Fundamentals of Life Science: Diversity of Life, Evolution & Adaptation
The University of Toledo
College of Natural Science and Mathematics
BIOL2150-001 CRN 10893

Instructor:	Dr. Sally E. Harmych	**Term:**	Spring 2017
Email:	sally.harmych@utoledo.edu	**Class Location:**	FH2100
Office Hours:	T/W/R 9:00-10:00 AM T/R 12:30-2:00 PM	**Class Day/ Time:**	MTWR 8–8:50 AM
Office Location:	WO1235K		
Office Phone:	419.530.4585	**Credit Hours:**	4

COURSE/CATALOG DESCRIPTION

An introduction to the diversity of multicellular life on earth, evolution and physiological adaptations.

STUDENT LEARNING OUTCOMES

- Define basic biological concepts and processes.
- Describe levels of organization and related functions in plants and animals.
- Identify the characteristics and basic needs of living organisms.
- Describe the relationships between organisms and their environment.
- Identify impacts on ecosystems.
- Describe how natural selection has resulted in the diversity of life on earth.
- Explain the processes by which animals acquire nutrients, water and oxygen, eliminate wastes, protect against foreign substances, acquire information about their environment and reproduce.

TEACHING STRATEGIES

I expect that since you are taking this course you are interested in learning about the subject of biology. The best way to be successful is to read the text, attend lecture, take notes and do your online assignments. It is helpful if you read the text before attending lecture. When you come to lecture it is expected that your focus will be on the material covered, not your cell phone, latest email or social media postings, or today's news headlines. During lecture I will outline the subject matter and cover key points. In addition, attending lecture gives you an opportunity to ask questions about the material and helps me know when you are having difficulties. What is covered in lecture is much more likely to be seen on exams. I encourage you to ask questions if you are having difficulty. You can also ask me questions directly after class, during office hours, via email or over the phone. I am here to help you be successful, but I cannot do that if you do not ask.

PREREQUISITES AND COREQUISITES

BIOL 2010 for level UG with min. grade of D- or CHEM1090 for level UG with min. grade of D- or CHEM 1230 for level UG with min. grade of D- or ACT for min. score of 21

REQUIRED TEXTS AND ANCILLARY MATERIALS

Morris, J., Hartl, D., Knoll, A., Lue, R., Michael, M., Berry, A., Biewener, A., Farrell, B., and Holbrook, N.M. (2016) *Biology: How Life Works, 2nd Edition*, W.H. Freeman and Company. New York, NY.

- Loose leaf book with access to LaunchPad 9781319100896
- Volume 2 with access to Launchpad 9781319097042
- E-book with access to Launchpad 9781319100889

Turning Technology's Response Card RF

- Clicker with 4 year access 9781934931783
- or 4 year access 9781934931738

Packback Questions subscription

- Purchase for $18 at https://www.packback.co/questions

TECHNOLOGY REQUIREMENT

Turning Technology's Response Card RF
Powerpoint
LaunchPad Access
Blackboard Access
Packback Answers Access

UNIVERSITY POLICIES

The University is an equal opportunity educational institution. Please read The University's Policy Statement on Nondiscrimination on the Basis of Disability Americans with Disability Act Compliance (http://www.utoledo.edu/policies/administration/diversity/pdfs/3364_50_03_Nondiscrimination_o.pdf)

ACADEMIC ACCOMMODATIONS

The University of Toledo is committed to providing equal access to education for all students. If you have a documented disability or you believe you have a disability and would like information regarding academic accommodations/ adjustments in this course please contact the Student Disability Services Office at (419)530-4981 or through the UT website at http://www.utoledo.edu/offices/student-disability-services/index.html

CLASSROOM EXPECTATIONS

Please bring a **#2 pencil, an eraser and your valid UT student ID card** to each examination. No student will be permitted to take the exam without proper identification.

Examinations start and end at specified times. Under no circumstances will students be admitted to an exam after the first student has left the exam. Extra time will not be given for students that show up late. If you must miss an exam you must contact me within 24 hours to schedule the make-up exam. When we meet you must have a written excuse. If proper documentation is not provided then the missed exam will be scored as your lowest exam score for the semester. If you know in advance that you must miss an exam for a legitimate reason then please see me to schedule an early exam.

SI Sessions: Our class is lucky to be participating in the Supplemental Instruction (SI) program here on campus. Throughout the semester study sessions will be held by trained SI leaders. These sessions give you an opportunity to review the material covered in class in a small group setting.

Testing Accommodations: Please see me by the end of the first week of classes if you have special needs concerning testing. You may take the exams in the Student Testing center (FH1080).

GRADING

Your grade in this course will be determined from a combination of online homework assignments, in class clicker questions and activities, and exams.

Clicker Questions: ***DEADLINE TO BE REGISTERED is Monday, January 16 at midnight.*** Clicker questions will be asked during every class period beginning the second week of classes. These questions will be answered using your clickers. You are required to bring your clicker or other device to **EVERY** class meeting so that you can answer questions. There will not be any make ups for missed clicker questions so it is important to attend all class periods. Clicker questions will be worth 1 point for a correct answer and 0.5 points for an incorrect answer. I will take the final possible point total and adjust it by 15% to take into account missed classes or missed questions. There are no excused absences unless it is a several day absence with a medical excuse. The final point total will be 5% of the class grade. For example, if we accumulate 150 clicker points total. I drop that 15% so that 127.5 is a perfect score. Anyone over 127.5 does not get extra points. If you had 120 points that is 120/127.5 = 0.94 x 5% = 4.7% for your clicker part of the final grade. Register your clicker on our BlackBoard site by clicking on the "Turning Account Registration" link in the course menu. Carrying a clicker for a student who is absent with the intent to give the absent student points, is considered academic dishonesty. Both students (the present student with 2 clickers and the absent student) will receive a 0 for all clicker points for the term for academic dishonesty.

Online Homework assignments:

You will be assigned two types of online homework assignments this semester, Pre-lecture quizzes and Post-lecture quizzes.

1. Pre-lecture homework will be assigned for every chapter and are due BEFORE the chapter is discussed in class. These are Learning Curve activities. Read the chapter BEFORE attempting the assignment. These are designed to test your knowledge of the material before class discussion. The estimate is 20 questions to reach the Target Activity Score and then you get full credit. Most students will not answer every question perfectly the first time, so you will likely have more questions to answer to reach the Target Activity Score and get full credit. You will need to start this a day or so before the due date to have enough time to read, think, and complete the assignment. I want you to be familiar with the material BEFORE I cover it in lecture. My discussion of the material will make much more sense if you are familiar with the material already. **These are due at *8 am the day of lecture*.** You can go back to Learning Curve to help you study for exams.

2. Post-lecture homework is due after we complete a chapter. These contain more difficult questions that require more thought and effort. These questions are more similar to exam questions and we will discuss the results in class.

** Due dates for all homework assignments are listed in the schedule of lectures at the end of this syllabus and also on Launchpad.

Online Discussions: We will be using an online discussion tool called **Packback aQuestions** for class discussions this semester. You will receive participation points for these online discussions. To earn participation points you are required to post at least 1 question and 1 answer per discussion topic. New discussion topics will be posted every 2 weeks. They will open on Sunday at midnight and end two weeks from the start date at midnight. These discussions will be used to expand your understanding of each topic and to show you the everyday application of the topics. These discussions will count for 5% of your final grade.

Midterm Exams: You will be given four (4), one hour midterm exams each worth 100 points. Each exam will consist of 50 multiple choice questions worth 2 points each and will cover the material covered in lectures and the corresponding textbook material. The chapters included for each exam are listed in the course schedule at the end of this syllabus. Your lowest midterm exam score will be dropped for calculation of your final Midterm percentage.

Final Exam: The final exam is comprehensive and will consist of 100 multiple choice questions worth 2 points each. Make sure to check the date and time of the final exam so that you can schedule accordingly. **"I have to work," is not a legitimate excuse for rescheduling the final exam.**

Final Grade Calculation:

Clicker Questions	5%
Online Homework	10%
Online Discussions	5%
Midterm Exams	55%
Final Exam	25%
	100%

******Academic dishonesty may lead to failure of this course. Read the University policy about this subject found at the end of this document******

Grading Scale: Exams will be scored as % correct points, which will correspond to a letter grade according to the table below. This scale is based on the assumption that knowledge of more than 50% of the material is needed to pass this course.

GRADE	% CORRECT	GRADE	%CORRECT
A	90 – 100	C	67 - 70
A-	87 – 89	C-	63 - 66
B+	83 – 86	D+	59 - 62
B	79 – 82	D	55 - 58
B-	75 – 78	D-	51 – 54
C+	71 – 74	F	0 - 50

*******Any student listed in the course after **March 24th** can only receive a **grade of A – F.** Any student who stops attending class after taking the first exam will receive a grade of F for all the missed exams, ***unless that student withdraws from the course by March 24th, 2017.*** I will only assign **IN** grades in extraordinary cases when unexpected conditions prevent a student from completing the course within the term of enrollment. An IN grade must be removed by the end of the following semester.

Policy Statement on Academic Dishonesty

Academic dishonesty will not be tolerated. Among the aims of education are the acquisition of knowledge and development of the skills necessary for success in any profession. Activities inconsistent with these aims will not be permitted. Students are responsible for knowing what constitutes academic dishonesty. If students are uncertain about what constitutes plagiarism or cheating they should seek the instructor's advice. Examples of academic dishonesty include, but are not limited to:

- Plagiarizing or representing the words, ideas or information of another person as one's own and not offering proper documentation;
- Giving or receiving, prior to an examination, any unauthorized information concerning the content of that examination;
- Referring to or displaying any unauthorized materials inside or outside of the examination room during the course of an examination;
- Communicating during an examination in any manner with any unauthorized person concerning the examination or any part of it;
- Giving or receiving substantive aid during the course of an examination;
- Commencing an examination before the stipulated time or continuing to work on an examination after the announced conclusion of the examination period;
- Taking, converting, concealing, defacing, damaging or destroying any property related to the preparation or completion of assignments, research or examination;
- Submitting the same written work to fulfill the requirements for more than one course.

While academic integrity is particularly the responsibility of the student, the faculty members also have a responsibility. Assignments and tests should be constructed and proctored so as to discourage academic dishonesty. Faculty members are expected to inform their students explicitly as to what materials and procedures are authorized for use in the preparation of assignments or in examinations (e.g., the use of calculator, computer, text materials, etc.). Should cases of academic dishonesty be found among students, the instructor may choose to counsel the student, or the following sanctions may be imposed:

- The student may be assigned an F for the work in question.
- The student may be assigned an F for the course. In this case the instructor should inform the Dean and the student of this action. The Dean will make certain that the student receives the F grade and is not permitted to withdraw from the course.
- The student may be placed on probation or suspended for some definite period of time, dismissed or expelled by the Dean if either the seriousness of the offense or a record of repeated offenses warrants it. A notation that such a sanction has been imposed will be made part of the student's permanent record. It is expected that the Dean will consult with the instructor and the student in making such a judgment, and that the Dean will notify the student of the sanction imposed and of the appeals procedure.

A student found to be academically dishonest by a faculty member may appeal according to procedures approved by the respective colleges. The procedures for making a final appeal to the Student Grievance Committee may be found in the Student Handbook.

Planned Schedule of Lectures (Subject to change. Changes will be announced in class)

Week	Date	Chapter	Pre-Lecture Assignment	Post Lecture Assignment
1	January 9	Introduction to the course		
	January 10	Chapter 1: Life: Chemic al, cellular and evolutionary foundations		
	January 11	Scientific method activity		
	January 12	Chapter 21: Evolution: How genotypes and phenotypes change over time	Chapt. 21 Learning Curve due 8 AM	BIOL2160 Genetics Reading Assignment and Quiz (Blackboard)
2	**January 16**	**No Class - Martin Luther King Day**		
	January 17	Chapter 21: Evolution: How genotypes and phenotypes change over time		Chapt. 21 Post Lecture Assignment due Jan. 19 at midnight
	January 18	Chapter 22: Species and speciation	Chapt. 22 Learning Curve due 8 AM	Chapt. 22 Post Lecture Assignment due Jan. 21 at midnight
	January 19	Chapter 22: Species and speciation		
3	January 23	Chapter 23: Evolutionary patterns: Phylogeny and fossils	Chapt. 23 Learning Curve due 8 AM	Chapt. 23 Post Lecture Assignment due Jan. 26 at midnight
	January 24	Chapter 23: Evolutionary patterns: Phylogeny and fossils		
	January 25	Chapter 24: Human origins and evolution	Chapt. 24 Learning Curve due 8 AM	Chapt. 24 Post Lecture Assignment due Jan. 28 at midnight
	January 26	Chapter 24: Human origins and evolution		
4	**January 30**	Exam I Review		
	January 31	**Exam I (Chapters 1, 21, 22, 23, 24)**		
	February 1	Chapter 25: Cycling carbon	Chapt. 25 Learning Curve due 8 AM	Chapt. 25 Post Lecture Assignment due Feb. 4 at midnight
	February 2	Chapter 25: Cycling carbon		
5	February 6	Chapter 26: Bacteria and Archaea	Chapt. 26 Learning Curve due 8 AM	Chapt. 26 Post Lecture Assignment due Feb. 10 at midnight
	February 7	Chapter 26: Bacteria and Archaea		
	February 8	Chapter 27: Eukaryotic cells	Chapt. 27 Learning Curve due 8 AM	Chapt. 27 Post Lecture Assignment due Feb. 12 at midnight
	February 9	Chapter 27: Eukaryotic cells		

6	February 13	Capter 28: Being Multicellular	Chapt. 28 Learning Curve due 8 AM	Chapt. 28 Post Lecture Assignment due Feb. 17 at midnight
	February 14	Chapter 28: Being Multicellular		
	February 15	Chapter 29: Plant structure and function	Chapt. 29 Learning Curve due 8 AM	Chapt. 29 Post Lecture Assignment due Feb. 19 at midnight
	February 16	Chapter 29: Plant structure and function		
7	February 20	Chapter 30: Plant reproduction	Chapt. 30 Learning Curve due 8 AM	Chapt. 30 Post Lecture Assignment due Feb. 20 at midnight
	February 21	Chapter 30: Plant reproduction		
	February 22	Review for Exam III		
	February 23	**Exam II (25, 26, 27, 28, 29, 30)**		
8	February 27	Chapter 44: Animal diversity	Chapt. 44 Learning Curve due 8 AM	Chapt. 44 Post Lecture Assignment due Feb. 29 at midnight
	February 28	Chapter 44: Animal diversity		
	March 1	Chapter 35: Animal nervous systems	Chapt. 35 Learning Curve due 8 AM	Chapt. 35 Post Lecture Assignment due March 4 at midnight
	March 2	Chapter 35: Animal nervous systems		
9	March 6	**No Class - Spring Break**		
	March 7			
	March 8			
	March 9			
10	March 13	Chapter 36: Animal sensory systems and brain function	Chapt. 36 Learning Curve due 8 AM	Chapt. 36 Post Lecture Assignment due March 17 at midnight
	March 14	Chapter 36: Animal sensory systems and brain function		
	March 15	Chapter 36: Animal sensory systems and brain function		
	March 16	Chapter 37: Animal movement	Chapt. 37 Learning Curve due 8 AM	Chapt. 37 Post Lecture Assignment due March 21 at midnight
11	March 20	Chapter 37: Animal movement		
	March 21	Chapter 37: Animal movement		
	March 22	Review for Exam III		
	March 23	**Exam III (44, 35, 36, 37)**		

12	March 27	Chapter 38: Animal hormones	Chapt. 38 Learning Curve due 8 AM	Chapt. 38 Post Lecture Assignment due March 30 at midnight
	March 28	Chapter 38: Animal hormones		
	March 29	Chapter 42: Animal reproduction and development	Chapt. 21 Learning Curve due 8 AM	Chapt. 42 Post Lecture Assignment due April 1 at midnight
	March 30	Chapter 42: Animal reproduction and development		
13	April 3	Chapter 39: Animal cardiovascular and respriatory systems	Chapt. 21 Learning Curve due 8 AM	Chapt. 39 Post Lecture Assignment due April 6 at midnight
	April 4	Chapter 39: Animal cardiovascular and respriatory systems		
	April 5	Chapter 40: Animal metabolism, nutrition and digestion	Chapt. 40 Learning Curve due 8 AM	Chapt. 40 Post Lecture Assignment due April 8 at midnight
	April 6	Chapter 40: Animal metabolism, nutrition and digestion		
14	April 10	Chapter 41: Animal renal systems	Chapt. 41 Learning Curve due 8 AM	Chapt. 41 Post Lecture Assignment due April 12 at midnight
	April 11	Chapter 41: Animal renal systems		
	April 12	Chapter 41: Animal renal systems		
	April 13	Review for Exam IV		
15	**April 17**	**Exam IV (38, 42, 39, 40, 41)**		
	April 18	Chapter 43: Animal immune systems	Chapt. 43 Learning Curve due 8 AM	Chapt. 43 Post Lecture Assignment due April 12 at midnight
	April 19	Chapter 43: Animal immune systems		
	April 20	Chapter 43: Animal immune systems		
16	April 24	Case study on immune system function		
	April 25	Chapter 47: Species interactions, communities, and ecosystems		
	April 26	Chapter 47: Species interactions, communities, and ecosystems		
	April 27	Final Review Day		
	May 1	**Final Exam: 8 am - 10 am FH2100**		