

# Fundamentals of Life Science I

The University of Toledo  
College of Natural Science and Math  
BIOL2150-003  
3 Credit Hours

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<b>Instructor:</b>	Brenda Leady	<b>Term:</b>	Fall 2015
<b>Office Hours:</b>	T/R 10am-12:30pm	<b>Class Location/Times:</b>	WO1201 T/R 1-2:40pm
<b>Office Location:</b>	WO1217	<b>Course Website:</b>	<a href="#">Blackboard Learn</a>
<b>Office Phone:</b>	419.530.2181		
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## COURSE/CATALOG DESCRIPTION

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

## COURSE OVERVIEW

This course is designed for science majors, and is an introduction to organismal biology including the diversity, comparative structure, organ system function, development, phylogeny, taxonomy and systematics of organisms, especially animals. We will also explore the principles of evolution including speciation and natural selection, examine ways in which organisms respond and interact with the external environment and briefly introduce ecosystems and animal behavior.

## COURSE OBJECTIVES

Students who successfully complete this course will be able to:

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

## TEACHING STRATEGIES

It is expected that the reason you are taking this course is that you want to learn. The best way to succeed is to *read* the text, *attend* the lectures, and work the *study* questions. It is extremely helpful to read the text *before* attending the lecture. When you come to class it is expected that the focus of your attention will be on what is discussed in class, not social media, or homework for other classes. I encourage you to attend the lectures, in class I will outline and illustrate the course topics. The class also provides an opportunity for you to ask questions about the topics as they are being discussed, and helps me know when you are having difficulties with the material. Clicker questions are only in-class. What is discussed in class is *much* more likely to appear on an exam than material that is not. If the material is unclear or confusing, I encourage you to ask questions. If you are having difficulties with the material talk to me directly after class, during office hours, via email or phone. My goal is to help you succeed in learning.

## WORKWEEK

This face-to-face course meets 3 hours and 20 minutes each week. Students are expected to come prepared to each class meeting by completing the readings and online homework. Class meetings will review and extend the assigned material.

### Class Rules

1. I expect your full attention in class. When you are in class, you are there to pay attention and participate. Phones, iPods, pagers are turned off and ear buds are out. If you have an important call, take it outside the classroom with a minimum of disruption.
2. Come to class prepared. For most class meetings, you are expected to have completed assignments before coming to class. This may include watching videos, reading the text book, and doing assignments.
3. Participate in class. You paid to learn biology. I will facilitate learning experiences to help you learn and extend your knowledge. Failure to participate inhibits your learning and makes achieving a good grade in the class much more difficult.

## PREREQUISITES

Undergraduate level [BIOL 2010](#) Minimum Grade of D- or Undergraduate level [CHEM 1090](#) Minimum Grade of D- or Undergraduate level [CHEM 1230](#) Minimum Grade of D- or ACT Composite 21

## TECHNICAL SKILLS

To succeed in this course, it will be important for learners to possess the following technical skills:

1. Rename, delete, organize, and save files.
2. Copy, paste, and use a URL or web address.
3. Download and install programs and plug-ins.
4. Send and receive email with attachments.
5. Locate and access information using a web search engine.
6. Use a learning management system.

## REQUIRED TEXTS AND MATERIALS

Purchase one of the following (further information on [Blackboard Learn](#))

- Morris, James, et al. 2013. Biology: How Life Works. Macmillan. ISBN 9781464138256 This is a loose leaf paper textbook including access to Launch Pad homework with a full e-book.
  - Reprint ISBN 9781319060749
- Morris, James, et al. 2013. Biology: How Life Works. Macmillan. ISBN 9781464138263 This is a paper bound textbook including access to Launch Pad homework with a full e-book.
  - Reprint ISBN 9781319060862
- Morris, James, et al. 2013. Biology: How Life Works. Macmillan. ISBN 9781464104312 This is an access card only for Launch Pad homework with a full e-book.
- Morris, James, et al. 2013. Biology: How Life Works. Macmillan. ISBN 9781464142123 This is only the chapters you need for BIOL2150. This is not a full text book. It does NOT include access to Launch Pad homework with a full e-book. You will also need to buy Launch Pad access.
  - Reprint ISBN 9781319060879

Our class will be piloting a new product from Turning Technologies INSTEAD of the physical clicker. You will get a free license to use a free application on any smart device (laptop, tablet, smart phone) in class. I'll explain more during our first class.

## TECHNOLOGY REQUIREMENTS

### Browser Check Page

Students need to have access to a properly functioning computer throughout the semester. [The Browser Check Page](#) will enable you to perform a systems check on your browser, and to ensure that your browser settings are compatible with Blackboard, the course management system that hosts this course.

### Software

Student computers need to be capable of running the latest versions of plug-ins, recent software and have the necessary tools to be kept free of viruses and spyware. The computer needs to run the following software, available in the [Online Learning Download Center](#).

- Word Processing Software
- Adobe Acrobat Reader
- Apple QuickTime Player
- Java Plugin Console
- Adobe Flash Player
- Adobe Shockwave Player
- Mozilla Firefox Browser - Recommended

### Internet Service

High-speed Internet access is recommended as dial-up may be slow and limited in downloading information and completing online tests. This course does contain streaming audio and video content.

### Use of Public Computers

If using a public library or other public access computer, please check to ensure that you will have access for the length of time required to complete tasks and tests. A list and schedule for on-campus computer labs is available on the [Open Lab for Students](#) webpage.

### UT Virtual Labs

Traditionally, on-campus labs have offered students the use of computer hardware and software they might not otherwise have access to. With UT's Virtual Lab, students can now access virtual machines loaded with all of the software they need to be successful using nothing more than a broadband Internet connection and a web browser.

The virtual lab is open 24/7 and 365 days a year at [VLAB: The University of Toledo's Virtual Labs](#).

## COURSE POLICIES

### Policy Statement on Academic Dishonesty

Academic dishonesty will not be tolerated. Please read [The University's Policy Statement on Academic Dishonesty](#).

#### The Department of Biological Sciences 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.

### Copyright Notice

The materials in the course website are only for the use of students enrolled in this course for purposes associated with this course, and may not be retained or further disseminated.

### GRADING POLICIES

Student work will be assessed as follows. Specific guidelines, grading criteria, and a timeframe for grades and feedback will be provided as each assignment is announced:

Assignments/Assessments	% of Final Grade
Clickers*	5%
Homework	5%
Exams	70%
Final Exam	20%
Total	100%

\* see explanation of clicker scoring

### Clickers: DEADLINE TO BE REGISTERED IS Sept 3 at Noon

Our class will be piloting a new product from Turning Technologies INSTEAD of the physical clicker. You will get a free license to use a free application on any smart device (laptop, tablet, smart phone) in class. I'll explain more during our first class.

We will use that Turning Technologies product in class every day. I will ask several questions during the class period. A correct response is worth 1 point. An incorrect response is worth 0.5 points. 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 188 clicker points total. I drop that 15% so that 159.8 is a perfect score. Anyone over 159.8 does not get extra points. If you had 148 points that is  $148/159.8 = 0.93 \times 5\% = 4.7\%$  for your clicker part of the final grade.

You will register your name and ID code for Turning Technologies on our Black Board site. Sending responses 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.

### Homework

Athletes practice on a regular basis to train their muscles. They don't go into an event without hours of practice spread over weeks. For you to do well in biology, you can't cram the night before and expect to do well. You need to practice. Homework is practice for thinking like a biologist.

<http://www.macmillanhighered.com/launchpad/morris1e/1879748>

You will complete online homework assignments (LaunchPad) for 5% of your grade.

There are 2 types of assignments.

- First, you will have a "Pre-lecture" assignment due for each chapter. Read the text book first to become familiar with the material. Then answer 5 questions pertaining to that chapter. This gets you familiar with the material so that you are prepared for lecture.
  - These are due at **NOON** the day of lecture.
  - I will use the results to guide what I cover in class.
- Second, "Pre-exam" homework is due before each exam (except the final). Study for your exam first before starting the assignment. You will answer 10 questions that are similar to the in class exam questions. This will help you decide if you are prepared for the exam or not.
  - These are due at 1pm the day of the exam.
  - These are more difficult questions requiring more thought and effort.

### Regular Exams:

3 multiple choice regular exams will be given. These exams are 50 multiple choice questions each worth 2 points. They will not be comprehensive but some concepts carry over from one exam to the next. Exams end at the end of the class period. If you arrive late, the exam is still due at the end of the class period. If you come in after the first person has left the exam, you will take the essay exam at a later time.

Exams taken at any time other than your regularly scheduled class time (early or late) are in essay format. Ten (10) essay questions will cover the same material as the exam. Contact your instructor to set up a time and place for an essay exam.

Final Exam:

The final exam is comprehensive. The final will consist of 100 multiple choice questions covering the entire semester. Each question is worth 2 points.

**On exam days**, cell phones, tablets, laptops and other electronic devices must be placed where they are not accessible, visible, or audible to you or others in the class. No wrist watches will be allowed to be visible during the exam. I will project a time clock onto the front screen for you to keep track of time during the exam. *Failure to adhere to this rule will be considered evidence of academic dishonesty (cheating) resulting in confiscation of your exam and a grade of F on the exam.*

**Important Notes:**

If you stop working in the course, you will receive an F unless you

- Drop the class by September 4, 2014
- Withdraw from the class at the registrar's office by October 30, 2014

The grade of **Incomplete (IN)** is assigned only in extraordinary cases when unexpected conditions prevent the student from completing the requirements of the course within the term of enrollment. In order to receive an IN you must be passing the course and make arrangements with me to complete your work.

**Grades:**

Final grades will be determined based on the following scale.

Grade	% Correct
A	90-100
A-	87-89
B+	83-86
B	79-82
B-	75-78
C+	71-74

Grade	% Correct
C	70-67
C-	66-63
D+	62-59
D	58-55
D-	54-51
F	50-0

**AMERICANS WITH DISABILITIES ACT**

The Americans with Disabilities Act (ADA) requires that reasonable accommodations be provided for students with physical, sensory, cognitive, systemic, learning, and psychiatric disabilities. In accordance with the ADA and university policy, if you have a documented disability and require accommodations to obtain equal access in this course; please contact the instructor at the beginning of the semester to discuss any necessary accommodations. Please contact Student Disability Services for verification of eligibility at 419-530-4981 (voice) or 419-530-2612 (TDD).

**COMMUNICATION GUIDELINES**

**Email:**

Students are expected to check their UT email account frequently for important course information. This class is being taught for you, so if you are having trouble understanding any aspect of it, please let me know. I am here to help, and will do my best to respond to email within 24 to 48 hours.

**Real-Time Communication:**

A link to a real-time communication or chat tool has been added to the Course Menu. We will not be using this tool as part of our course assignments; however, the tool is available for you to use if and when you need it. To that end, I would be happy to arrange a time to meet with you in a chat room if you feel that you have questions that would best be answered in real-time. Conversely, you could also use the tool to meet with fellow students online in order to enhance your understanding of course concepts.

**Netiquette:**

It is important to be courteous and civil when communicating with others. Students taking online courses are subject to the communication regulations outlined in the Student Handbook. To ensure your success when communicating online, take time to familiarize yourself with the "dos" and "don'ts" of [Internet etiquette](#).

**TECHNICAL SUPPORT**

**\*\*If you encounter technical difficulties with Blackboard, please contact the [UT Online Help Desk](#)\*\*** at (419) 530-8835 or [utdl@utoledo.edu](mailto:utdl@utoledo.edu). The Help Desk offers extended hours in the evenings and on weekends to assist students with technical problems. When calling after hours, leave a detailed message, including your Rocket Number and phone number, and an Online Learning staff member will respond on the next business day.

**\*\*Technical questions related to on-campus Internet access, virtual labs, hardware, software, personal website hosting, and UTAD account management can be directed to UT's [IT Help Desk](#)\*\*** at (419) 530-2400 or [ithelpdesk@utoledo.edu](mailto:ithelpdesk@utoledo.edu).

**\*\*Technical questions related to LaunchPad homework can be directed to 1-877-587-6534 or <http://support.bfwpub.com/supportform/form.php?View=contact>.**

**LEARNER SUPPORT**

The University of Toledo offers a wide range of academic and student support services that can help you succeed:

**eTutoring Services**

[The Ohio eTutoring Collaborative](#), in partnership with The University of Toledo, now provides online tutoring support for all UT students. eTutoring Services are offered in a wide array of subjects, including Writing, Math, Calculus, Statistics, Accounting, Biology, Chemistry, and Anatomy and Physiology.

**eLibrary Services Portal**

The [eLibrary](#) is a customized gateway to UT Libraries for online students. It was designed to help you locate the best online library resources without leaving Blackboard.

**Student Disability Services**

[Student Disability Services](#) provides accommodations and support services to students with disabilities.

**Counseling Center**

[The Counseling Center](#) is the university's primary facility for personal counseling, psychotherapy, and psychological outreach and consultation services. The Counseling Center staff provide counseling (individual and group), mental health and wellness programming, and crisis intervention services to help students cope with the demands of college and to facilitate the development of life adjustment strategies.

**Services for Online Students**

Knowing what to do, when to do it, and who to contact can often be overwhelming for students on campus - even more so for distance learners. Visit the [Resources for Current Students](#) webpage to learn more about the wide range of services for online students.

**Planned outline of topics** (subject to change, changes will be announced in class):

Week	DATE	TOPIC	Chapter
1	August 25	Biology, science and levels of biological organization	1
	August 27	Basic genetics, DNA and mutations	handout
2	Sept 1	Evolution and Natural Selection	21
	Sept 3	The origin of species	22
3	Sept 8	Phylogeny and History of Life on Earth	23
	Sept 10	Human Origins	24
4	Sept 15	Carbon cycle and energy flow	25
	Sept 17	EXAM I	
5	Sept 22	Bacteria and Archea	26
	Sept 24	Eukaryotes	27
6	Sept 29	Multicellularity	28
	Oct 1	Plants Structure and Function	29
7	Oct 6	No class – Fall break	30
	Oct 8	Plant Reproduction	33
8	Oct 13	Plant diversity	
	Oct 15	Animal Nervous Systems	35
9	Oct 20	EXAM 2	
	Oct 22	Animal Sensory Systems and Brain Function	36
10	Oct 27	Animal Movement	37
	Oct 29	Hormones	38
11	Nov 3	Animal Reproduction	42
	Nov 5	Cardiovascular and Respiratory Systems	39
12	Nov 10	Animal metabolism, Nutrition and Digestions	40
	Nov 12	Salt, water balance and nitrogen excretion	41
13	Nov 17	Immunology	43
	Nov 19	EXAM 3	
14	Nov 24	Animal Diversity	44
	Nov 26	No class – Thanksgiving break	
15	Dec 1	Animal Diversity	44
	Dec 3	Animal Diversity	44
16	Dec 8	Ecology	47
	Dec 10	Human impacts on the environment	48
<b>Final Exam 2:45-4:45 Wednesday December 16</b>			