Biology 1101: Introductory Biology (4 sem hrs)
Fall Semester, 2012

Lecture: TR, 9:35-10:55pm, Independence Hall 001

Lecturers: Dr. Sherwood Forest, Department of Biochemistry
forest.123@osu, 292-1234
Office Hours: Fridays, 2:30-4:30pm, Riffe Bldg 231

Course Coordinator: Ms. Bea Keaper, Center for Life Sciences Education
keaper.19@osu.edu, 688-4321

Head TA: Mr. Mark Descardes, Ohio State Biochemistry Program
descardes.1@osu.edu, 292-9876
Office Hours: T & R, 8:30-9:30am, Jennings Hall 247

Prerequisite: None

Textbook: Recommended: *What Is Life?*, 1st Ed., Jay Phelan, ISBN: 1429246669
Lab Manual: Required: Biology 1101 Laboratory Manual, 2012-2013, ISBN: 978-65-4321-0

GEC Goals & Objectives: Courses in the Natural Sciences foster an understanding of the principles, theories and methods of modern science, the relationship between science and technology and the effects of science and technology on the environment.

Learning Objectives:

1. Students understand the basic facts, principles, theories and methods of modern science.
2. Students learn key events in the history of science.
3. Students provide examples of the inter-dependence of scientific and technological developments.
4. Students discuss social and philosophical implications of scientific discoveries and understand the potential of science and technology to address problems of the contemporary world.

How students meet the GEC objectives through this course: In Biology 101, non-major Biology students meet the GEC Natural Science Learning Objectives in multiple ways. Students gain an understanding of the foundations of modern biology by studying organismal diversity, evolution, ecology, energetics, genetics, reproduction, and cell structure and function. The students will perform inquiry-based laboratory activities that provide insight into scientific methods and habits of mind. Lectures and labs will include references to the development of scientific concepts to help students understand the history and nature of science. The interactions among science, technology, and society are interwoven throughout the course, and assignments give students opportunities to personally consider the interactions. Biology 101 is designed to help prepare students to make intelligent, informed decisions on the biological and technological decisions that they will face in life.

- Students will recall current and historical aspects of energetics, genetics, evolution, and ecology.
- Students will describe biological processes related to energetics, genetics, evolution, and ecology.
- Students will analyze the current and future significance of energetics, genetics, evolution, and ecology on society.

- Students will apply skills that demonstrate their scientific literacy by communicating about the content and validity of articles related to science in the popular press.
- Students will value the study of biology.
- Students will demonstrate an understanding of the nature of science. This includes (1) the way that scientist develop and evaluate explanations of natural phenomena using criteria fundamental to scientific inquiry and (2) the understanding that science is a human endeavor.
- Students will work productively and effectively in a group.

Evaluation

There will be two lecture midterms (worth 150 points each) and a lecture final exam (worth 200 points). The questions will be in a multiple choice format. You will be responsible for material presented in lecture, the lab activities, and in the reading assignments. The final will be comprehensive with emphasis on the material after the 2nd midterm.

The laboratory will have a cumulative exam worth 40 points and 14 lab exercises worth 20 points each (320 points total). Your TA will assign 30 points at their individual discretion based on participation and assignments in lab. The course point breakdown is as follows:

Lecture midterms/Final	500 pts
Evolution Paper	80 pts
Lab Exercises	280 pts
Lab Exam	40 pts
Current Events	20 pts
Lecture Participation	50 pts
TA Points	30 pts
TOTAL	**1000 pts**

Final Grades:
Your final grade will be based on the percentage of the 1000 points that you earn during the course of the quarter, as indicated below. Please note that we do not grade the course on a curve and *Carmen* does not round averages up to the next nearest percentage point, so 92.11% and 92.97% both earn the grade of A-.

93-100%:	A	80-82.9%:	B-	67-69.9%:	D+
90-92.9%:	A-	77-79.9%:	C+	60-66.9%:	D
87-89.9%:	B+	73-76.9%:	C	≤59.9%:	E
83-86.9%:	B	70-72.9%:	C-		

Course Policies

Absences:
If you are too ill to take the final exam or complete a quiz or assignment, please contact the course coordinator within 24 hours of the class period in which the exam was taken. You must be seen by and receive written documentation from a professional health care practitioner on the day (or period) of the exam in order for a make up to be given. Persons arriving late for the final exam will not be offered an exam after the first person has finished. Other serious personal problems will be considered, in advance, but on an individual basis. In all instances, documentation supporting the excused absence will be required. Lack of transportation, loss of electricity, travel plans, etc. will not be considered as valid excuses and you will receive a "0". Make ups for missed exams and quizzes may be in a different format than the scheduled exam or quiz.

Note: Check the date and time of the final examination now and make sure that this time does not conflict with your future plans. No early final exams will be given.

Students must contact their laboratory TA **within two days** of the original missed lab date. There is no opportunity for a make-up assignment if a student contacts his/her TA on the third day or later. In order to establish that the student was prevented from attending lab for a valid reason, some form of written verification acceptable to the Center for Life Sciences Education is required. Students will not receive credit for attending any lab section other than their regularly scheduled section.

LATE ASSIGNMENTS POLICY: Late assignments turned in within 24 hours after the due date is worth a maximum of half credit. Any assignment turned in past the 24-hour deadline is worth no credit. If possible, students should deliver late assignments directly to their TA in person. If that's not possible, students may deliver late papers to their TA's mailbox in the CLSE TA mailroom (Jennings 247), but students must stamp the papers with the day and times received and log it in as per posted instructions. A date stamp machine is available across from the TA mailboxes. Dropboxes are available on Carmen. Do not email assignments to your TA. ***This policy will be enforced so that all students in the course are treated equally.***

CLSE Policies

Laboratory Attendance: The laboratory portion of this course is an integral part of the learning experience; missing three or more labs will result in the student being automatically assigned a failing grade for the course.

Problem Solving Pathway: The CLSE believes that student concerns are usually most effectively addressed at the lowest possible level within the organization. Therefore, students are ordinarily expected to address issues or concerns with their TAs first. If the issue cannot be resolved by your TA, or for some reason you feel that you absolutely cannot address your concern with your TA, please feel free to contact your Course Coordinator (listed on the syllabus) or Assistant Director Matt Misicka.

Course Management System: This course uses CARMEN (http://carmen.osu.edu) as its tool to manage grades and communicate timely information to our students. It is expected that all students will check this site frequently for schedule changes, assignment guidelines, and other information. If you are unfamiliar with CARMEN, instructions are available at the Center for Life Sciences Education office (260 Jennings Hall). Additionally, your teaching assistant can help you activate your account if you are unfamiliar with this software.

Section Changes/Adds: All section changes and adds that cannot be accomplished by the student through Buckeye Link or requiring signatures must be done through the Course Coordinator.

Grade Inquiries: All grades will be posted on Carmen; you will have 10 working days to challenge any grade or inquire regarding any unposted grade; after that time, grades are final. To challenge or inquire about quiz or exam grades contact your Course Coordinator to set up an appointment.

University Policies

Students With Disabilities: Any student who feels s/he may need an accommodation based on the impact of a disability should contact the Course Coordinator privately to discuss your specific needs within the first two weeks of class.

Academic Misconduct: Examples of academic misconduct include (but are not limited to) plagiarism, collusion (unauthorized collaboration), copying the work of another student, and possession of unauthorized materials during an examination. Ignorance of the University's *Code of Student Conduct* (Section 3335-23-04) is never considered an "excuse" for academic misconduct. Faculty, staff, and TAs employed by the CLSE are obligated by University Rules to report suspicions of Academic Misconduct to the Committee on Academic Misconduct.

Sexual Harassment: While all members of the staff involved in this course have been trained in the OSU sexual harassment policies and procedures, this is not true for all OSU students. Please report any concerns about questionable or unwanted behavior that has the purpose or effect of unreasonably interfering with an individual's work or academic performance or creating an intimidating, hostile, or offensive environment for working, learning, or living on campus, to your course coordinator.

Student Safety Services: To promote safety on campus, transportation across campus is offered by the OSU Department of Public Safety. Service is available between 7:30pm and 2:40am. Call 292-3322 to schedule a pick-up. You must provide at least one hour notice (http://www.ps.ohio-state.edu/sss/escort_info/).

Errors & Omissions: While every effort has been made to insure the validity and correctness of the information presented in this syllabus, any mistakes or clerical errors that are discovered will be corrected and communicated through subsequent editions as necessary.

A Word About Conduct in Large Classes

This is a large class, but you are not a small part of it! To make our time together as valuable as possible, we all have to work hard at it. The following basic principles may give us some guidelines:

Every student has the right to learn as well as the *responsibility* not to deprive others of their right to learn.

Every student is accountable for his or her actions.

In order for you to get the most out of this class, please consider the following:

a. Attend all scheduled classes and arrive on time. Late arrivals and early departures are very disruptive. If you must be late or need to leave early, please sit in the balcony.
b. Please do not schedule other engagements during either lecture or recitation. You probably wouldn't like it if we did! We will try to make class as interesting and informative as possible, but we can't learn the material for you.
c. If you have trouble hearing the material presented in the lecture because of distractions around you, quietly ask those responsible for the distraction to stop. If the distraction continues please let us know. It is often impossible to hear such things from our position in the classroom.

(Brinko, K.T. and Menges, R.J., (Eds.)(1997). Practically speaking: A Sourcebook for Instructional Consultants in Higher Education. Stillwater, OK: New Forums Press Inc.)

If you have any questions about any of the above policies please contact the Course Coordinator.

Lecture, Lab, and Reading Schedule

Week	Class	Date	Topic	Lab Exercise (R => W)
1	1	Aug. 23	Nature of Science	Ex. 2: How Does Science Work?
2	2	Aug. 28	Properties of Life	
	3	Aug. 30	Chemistry of Life	Ex. 12: What are the macromolecules we eat for dinner?
3	4	Sept. 4	Macromolecules	
	5	Sept. 6	Macromolecules	Ex. 10: How do molecules move in and out of cells?
4	6	Sept 11	DNA	
	7	Sept. 13	DNA	Ex. 7: What is the structure of DNA and how does it replicate?
5	8	Sept. 18	Transcription & Translation	
	9	Sept. 20	**EXAM 1**	Ex. 8: How do you get from a gene to a protein?
6	10	Sept. 25	Mitosis	
	11	Sept. 27	Meiosis	Ex. 6: How do organisms grow?
7	12	Oct. 2	Cancer	
	13	Oct. 4	Cancer	Ex. 9: How are human genetic traits inherited?
8	14	Oct. 9	Mendelian Genetics	
	15	Oct. 11	Genetics of Disease	Ex. 1: How do we categorize living things?
9	16	Oct. 16	Biotechnology	
	17	Oct. 18	Biotechnology	Ex. 16: Where do biofuels come from?
10	18	Oct. 23	**EXAM 2**	
	19	Oct. 25	Photosynthesis	Ex. 11: How do plants and yeast function?
11	20	Oct. 30	Cellular Respiration	
	21	Nov. 1	Diversity of Life	Ex. 14: How do we define the diversity of plants?
12	22	Nov. 6	Diversity of Life	
	23	Nov. 8	Ecology	Ex. 15: What is the circle of life?
13	24	Nov. 13	Ecology	
	25	Nov. 15	Ecological Impacts	Ex. 3: How does the environment select for the characteristics of organisms?
14	26	Nov. 20	Natural Selection	
	27	Nov. 22	NO CLASS: **Thanksgiving Holiday**	Ex. 17: How does mutation lead to new species?
15	28	Nov. 27	Evidence for Evolution	
	29	Nov. 29	Speciation	Lab Exam / Recitations
16	30	Dec. 4	Sexual Selection	
17		**Dec. 6**	**Final Exam**	