, and/or one standard deviation above the mean.

<u>Component</u>	<u>Approximate points</u>	<u>Approximate % of grade</u>
Tests	300	30
Lab* reports and problem sheets	200	20
Final exams	200	20
Attendance and participation	200	20
Individual presentation	100	10
Total	1000	100

- Lab attendance is required. One missed lab will reduce the final grade by 0.5, two missed labs will reduce the final grade by 1.0 and more than 2 missed labs results in a grade of 0.

Provisional Schedule

Week	Dates	Lecture	Topics	Readings	Lab
1	9/5—9/7	What is life?	Class logistics, introduction to biology	Ch1	Campus Nature Walk
2	9/12—9/14	What are the non-living building blocks of life?	Basics of chemistry and biochemistry	Ch2, 3	Scientific Method (Daphnia)
3	9/19—9/21	What are the living building blocks of life?	Cells	Ch4	Biomolecular models
4	9/26—9/28	Test 1 (Lectures 1-3)			To be advised
5	10/3—10/5	Why aren't you (and the rest of the planet) dead?	Energy, photosynthesis	Ch5, 6	Membranes and Osmosis
6	10/10—10/12	What made my hamburger disappear, and where did it go?	Glycolysis and respiration; cell division	Ch7, 8	Energy: respiration and photosynthesis
7	10/17—10/19	Test 2 (Lectures 4—6); Why do I look like this?	Genetics	Ch9	FIELD TRIP: Como Zoo and Conservatory
8	10/24—10/26	Why don't we all look alike, even though we all look human?	Genetics, DNA structure and function	Ch10, 11	Genetics
9	10/31—11/2	What's a jellyfish gene doing inside a rabbit? Halloween Special!	Gene expression, biotechnology	Ch12	DNA isolation, PCR
10	11/7—11/9	Test 3 (Lectures 7—9); What good are wisdom teeth?	Evolution	Ch13, 14	Gel electrophoresis; Playing God video
11	11/14—11/16	How do all the pieces work together?	Physiology	Ch19, 21	Food and nutrition
12	11/21—11/23	Why can't we all just get along?	Ecology	Ch27, 28, 29	Population crisis, Future of Life
13	11/28—11/30	THANKSGIVING—NO CLASS			THANKSGIVING—NO CLASS
14	12/5	Final Exam (Lectures 10--12 and Labs 1--12)			