



Spring 2014

Organismal Biology

Code numbers: 20226

Instructor: Dr. Tom Morrell

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Office hours:

Monday 8:30 - 9:00 am

Tuesday 4:45 - 6:15 pm

Wednesday 8:30 - 9:00 am

Thursday 4:45 - 6:15 pm

If for some reason you cannot see me during my scheduled office hours or hours by appointment please call, stop by, or email me so we can arrange a meeting. I have an open door policy - and my office is always open, so feel free to stop by anytime.

Class days, Time, Room:

Lecture: Tuesday 1:30 – 4:40 pm, Room 2737

Lab: Thursday 1:30 – 4:40 pm, Room 2713

Credit Units: 4

Welcome to Morrell's Principles of Organismal Biology Web page (BIOL 182). This page is intended for use by the students in my class as a learning tool. This web site allows you to monitor our course schedule and print lecture notes and bring them to class. To obtain lecture notes for class, click on the chapter to be covered that day. Click on Lecture Schedule (top left) to see which lecture will be covered on a given day.

Course Objectives

Students will understand the basic principles of evolution by natural selection. Additionally, students will understand the principle categories used in the classification of living organisms, and develop a strong understanding of the fundamental structure and function of plants and animals occurring in the major taxonomic groupings. Students will also develop an appreciation for the level of biodiversity that exists among taxa.

Required Text:

Organismal Biology, Solomon, Berg, and Martin. Thomson Brooks/Cole. ISBN 13:[978-0-495-31714-2](#)

This softcover book was made especially for IVC. The book is only available at IVC bookstore.

The book we will use is a compilation of about 1/2 of the Chapters from "Biology" Solomon, Berg, and Martin 2008 8th edition ISBN 13: [978-0-495-10705-7](#). If you can find the entire book cheaper than the modified book in IVC bookstore, feel free to save yourself some money and purchase it. There is a newer edition of the book (9th) you can use if you want. Additionally, an International Editions can be found on line that are very reasonably priced (Make sure you get the 8th or 9th edition). International editions have a different cover but the same content we will be using.

Attendance Policy:

Attendance is required. You will be responsible for all material presented during lecture and lab sessions. If for some reason you can't attend a lecture, quiz or an exam you must provide a signed medical or legal excuse to document your absence in order for your absence to be excused. Students must realize that labs CANNOT be made up (regardless of the extracurricular activity that resulted in the absence, or whether its an excused absence). Some labs require numerous hours to prepare and/or require cooperative student participation. As a result, it is imperative that you attend all labs as some lab projects/experiments/assignments cannot be made up. Additionally, lab practical exams may not be made up. Thus, attendance is mandatory at all labs. If you miss a lab, you must see me immediately and provide a signed medical or legal excuse to document your absence. All research indicates that there is a strong positive correlation between class attendance and good grades (i.e., those who attend class get better grades than those who skip class).

Class attendance follows regulations set forth in the IVC catalog. Additionally, the IVC catalog states "an Instructor may drop any student judged to be a disturbing element in the class." I consider coming into class tardy - a disturbing element. Thus, once lecture has started you may not enter the classroom. You may enter following the next class "break." This also applies to coming into class tardy following an announced break. Additionally, leaving class or lab before it has been officially dismissed will be regarded as an unexcused absence. Please note that personal issues, such as family obligations, family situations, border slowdowns, babysitters, family member (including kids) appointments, railroad crossings, job interviews, car problems and work schedules are not acceptable excuses for an absence or a tardy.

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Cell Phones:

If I see you checking your cell phone for ANY reason, or if your cell phone rings, vibrates, buzzes, flashes or blinks during lecture or during lab (even if it is in your backpack, pocket, or purse!) I will ask you to leave the class for that day and you will be recorded as absent. Rest assured, I will provide you plenty of breaks that enable you to address all of your cell phone and social networking needs. You can provide your children's day care, and/or family health care providers the number of the IVC front office, and the front office can contact you in class in the event of an emergency.

Recording my lecture is okay if you use a recorder. You can not use your cell phone or an I pod (or similar device) to record my lectures.

Honor Policy:

- **Plagiarism** is to take and present as one's own the writings or ideas of others, without citing the source. You should understand the concept of plagiarism and keep it in mind when taking exams and preparing written materials. If you do not understand how to correctly 'cite a source', you must ask for help.
- **Cheating** is defined as fraud, deceit, or dishonesty in an academic assignment or using or attempting to use materials, or assisting others in using materials, or assisting others in using materials, which are prohibited or inappropriate in the context of the academic assignment in question.

Anyone caught cheating or will receive a zero (0) on the exam or assignment, and the instructor may report the incident to the Campus Disciplinary Officer, who may place related documentation in a file. Repeated acts of cheating may result in an F in the course and/or disciplinary action. Please refer to the General School Catalog for more information on academic dishonesty or other misconduct. Acts of cheating include, but are not limited to the following: (a) plagiarism; (b) copying or attempting to copy from others during an examination or on an assignment ;(c) communicating test information with another person during an examination; (d) allowing others to do an assignment or portion of an assignment, (e) use of a commercial term paper service.

Course Requirements and Instructional Methods:

Your course grade will be based on 4 lecture exams, 2 lab practical exams, lab and lecture quizzes, out of class assignments, and discretionary course participation points. Unannounced quizzes will be given during lecture and lab. Review sessions prior to exams will be arranged if there is an interest.

Possible Points:

Approximately 5-10 lab assignments, and announced or unannounced quizzes, or lab practical quizzes (150 points approximately)

- 4 Lecture/lab exams

- 2 lab practical exams (160 points approximately)· 4 lecture exams to cover lectures, textbook, CD-ROMs, videos, and other lecture materials (400 points approximately)
- Literature Search paper(50) · Roly Poly
- Science Manuscript (100)· Total = 860 points (approximate)

Course Grading Based on Course Objectives:

Grades will be assigned according to the following scale:

- >90% = A
- 80 - 89.9% = B
- 70 - 79.9% = C
- 60 - 69.9% = D
- <59.9% = F

I do not accept late homework without a signed legal or medical excuse. Unless otherwise indicated all homework is due at the beginning of class. If you cannot provide a signed legal or medical excuse, and you know you: will be absent it is your responsibility to turn in the homework prior to its due date.

It is the responsibility of the student to fill out the necessary paperwork if he/she no longer attends the class. In order for a student to "officially" drop the course he/she must fill out the proper paperwork. If this is not done a semester grade of "F" will be assigned.

Special Needs and Accommodations:

Any student with a documented disability who may need educational accommodations should notify the instructor or the Disabled Student Program and Services (DSP&S) office as soon as possible (DSP&S, Room 2177, Health Sciences Building ([355-6312](tel:355-6312))).

If you have emergency medical information to share with me, or if you need special arrangements in case the building must be evacuated, please see me.

Course Objectives

1. Describe the biological characteristics of life, and demonstrate an understanding of cells, and levels of biological organization.
2. Understand the process of science and demonstrate an ability to test hypotheses.
3. Define biological evolution, and demonstrate an understanding of how genetic variation and natural selection influence biological diversity
4. Define what plants are, and provide evidence of an understanding of plant evolution, development, structure, growth, reproduction, and selected physiological processes.
5. Describe what Fungi are, and provide evidence of an understanding of development, structure, growth, and reproduction within this phylum.
6. Define what Protists are, and provide evidence of an understanding of their characteristics, structure, diversity, and reproduction.
7. Demonstrate an understanding of animal diversity, ecology and evolutionary trends.

8. Demonstrate an understanding of animal form and function including physiological processes, development, and reproduction across phyla.
9. Demonstrate an understanding of animal nervous systems from the cellular level to integrated systems.
10. Demonstrate an understanding of the structure of muscles, and the sliding filament model theory.
11. Understand animal sensory systems
12. Demonstrate an understanding of population growth and regulation.

Student Learning Outcomes:

1. Display critical thought related to conducting the process of science and reporting findings.
2. Create a presentation that reports the findings of a project that incorporates the scientific process
3. Create a dichotomous key that establishes mastery of the process
4. Display an understanding of evolution through natural selection

Rules of Professional Conduct in This Class: Biology professionals are expected to conduct themselves professionally. If Biology professionals engage in unethical or unprofessional conduct, they can receive discipline ranging from being fired to losing their license. The following rules of professional conduct are not exclusive. Think about the policy that drives these rules and what other behavior not explicitly mentioned falls within the rules. Unprofessional behavior that is disruptive to the learning environment may result in removal from the class.

1. No rudeness

Think about what you say before you say it. Treat everyone the way you would like to be treated. Do not behave as though you are entitled to anything. Be respectful of other peoples sex, cultures, and beliefs. Do not swear.

2. Be deferential to those in authority - Think before you speak.

3. Walk into class aware that you make an impression, as you will when you are a biology professional , the moment you walk into the room.

4. Unless otherwise instructed, put your cell phone away before class begins.

Why? Several reasons. Successful biology professionals have exemplary social skills, including the ability to establish rapport with patients and co-workers. If you are focused on your phone instead of the person to whom you are speaking, you cannot establish rapport. Further, good manners require that when a patient, coworker, boss, or professor speaks to you, you devote your full attention to the speaker.

5. Everyone present in class deserves your respect and consideration. You will distract others if you enter the room after class has begun or leave the room after class has begun. It is rude to rustle belongings while another student or the professor is speaking. That is, be prepared for class when its starts.

6. Others can hear you when you talk to your neighbor. It distracts them. It distracts me. Do not ask your neighbor about something you did not hear during lecture. Raise your hand and ask me. Passing notes is also distracting. Don't do it.

7. Do not eat. You may drink water or chew gum discretely. Do not blow bubbles or pop your gum. You can not eat in the classroom during breaks.

8. You impress others at all times. Appear engaged, even if you are not. **No slouching, open yawning, eye rolling, resting your head on the table, or display any other behavior that is disrespectful to your classmates or to the professor.**

9. Take responsibility for your work. Do not blame others. Welcome criticism, try not to be defensive, and understand that if you do not correct your errors now, you will have to correct them when the stakes are much higher, like when you are working.

10. If you realize you've been rude, apologize. Avoid the conditional apology, which is "I am sorry if I offended you." A conditional apology is arguably worse than no apology.

Tentative Schedule

WK	DAY	DATE	LECTURE	LABORATORY / MATERIALS NEEDED
1	TUE	1-21	Introduction - Cha. 1 What is Life	
	THUR	1-23		What is Science? / Nothing needed
2	TUE	1-28	Pre-organismal Needs/ Cha.18 Darwinian evolution	
	THUR	1-30		Dichotomous Keys/Nothing needed
3	TUE	2-4	Cha. 19 Evolution in populations/ Cha. 20.Speciation and Macro-evolution	
	THUR	2-6		Natural Selection / Nothing needed
4	TUE	2-11	Exam 1	
	THUR	2-13		Scientific Literature /Graphing - Nothing needed
5	TUE	2-18	Cha. 21 Origin of life/Cha. 23 Diversity	
	THUR	2-20		Systematics – Nothing needed
6	TUE	2-25	Cha. 25 Kingdom Protista Cha. 26 Kingdom Fungi	
	THUR	2-27		Protist & Fungi slides and living specimens, micro- & dissecting scopes
7	TUE	3-4	Exam 2	
	THUR	3-6		Rolypoly brainstorm - nothing needed

8	TUE	3-11	Kingdom Plants – Plant evolution Cha. 32 & 33 Plant & Leaf Structure, Function, Growth and Differentiation	
	THUR	3-13		Rolypoly Research – to be arranged
9	TUE	3-18	Chaps. 34 & 35 Stems, transport, roots,	
	THUR	3-20		Plants slides: Parenchyma cells, collenchymas cells, schlerenchyma cells, elodea leaves, coleus leaves, plant and flower models, dicot and monocot stem & root slides, Plant models, micro- & dissecting scopes
10	TUE	3-25	Chaps. 36 & 37 Plant Reproduction & Growth .	
	THUR	3-27		Floral arrangements and everything from 3 - 20
11	TUE	4-1	Exam 3	
	THUR	4-3		Plant Lab Practical – everything from 3-14
12	TUE	4-8	Cha. 29 Protostomes	
	THUR	4-10		Grasshopper & crayfish dissection
13	TUE	4-15	Cha. 30 Deuterostomes	
	THUR	4-17		Mollusca & echinoderm dissection
			SPRING BREAK	SPRING BREAK
14	TUE	4-29	Animal Diversity Continued	
	THUR	5-1		Frog dissection
15	TUE	5-6	Cha. 52 Population Ecology	
	THUR	5-8		Review Dissections
16	TUE	5-13	Final Exam	
	THUR	5-15		Lab Practical Exam