



Biology 202 – Biodiversity

Summer I - 2012

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Lecture Time and Location: Mon-Thurs 8:00AM – 10:05AM in Friday Hall 1014

Lab Time and Location: TuThur 11:30AM – 2:20PM or 2:30 – 5:20PM in Friday Hall 1011

Office Hours: Mon and Wed 10:30am – 12:00pm

Course Overview

This course provides a general introduction to the diversity of animals and plants and is designed primarily, but not exclusively, for students majoring in the biological sciences. It is a prerequisite for many of the upper level courses in the Department of Biology and Marine Biology. Lectures will focus on basic concepts pertaining to the evolution of animal and plant diversity, including morphology, physiology, and principles of adaptation. Lectures will be 125 minutes in length and are held 4X each week. Laboratory sections are held 2X each week for two hours and 50 minutes. Students earn four hours of credit.

Learning Outcomes

Upon completion of this course, students will have a better appreciation for biodiversity and its origins.

- Students will be able to describe the conditions that permitted the origin of life [SAN1; TTC1].
- Students will be able to recognize the evolutionary principles underlying the origin of species and diversification [SAN1; TTC1].
- Students will be able to explain the fundamentals of systematics [SAN1; TTC1].
- Students will be able to illustrate the overall structure of the tree of life [SAN1; TTC1].
- Students will be able to describe the salient features and evolutionary history of the major lineages of prokaryotes, protists, fungi, plants, and animals [SAN1; TTC1].
- Students will be able to identify the commonalities and differences among taxonomic groups with respect to their form and function, from an evolutionary perspective [SAN1; TTC1].
- Students will be able to interpret evidence from direct observations of change in modern and fossil lineages, from biogeography, and from anatomical, developmental, and molecular studies that together provide evidence for evolutionary change through time, and for descent from common ancestors [SAN1; TTC1].

- Students will be able to recognize evidence for the common descent of humans and non-human primates [SAN1; TTC1].
- Students will be able to describe how biologists before Darwin, as well as his contemporaries, attempted to explain hierarchical relationships between species and evidence for change through time [SAN1; TTC2].
- Students will be able to distinguish between explanations for patterns in natural history that were (and are) based on a view of special creation, and those that are based on empirical science [SAN1; TTC2].
- Students will be able to recognize the evolutionary relationships between humans and other species and implications for our role in the conservation of biodiversity [SAN1; TTC3].
- Students will acquire comparative data and present it in a graphical format [SAN2].
- Students will examine and critically evaluate existing scientific knowledge [SAN3].

Required Textbooks

- Evolution, Diversity and Ecology, 2nd Edition, Volume 2, (Units 4, 5, and 8) from Biology, by Brooker et al. ISBN: 9780077484675
- A Photographic Atlas for the Biology Laboratory, 6th Edition, by Van De Graaff and Crawley. ISBN: 9780895828033.
- BIO 202 Lab Manual (made available electronically). Students are expected to print out the relevant lab exercise prior to each lab meeting.

Important dates to remember

May 22nd – **Add/drop** period ends

May 28th – **no classes** Memorial Day

June 7th – last day for **W**

June 19th – **Mandatory Final lab practical in Friday Hall 1011**

Course grades

4 mandatory lecture exams worth 100 points each	400 pts
4 lecture quizzes worth 15 points each	60 pts
2 Lab practicals worth 100 points each	<u>200 pts</u>
Total	660 pts

All lecture exams are **mandatory** and will be a combination of short answer, multiple choice, and essay questions. Exam and lab practical dates are indicated on the schedules below; quizzes are unannounced and can take place at any time. The 4th lecture exam on June 18th will not be cumulative, it will only cover material since the 3rd exam. All points earned during the semester will be combined and grades based on the percentage of points earned. We will follow a typical 10% scale: 0–59% = F; 60–62% = D-; 63–66% = D; 67–69% = D+; 70–72% = C-; 73–76% = C; 77–79% = C+; 80–82% = B-; 83–86% = B; 87–89% = B+; 90–92% = A-; 93–100% = A. We will not offer extra credit assignments, **do not ask**.

Attendance

Attendance is **mandatory** at all lectures and laboratory sessions. Attendance will be checked daily. This is a four-week intensive course and you should expect to put in the same amount of work as if you were taking a 16 hour load during a normal semester, thus attendance is essential. Each student is allowed two free absences. Beginning with the third absence, no matter the reason, a letter grade will be deducted from the final grade. This will continue until the sixth absence, at which point failure will result. Although the lectures are long, we will do our best to maintain your interest at a high level.

Make-up policy

All exams, including the final, are **mandatory**. If you miss an exam, you must provide written documentation of your reason. Unexcused absences from exams will result in a grade of 0 points. If you miss one exam with an excused absence, you will be given a makeup exam that may be all essay format. You must contact us within 24 hours of a missed exam for the possibility of a makeup exam to be considered. If you know about a legitimate conflict with an exam date ahead of time, you should contact us as soon as possible to make arrangements. Absence from two exams, regardless of excuse, will result in a course grade of 'F'. A missed quiz will result in a grade of 0 points; **absolutely no make-ups are given for missed quizzes**.

Office hours

Our office hours are listed on the first page. This is a large class and the best way for us to get to know you better is by stopping by to introduce yourself and to not hesitate to come by to discuss anything related to the course. If you stop in, you'll find that we are very nice.

Academic integrity

All members of the UNCW community are expected to follow the academic Honor Code (available in the UNCW Student Handbook). Academic dishonesty in any form (such as cheating, stealing, plagiarism, etc.) will not be tolerated and is subject to disciplinary action. Looking at someone else's exam, asking someone else to do your online assignments, and representing someone else's ideas as your own are all blatant violations of the Honor Code.

Disabilities

Students with diagnosed disabilities, requiring special accommodations in order to participate in this class, should contact the Office of Disability Services at 962-7555. Please promptly provide us with a copy of the letter you receive from the Office of Disability Services detailing any class accommodations you may need.

Harassment

UNCW practices a zero-tolerance policy for any kind of violent or harassing behavior. If you are experiencing an emergency of this type, contact the police at 911 or UNCW CARE at 962-2273.

Conduct

Individuals are expected to treat each other with respect and to follow the recently instituted Respect Compact. This compact can be viewed at <http://www.uncw.edu/stuaff/pdc/documents/SeahawkRespectCompact.pdf>

Lecture Schedule (Biology 202 – Summer 2012)

<u>Day, Date</u>	<u>Lecture topic(s)</u>	<u>Chapter(s)</u>
R, May 17	Introduction, evolution	22, 23
M, May 21	Natural selection, animal body plans	25, 26
T, May 22	Phylogeny and classification	26, 32
	Porifera, cnidarians	33
W, May 23	Lophotrochozoans	33
R, May 24	EXAM #1	
M, May 28	No lecture	
T, May 29	Ecdysozoans	33
W, May 30	Echinoderms, hemichordates	33
	Early chordates, fishes	34
R, May 31	Amphibians, reptiles	34
	Birds, mammals	34
M, June 4	EXAM #2	
T, June 5	Bacteria	27
W, June 6	Archaea	27
	Eukaryotes, excavates, alveolates, stramenopiles, rhizarians, amoebozoans	28
R, June 7	Primoplantae, glaucophytes, rhodophytes, viridophytes	28
	Embryophytes, liverworts, mosses, hornworts	29
M, June 11	EXAM #3	
T, June 12	Tracheophytes, lycophytes, euphyllophytes, monilophytes, spermatophytes	29
	Gymnosperms, cycads, ginkgo, conifers, gnetophytes	30
W, June 13	Angiosperms	30
R, June 14	Opisthokonts, fungi, chytrids, zygomycetes, AM fungi, ascomycetes, basidiomycetes	31
M, June 18	EXAM #4	

Lab Schedule (Biology 202 – Summer 2012)

<u>Day, Date</u>	<u>Lab topic(s)</u>
R, May 17	Phylogenetic trees
T, May 22	Sponges and cnidarians
R, May 24	Lophotrochozoans
T, May 29	Ecdysozoans
R, May 31	Echinoderms and chordates
T, June 5	PRACTICAL 1
R, June 7	Bacteria; Algae
T, June 12	Bryophytes, lycophytes, and ferns
R, June 14	Gymnosperms and angiosperms
T, June 19	PRACTICAL 2 (during final exam period, 8:00-11:00)