PRINCIPLES OF BIOLOGY
BIOL100
Fall 2012

GENERAL INFORMATION:

Instructor: Dr. Heather B. Felise

Classrooms: Lecture – Priscilla Payne Hurd Academic Complex Room 102
Lab – Collier Hall of Science Room 300
Time: Lecture - MWF 8:55am – 9:45 am
Lab – T 12:45 – 3:45pm (section LA) ***OR*** R 12:45 – 3:45pm (section LB)

Office: Collier Hall of Science Room 323
Office Hours: Tuesday 9-10am; Thursday 10-11am; and Friday 1-3 pm
Phone: 610-861-1428
Email: feliseh@moravian.edu

Required Textbook: *What is Life? A Guide to Biology*, by Jay Phelan, W.H. Freeman and Company, 2013. Second Edition. Registration and access to this course within the online BioPortal associated with your textbook is required. If you purchased your textbook through the Moravian College Bookstore your access card is bundled with your textbook.

To sign up for this course on the BioPortal:

1. Go to http://courses.bfwpub.com/phelan2e.php (Mac users need to use Firefox).
2. Click on the link "REGISTER AN ACTIVATION CODE."
3. You will be prompted to follow the on-screen instructions to find this course. Start by selecting the school's state/province, the school name, then instructor, course, and/or section.
4. Enter the activation code that came with your textbook. You will also be asked to enter your email address, choose a password and then you are ready to go!
5. Your can also purchase access on the website by clicking on the "PURCHASE" link.

COURSE DESCRIPTION: This course will provide an introduction to a broad range of topics in the biological sciences, including biomolecules, metabolism, genetics, evolution, molecular biology, evolution, biodiversity and ecology. But overall, I hope this course will instill a lifelong enthusiasm for science and a solid base of knowledge for application beyond the classroom in the years ahead.

COURSE OJECTIVES:
By the end of this course students will have:

- a knowledge and ability to apply the scientific process
- the ability to objectively analyze and interpret data
- the confidence to independently evaluate scientific claims made by others and/or society
- the means to recognize pseudoscience and anecdotal observations
- an appreciation of how science changes and will continue to change in the future

LECTURE:

Attendance and participation: It is my experience that those students who do not show up for class, do not perform well in class. Therefore to further encourage you to attend class; you will receive 2 points for each lecture you attend. You will not receive your points if you arrive late to class.

Lecture Exams: There will be five exams, each worth 75 points, given during the designated lecture sessions (Please see the attached course schedule). The 5th exam will be given during the final exam period, but it ***will not be cumulative***. In the event of special needs (such as medical excuse or family emergency) make-up exams will be given, but arrangements must be made ***in advance*** and ***documentation for the absence, e.g. a doctor's note, is required***. If there is an emergency please contact me ASAP. ***Make-up exams may be oral*** and will be given at a time I deem appropriate.

Online Quizzes: There will be ten online chapter quizzes assigned through BioPortal. The due dates for these quizzes will be announced in class and posted on the BioPortal. The quizzes will consist of 10 multiple-choice questions and you will have 10 minutes to complete the quiz. ***These quizzes are to be taken independently.*** If a significant discrepancy is observed between quiz and text grades, e.g. high quiz grades and low test grades, you may be asked to take written quizzes in my office.

Active Learning Exercises: In this class I will be using a variety of teaching strategies, including both traditional lecture and active learning pedagogies. Therefore some of these activities will require active involvement on your part. It is my hope that you find these approaches interesting and engaging and that they enable you to be more successful in this course. Active learning techniques that will be used in this course include the following:

> *Clicker Questions* – Multiple-choice questions will be embedded within lectures to provide an opportunity for students to test their newly acquired knowledge as well as allowing me to gauge student comprehension and to adjust the remainder of the lecture accordingly.
>
> *Think, Pair, Share* – In this approach students think about a question, then share it with one or two other students. Often this will be followed by a class debrief of responses.
>
> *Brainstorming* – Class discussion to generate ideas about a topic. Responses will be recorded on the blackboard.
>
> *Small Group Problem Based Activities* – Students will work together in a small group setting to investigate a scenario or solve a problem provided by the instructor.
>
> *Reading Reflections* – One page summary of a scientific news stories. These will also include student's personal opinions or reflections of the article.

LABORATORY:

General: Student's will typically work in groups of four on the laboratory exercises and then submit a single group report. All students in the group will need to sign the group report. Students may choose their own groups. But if a group is disruptive and/or is not actively participating in the experiment, the instructor reserves the right to assign groups. There is no laboratory manual for the course. ***Laboratory exercises will be posted in advance on Blackboard and students are expected to print, read and bring these exercises with them to lab.*** This does not include the lab exercise for the first week of class.

There is to be NO food, drink or use of cell phones in the lab!

***Attendance*:** Each student is required to attend lab and take an active role in performing the exercises offered. In order to meet this requirement it is necessary that you arrive for lab on time and remain engaged in the work until the scheduled lab period ends. If you arrive late, leave early, or appear disengaged from the effort of the group it is customary to reduce the student's score on that exercise relative to that received by other members of the group. The amount of this reduction is at the discretion of the instructor and will depend upon the degree to which the student's absence or lack of engagement impacted the work of the group.

Please let me know ***in advance*** if you will miss lab due to a field trip, sporting event or other school-related function. In the event of an unforeseen circumstance, such as an illness, make-up labs will be offered, but ***documentation for the absence, e.g. a doctor's note is required***. Students who miss lab will be expected to make-up the work within one week of the students return to class or they will receive a zero for the missed exercise.

Laboratory notebook*:** Students are required to bring a bound notebook to lab. This will be maintained throughout the course and ***may be used when taking the laboratory final exam. In your notebook you should record the title and date of the experiment, purpose of the experiment and your data from the experiment. ***Lab notebooks will be turned in on December 3rd and will be graded***. Your notebooks will be returned during the final examination period for use with your laboratory final exam. There should be no loose pages in your notebook, all pages should be bound and or taped into your notebook.

***Lab reports*:** The content and nature of the lab report will be dictated and outlined in the laboratory exercise. But in general the following guidelines should be followed:

- Include the date, title and names of students in the group on the first page.
- Every student must sign the report indicating they are satisfied with the contents.
- Use "we" not "I" in your group report.

GRADING: The final grade in the course will be based upon the following items:

LECTURE: (65% of Final Grade)

➢ Lecture Mid-term Exams 1-4 (4 x 75 points each)	300 pts.
➢ Lecture Final Exam (not cumulative)	75 pts.
➢ Chapter Quizzes	100 pts.
➢ Class Attendance	70 pts.
➢ Active Learning Exercises	100 pts.

LABORATORY: (35 % of Final Grade)

➢ Laboratory Reports	240 pts.
➢ Laboratory Notebook	50 pts.
➢ Laboratory Final Exam	50 pts.

BLACKBOARD: All information, including announcements, lecture slides, study guides, and grades for this course will be posted on Blackboard. You must register for this course on Blackboard during first week of class. Your opportunity to register will ***expire*** on Wednesday, September 5th. For instructions visit the following website: http://home.moravian.edu/public/cit/help/blackboard/bbstudent.asp. The

course ID is BIOL100AB.FA12 and the enrollment code is “biology”. ***When registering, please use the email account where you would like to receive course notifications***.

CLASS POLICIES:

Cell phones: Turn all cell phones OFF before class! No calls or texting during class. If you are observed texting during class you will be asked to leave the classroom. If this occurs, you will not receive your points for attendance.

***Academic Integrity*:** I expect all class members to adhere to the Moravian College policy on academic honesty (please see **Student Handbook**). If dishonesty is observed on a student’s exam, a course grade of an F will be assigned and the individual will not be allowed to withdrawal from the course. If dishonesty is observed on an assignment the student will receive a zero for that assignment.

***Disability Support*:** Students who wish to request accommodations in this class for a disability should contact Elaine Mara, Assistant Director of Learning Services for Disability Support at 1307 Main Street or by calling 610-861-1510. Accommodations cannot be provided until authorization is received from the Academic Support Center.

BIO100 FALL 2012 TENATIVE LECTURE SCHEDULE

DATE	DAY	Lecture Topic	Background Reading
8/27	M	What is Science?	Chapter 1
8/29	W	Scientific Thinking	Chapter 1
8/31	F	Chemistry	Chapter 2
9/3	**M**	**NO LECTURE**	
9/5	W	Biomolecules	Chapter 2
9/7	F	What is a Cell?	Chapter 3
9/10	M	Cell Membranes	Chapter 3
9/12	W	Cell Structure	Chapter 3
9/14	**F**	**EXAM I**	**Chapters 1-3**
9/17	M	Introduction to Energy	Chapter 4
9/19	W	Photosynthesis	Chapter 4
9/21	F	Cellular Respiration	Chapter 4
9/24	M	Cellular Respiration	Chapter 4
9/26	W	DNA: What is it and what does it do?	Chapter 5
9/28	**F**	**NO LECTURE**	
10/1	M	Gene Expression	Chapter 5
10/3	W	Biotechnology	Chapter 5
10/5	**F**	**EXAM II**	**Chapters 4 & 5**
10/8	**M**	**NO LECTURE (Fall Recess)**	
10/10	W	Cell Division	Chapter 6
10/12	F	Mitosis	Chapter 6
10/15	M	Meiosis	Chapter 6
10/17	W	Meiosis	Chapter 6
10/19	F	Mendelian Inheritance	Chapter 7
10/22	M	Mendelian Inheritance	Chapter 7
10/24	W	Translation of Genotypes	Chapter 7
10/26	**F**	**EXAM III**	**Chapters 6 & 7**
10/29	M	Darwin's Dangerous Idea	Chapter 8
10/31	W	Mechanisms of Evolution	Chapter 8
11/2	F	Adaptation and Natural Selection	Chapter 8
11/5	M	Evidence for Evolution	Chapter 8
11/7	W	The Origin and Diversification of Life	Chapter 10
11/9	F	The Origin and Diversification of Life	Chapter 10
11/12	**M**	**EXAM IV**	**Chapters 8 & 10**
11/14	W	Animal Diversification - Vertebrates	Chapter 11
11/16	F	Animal Diversification - Invertebrates	Chapter 11
11/19	M	Plant Diversification	Chapter 12
11/21-11/23	**W, F**	**NO LECTURES (Thanksgiving Recess)**	
11/26	M	Plant Diversification - Flowering Plants	Chapter 12
11/28	W	Microbes	Chapter 13
11/30	F	Microbes	Chapter 13
12/3	M	Ecosystems and Communities	Chapter 15 (selected readings)
12/5	W	Conservation and Biodiversity	Chapter 16 (selected readings)
12/7	F	Special Topics	
12/10	**M**	**FINAL EXAM 1:30pm**	**Chapters 11, 12, 13, 15 & 16**

BIO100 FALL 2012 LABORATORY SCHEDULE		BIOL100 LA	BIOL100 LB
1	Lab Orientation and Safety/Scientific Method	28-Aug	30-Aug
2	Biomolecules	4-Sep	6-Sep
3	Cell Structure	11-Sep	13-Sep
4	Photosynthesis	18-Sep	20-Sep
5	Cellular Respiration	25-Sep	27-Sep
6	DNA	2-Oct	4-Oct
	NO LABS (Fall Recess)	9-Oct	11-Oct
7	Mitosis/Meiosis	16-Oct	18-Oct
8	Genetics	23-Oct	25-Oct
9	Nervous System	30-Oct	1-Nov
10	Evolution	6-Nov	8-Nov
11	Life's Diversification	13-Nov	15-Nov
	NO LABS (Thanksgiving Recess)	20-Nov	22-Nov
12	Animals/Plants/Bacteria	27-Nov	29-Nov