



Fundamentals of Life Science: Diversity of Life, Evolution & Adaptation

The University of Toledo
College of Natural Science and Mathematics
BIOL2150-001 CRN 41004

| | | | |
|-------------------------|--|-------------------------|----------------|
| Instructor: | Dr. Sally E. Harmych | Term: | Fall 2015 |
| Email: | sally.harmych@utoledo.edu | Class Location: | DC1019 |
| Office Hours: | M/W 1-3 pm T/R 9-10 am | 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 Facebook 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., and Lue, R. (2013) *Biology: How Life Works*, W.H. Freeman and Company. New York, NY.

- Access Card (ebook) 9781464104312
- Loose leaf book with access to LaunchPad 9781319056933
- Bound book with access to LaunchPad 9781319056919
- E-book with access to Launchpad 9781464104312

Turning Technology's Response Card RF either 9781934931691 or 9781934931684



TECHNOLOGY REQUIREMENT

Turning Technology's Response Card RF either 9781934931691 or 9781934931684
Powerpoint
LaunchPad Access
Blackboard 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.

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 SUNDAY, AUGUST 30 at NOON. 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 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 $120/127.5 = 0.94 \times 5\% = 4.7\%$ for your clicker part of the final grade. Register your clicker on our Black Board site by clicking on the "Clicker 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 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 homework assignments, Pre-lecture quizzes and exam review quizzes on LaunchPad. The Pre-lecture quizzes must be completed before coming to class and will cover material that will be covered in lecture that day. These quizzes are due by 4 PM each day that we meet for class. The exam review quizzes will cover material from all the chapters that will be included on the exam. Each assignment will be worth 10 points. Your total homework grade will account for 10% of your final grade in the course. Due dates will be clearly displayed on the LaunchPad Home Page. **It is your responsibility to keep up with these assignments, I will not extend due dates.**

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% |
| Midterm Exams | 60% |
| 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.

| <u>GRADE</u> | <u>% CORRECT</u> | <u>GRADE</u> | <u>%CORRECT</u> |
|--------------|------------------|--------------|-----------------|
| 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 November 20 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 November 20, 2015.**

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.



Planned Schedule of Lectures (Subject to change, changes will be announced in class or on Blackboard)

| Date | | Chapter |
|-------------|----|--|
| August | 24 | Introduction to the course |
| | 25 | Chapter 1: Life: Chemical, cellular and evolutionary foundations |
| | 26 | Scientific method activity |
| | 27 | Chapter 21: Evolution: How genotypes and phenotypes change over time |
| | | |
| August | 31 | Chapter 21: Evolution: How genotypes and phenotypes change over time |
| September | 1 | Chapter 22: Species and speciation |
| | 2 | Chapter 22: Species and speciation |
| | 3 | Chapter 23: Evolutionary patterns: Phylogeny and fossils |
| | | |
| September | 7 | No Class - Labor Day |
| | 8 | Chapter 23: Evolutionary patterns: Phylogeny and fossils |
| | 9 | Chapter 24: Human origins and evolution |
| | 10 | Chapter 24: Human origins and evolution |
| | | |
| September | 14 | Review for Exam I |
| | 15 | Exam I (Chapters 1, 21, 22, 23, 24) |
| | 16 | Chapter 25: Cycling carbon |
| | 17 | Chapter 25: Cycling carbon |
| | | |
| September | 21 | Chapter 26: Bacteria and Archaea |
| | 22 | Chapter 26: Bacteria and Archaea |
| | 23 | Chapter 27: Eukaryotic cells |
| | 24 | Chapter 27: Eukaryotic cells |
| | | |
| September | 28 | Chapter 29: Plant structure and function |
| | 29 | Chapter 29: Plant structure and function |
| | 30 | Chapter 30: Plant reproduction |
| October | 1 | Chapter 30: Plant reproduction |
| | | |
| October | 5 | No Class - Fall Break |
| | 6 | No Class - Fall Break |
| | 7 | Review for Exam II |
| | 8 | Exam II (25, 26, 27, 29, 30) |
| | | |
| October | 12 | Chapter 35: Animal nervous systems |
| | 13 | Chapter 35: Animal nervous systems |
| | 14 | Chapter 35: Animal nervous systems |
| | 15 | Chapter 36: Animal sensory systems and brain function |



| | | |
|-----------------|-----------|---|
| October | 19 | Chapter 36: Animal sensory systems and brain function |
| | 20 | Chapter 36: Animal sensory systems and brain function |
| | 21 | Chapter 37: Animal movement |
| | 22 | Chapter 37: Animal movement |
| | | |
| October | 26 | Chapter 37: Animal movement |
| | 27 | Chapter 38: Animal hormones |
| | 28 | Chapter 38: Animal hormones |
| | 29 | Chapter 42: Animal reproduction and development |
| | | |
| November | 2 | Chapter 42: Animal reproduction and development |
| | 3 | Chapter 42: Animal reproduction and development |
| | 4 | Review for Exam III |
| | 5 | Exam III (35, 36, 37, 38, 42) |
| | | |
| November | 9 | Chapter 39: Animal cardiovascular and respiratory systems |
| | 10 | NO CLASS Veteran's Day |
| | 11 | Chapter 39: Animal cardiovascular and respiratory systems |
| | 12 | Chapter 40: Animal metabolism, nutrition and digestion |
| | | |
| November | 16 | Chapter 40: Animal metabolism, nutrition and digestion |
| | 17 | Chapter 41: Animal renal systems |
| | 18 | Chapter 41: Animal renal systems |
| | 19 | Chapter 41: Animal renal systems |
| | | |
| November | 23 | Chapter 43: Animal immune systems |
| | 24 | Chapter 43: Animal immune systems |
| | 25 | NO CLASS Thanksgiving break |
| | 26 | NO CLASS Thanksgiving break |
| | | |
| November | 30 | Chapter 43: Animal immune systems |
| December | 1 | Case study on immune system function |
| | 2 | Review for Exam IV |
| | 3 | Exam IV (39, 40, 41, 43) |
| | | |
| December | 7 | Chapter 44: Animal diversity |
| | 8 | Chapter 44: Animal diversity |
| | 9 | Chapter 47: Species interactions, communities, and ecosystems |
| | 10 | Chapter 47: Species interactions, communities, and ecosystems |
| | | |
| December | 14 | Final Exam: 8 am - 10 am DC1019 |



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.