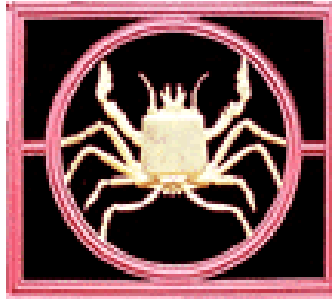


BSCI 106: PRINCIPLES OF BIOLOGY II -- ECOLOGY AND EVOLUTION

Summer, 2012: M-Tu-W-Th-F, 11:00-12:20 PM
Plant Sciences 1130



"No one with an unbiased mind can study any living creature, however humble, without being struck with enthusiasm at its marvelous structure and properties" -- Charles Darwin

Professor:

Dr. Marjorie Reaka

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Teaching Assistants:

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Course Web Site:

<http://www.elms.umd.edu>

You should make it a habit of logging into Blackboard to check for announcements, exam grades and other course-related documents.

Text Books used:

Campbell, N. A., et al. 2009. *Biology* (required), 9th edition. Benjamin Cummings. ISBN 13: 978-0-321-55823-7, 10:978-0-321-55823-5.

Jensen, J.S. 2011-12. *Biological Sciences 106* (required). Hayden-McNeil Publishing, Inc: Plymouth, MI. ISBN 978-0-738-0-454-4.

A Response Card is not required for this course.

Course Description and Objectives:

BSCI 106, Principles of Biology II, is the second of a sequence of three courses (BSCI 105, BSCI 106, and BSCI 207) in the Biological Sciences at the University of Maryland at College Park. BSCI 106 expands on concepts and principles introduced in Principles of Biology I. The focus of this course is on multi-cellular levels of biological organization, the mechanisms of evolution and speciation, and the diversity of life, including the history and phylogenetic relationships of all major groups of organisms. We will discuss ecological processes and interactions, behavioral ecology and evolution including sociality, and processes structuring biological communities up to the ecosystem and global level.

Lecture Attendance Policy:

It is very important to attend all lectures. Students are responsible for all materials covered in lecture and those assigned by the instructor. At times, material may appear in class that is not covered in the book, or additional or modified reading assignments may be given in class; all of these may appear on exams. You must be on time for lectures, since the announcements made at the beginning of class often are vital. Any changes in dates or types of lecture topics to be covered will be made in announcements in class. If you must miss a lecture, you are responsible for finding out from your classmates what transpired in class and what (if any) announcements were made. Arriving late in lecture may result in your missing important announcements. For laboratory attendance policies, see the BSCI 106 laboratory manual and Blackboard.

Laboratory Policies:

For the laboratory policies of BSCI 106, see the laboratory manual, laboratory handouts, and Blackboard.

Grading Outline & Policy:

For lecture, there will be two midterm lecture exams, each worth 100 points, and one final exam worth 150 points. For policies regarding the rescheduling of lecture midterm exams due to religious or foreseeable, University-approved conflicts, see "Examination Policies" given below. Lecture examinations will consist of a combination of multiple choice questions, fill-in-the blank questions, and short answer questions, and are designed to check your level of understanding of the course material. **You must contact Dr. Reaka or Mr. Lemke by Monday, July 16, 2012, if there is any University-approved conflict with lecture (Dr. Reaka) or laboratory (Mr. Lemke) examinations;** see further details in the section "other course policies" below. The *comprehensive* final examination is scheduled for **Friday, August 17, 2012, during class.**

The two mid-term examinations and the comprehensive final examination combined will account for 350 of 590 points of your course grade. For the detailed breakdown of the laboratory points that you can earn in addition to the points earned in lecture, please see the laboratory handout that will be given to you in lab.

Thus, grades will be based on the following components:

1) Lecture

Midterm I, Friday, July 20, in class, includes lecture material covered through Wednesday, July 18	100 points
Midterm II, Friday, August 3, in class, includes lecture material covered from Thursday, July 19, through Wednesday, August 1	100 points
Final Exam, Friday, August 17, in class, <i>comprehensive</i> through the end of lecture, Thursday, August 16	<u>150 points</u>
Total Lecture	350 points

2) Laboratory

Total Lab (for detailed breakdown of points, see lab handout) **240 points**

TOTAL POINTS:

590 points

Dr. Reaka and the teaching staff will evaluate the overall percentage grades earned by all students in the class and determine whether or not any curving for the class will be done. Letter grades will be assigned using the following scale:

A > 90 % B > 80 % C > 70 % D > 60 %

Remember that a grade of C reflects acceptable mastery of the subject and the usual achievement expected, a grade of B reflects good mastery of the subject and good scholarship, and a grade of A is indicative of excellent mastery of the subject and outstanding scholarship. Working hard does not automatically result in a good grade, but is the foundation for achieving a good grade.

Regrade Requests: Requests for re-grading of lecture exams (for reasons other than point totaling) must be submitted **to your teaching assistant** in writing, identifying specific reasons for the request. **In such cases, the whole exam will be re-graded, not just specific questions. The regrade request must be made no later than ONE WEEK after the graded exam has been returned to the class. Only exams that have been written with pen will be considered for re-grades.** If you feel you were graded incorrectly on an exam, use the following procedure to obtain a regrade:

1. Refer to the answer key to make sure you know what the correct answer is.
2. If you still feel that your answer was incorrectly graded, discuss it with your Teaching Assistant.
3. If this does not clear things up, return the exam to your Teaching Assistant along with a written explanation of why you feel you should have received more points, and include reference to the posted answer key.

Other Course Policies:

Please take note that there will be **no extra credit assignments.**

Rescheduling exams due to religious or foreseeable University-approved conflicts. Following University policy, if there is a direct conflict between attending or observing religious events vs. course requirements, "the student is responsible for providing written notification **within the first week of the semester.** The notification must identify the religious holiday(s) and date(s). The student shall hand the written notification to the instructor personally..." (UM Policies Section III-5.10a). In this course, exams will

be rescheduled for other foreseeable, university approved conflicts (e.g., participation in university events at the request of university authorities). In the case of foreseeable non-religious conflicts, “the student must inform the instructor **by the end of the schedule adjustment period**” (Testudo – Attendance and Assessment Policy). **Thus, written official documentation for requests for the rescheduling of lecture midterm exams due to religious or foreseeable University-approved conflicts need to be submitted in person to Dr. Reaka by Monday, July 16.** You may use the form “*Religious Observance Makeup Request Form*” on Blackboard under “Course information” as the request form. In addition, **you must remind Dr. Reaka of this excused absence 5 business days prior to the exam in question** so that scheduling arrangements for the make-up exam can be finalized. Furthermore, **written official documentation for conflicts with laboratory times/assignments due to religious or foreseeable University-approved conflicts need to be submitted in person to Mr. Lemke by Monday, July 16.** Again, use the “*Religious Observance Makeup Request Form*” on Blackboard to give to Mr. Lemke.

Students with disabilities: For students with disabilities, students **must deliver the official University documentation stating what arrangements are recommended for you in person to Dr. Reaka by Monday, July 16.** In addition, **you must make arrangements for test accommodations with the testing center, and you must provide Mr. Lemke with a copy of this form 5 business days before the test date.** In addition, you **must** remind Dr. Reaka of the need to get the exam to the appropriate testing center office **2 business days before the test date.**

Academic Support:

If you experience difficulty in this course for any reason, please don't hesitate to consult with Dr. Reaka, Mr. Lemke or the teaching assistants. The teaching assistants for this course will hold additional office hours if necessary. In addition to the resources of the department, a wide range of services is available to support you in your efforts to meet the course requirements.

Disability Support Services (314-7682, 0126 Shoemaker Hall, <http://www.counseling.umd.edu/DSS/>) offers technical and practical support and assistance with accommodations for students with physical or psychological disabilities. If you have a disability and might require accommodations in this course, please notify Dr. Reaka **and** Mr. Lemke with a letter from DSS or ASC **by Monday, July 18**, so that we can make arrangements to address your needs.

Counseling Center (301-314-7651, Shoemaker Building, <http://www.counseling.umd.edu/>) offers counseling and consultations regarding personal concerns, self-help information, and connections to off-campus mental health resources. In addition, the Counseling Center also provides a Learning Assistance Service.

Learning Assistance Service (301-314-7651, Shoemaker Building, (<http://www.counseling.umd.edu/LAS/index.html>) is available and offers study skills workshops, individual instruction, tutor referrals, and services for students with learning disabilities.

Tutoring Services: Various tutoring services are available, for information see <http://www.tutoring.umd.edu/> .

The Writing Center (<http://www.english.umd.edu/programs/WritingCenterWebsite>) can help students learn to write better.

BE CAREFUL OF YOUR PENMANSHIP—IT CAN AFFECT YOUR GRADE IF WE CAN NOT READ WHAT YOU HAVE WRITTEN. IT IS YOUR RESPONSIBILITY TO MAKE YOUR ANSWER READABLE.

Other fun and useful web sites:

Note – the content of these web sites may differ from what we discuss in class. **Exams will reflect the content presented in class regardless of what you might encounter elsewhere.**

The Tree of Life Web Site – lots of information on phylogeny -- <http://tolweb.org/tree/phylogeny.html>

An excellent site describing the meaning and practice of phylogenetic reconstruction – <http://www.ucmp.berkeley.edu/exhibit/phylogeny.html>

Companion site for PBS Evolution series – <http://www.pbs.org/wgbh/evolution/>

Excellent introduction to evolution – <http://evolution.berkeley.edu/evosite/evo101/index.shtml>

Web site devoted mostly to the Evolution/Creation issue – <http://www.talkorigins.org/>

Statement of Academic Integrity:

Standards of academic conduct are set forth in the University's Academic Integrity Code. By registering, you have acknowledged your awareness of the Academic Integrity Code, and you are obliged to become familiar with your rights and responsibilities as defined by the Code. Violations of the Academic Integrity Code **will not be treated lightly**, and disciplinary actions will be taken, should such violations occur. Make sure you are familiar with the Code of Academic Integrity and look up this link: <http://www.shc.umd.edu/code.html>. See also Office of Student Conduct: <http://www.studentconduct.umd.edu/> .

Cell phones and programmable calculators are not permitted during exams and if Dr. Reaka or the Teaching Staff find a student with one during an exam, the exam will result in zero credit. In addition, **no hats will be worn during exams.** Lecture exams will be done individually without communicating with anyone or using notes from anywhere. For example, if you try to get information from your classmate, this is academic dishonesty and not just you but also your classmate will be charged with academic dishonesty.

Class Schedule and Other Important Dates:

Please look over the schedule carefully. Schedule of lectures are tentative but the exams are not. **Exams will always cover the material indicated by the dates given above in “Grading Outline & Policy”, rather than by the titles given in the tentative**

topic schedule below. Exam dates will change only if the University is closed (e.g., weather emergency). If you see any potential conflicts, please let Dr. Reaka know in the first week of class. Reading assignments in the required textbook may change from time to time from the readings listed below; any changes in the reading assignments will be announced in class. For a detailed laboratory schedule, see the handout given to you in lab, which is also posted under “Lab Information” on Blackboard.

Date	#	Lecture	Readings	Laboratory	
<i>Ecology – The Context of Life</i>					
(Mon) July 9	1	Introduction to the course; Introduction to ecology, populations	1-11, 1144-1193 (overview)		
(Tues) July 10	2	Population growth and competition	1194-1197	Lab Introduction	
(Wed) July 11	3	Predators, parasites, parasitic castrators & parasitoids	1197-1200, 1213-1217		
(Thurs) July 12	4	Mimicry, mutualism, commensalism, facilitation	1197-1200 (review)	Lotic ecology, Quiz	
(Fri) July 13	5	Community and ecosystems ecology	1200-1232		
<i>Evolution – The Unifying Concept of Life</i>					
(Mon) July 16	6	Darwin & evidence for evolution	11-18, 452-468		
(Tues) July 17	7	The premises of natural selection and types of selection	11-18, 452-468 (continued)	Aquatic ecology, Quiz	
(Wed) July 18	8	<i>Sources of variation:</i> Mendel & meiosis – Why Mom and Dad aren’t just buckets of paint I	248-380 (overview), 426-449		
(Thurs) July 19	9	<i>Sources of variation:</i> Mendel & meiosis – Why Mom and Dad aren’t just buckets of paint II	248-380 (overview), 426-449 (continued)	Natural selection, Quiz	
(Fri) July 20		Lecture Exam I (100 points): Lecture material that was covered through the end of Wednesday, July 18			
(Mon) July 23	10	Population genetics: Hardy Weinberg and genetic drift	469-487		
(Tues) July 24	11	Sex and sexual selection (women are from Venus and men are from Mars?)	248-261 (review), 996-1007	Aquatic ecology II, Quiz	
(Wed) July 25	12	Behavioral ecology and social behavior	1118-1141 MENDEL & MEIOSIS PROBLEM SET AVAILABLE ON BLACKBOARD		
<i>Biodiversity and Systematics – The Shape of Life</i>					
(Thurs) July 26	13	Speciation – How does the Tree of Life branch?	452-487 (review), 488-506	Mendel & Meiosis, Quiz	

(Fri) July 27	14	The Tree of Life & phylogenetic reconstruction	536-555 HARDY WEINBERG PROBLEM SET AVAILABLE ON BLACKBOARD	
(Mon) July 30	15	Origins of the Tree of Life – Up from the ooze and ready to cruise	507-533 MENDEL & MEIOSIS PROBLEM SET DUE IN LECTURE	
(Tues) July 31	16	Prokaryotes – The little organisms that run the world	556-574	Population genetics/ Aquatic ecology III, Quiz
(Wed) Aug 1	17	The rise of the Eukaryotes – Protistans	575-599 HARDY WEINBERG PROBLEM SET DUE IN LECTURE	
(Thurs) Aug 2	18	Land Ho! Plants	600-635	Systematics and phylogenetic reconstruction, Quiz
(Fri) Aug 3		Lecture Exam II (100 points): Lecture material that was covered from Thursday, July 19 through the end of Wednesday, August 1		
(Mon) Aug 6	19	More adventures in multicellularity – Fungi	636-653	
(Tues) Aug 7	20	On the move – Lower animals	654-665	Plant diversity, Quiz
(Wed) Aug 8	21	More movement & incredible diversity! – the Protostomes	666-692	
(Thurs) Aug 9	22	Independent evolution of even more movement! – the Deuterostomes	692-703	Animal diversity, Quiz , Lab Report Due
(Fri) Aug 10	23	Bigger is better? the Craniates/Vertebrates	703-728	
(Mon) Aug 13	24	Ancestors and contemporaries – the tangled web of hominid evolution	728-735	
(Tues) Aug 14	25	Macroevolution – Creeps and jerks and extinction in the fossil record	519-525 (review)	<i>Homo sapiens</i> , Quiz
(Wed) Aug 15	26	Biodiversity and conservation	1238-1254	
(Thurs) Aug 16		Catch up, recap, review		LAB PRACTICAL
(Fri) Aug 17		FINAL LECTURE EXAM (150 points); Comprehensive but emphasizing lecture material that was covered from Thursday, August 2 through the end of Thursday, August 16		