Course Information

Biology BIOL 3040 Evolution
Louisiana State University
Lectures: Monday, Wednesday, and Friday 9:30-10:30 in 208 Williams

Instructor: Dr. Christopher Austin
Office: B9 Foster Hall
Office Hours: Wednesday and Friday 10:30-11:30 ***and by appointment***. Please feel free to talk with me whenever you want.
Office/Lab tele: 578-2841
E-mail: ccaustin@lsu.edu (this is *the* best ways to get in touch with me)
Lectures & Exams: Monday, Wednesday, and Friday 9:30-10:30 in 208 Williams
Recommended Text: M. Ridley (2004). Evolution 3rd ed. Blackwell Science Publishing.

Information on the Web: http://www.museum.lsu.edu/Austin/Lab.html *AND* **BlackBoard**. Many materials associated with this course (e.g. this syllabus, lecture and reading material, handouts, and grades) will be distributed through the BlackBoard web site (accessed via your PAWS account under Student Services). Many interesting evolution links will be placed on my web site as the semester progresses. The textbook also has web resources that are helpful:
http://www.blackwellpublishing.com/ridley/

Course Description: Evolution is the fundamental unifying theory that connects all fields of biology. The co-discovery/description of the theory of evolution by natural selection by Darwin and Wallace is arguably the greatest advancement in the field of biology and possibly the greatest scientific discovery ever. In this course we will discuss the major principles of evolutionary biology starting with a brief introduction to the history of the rise of evolutionary thought, explanations of genetics and inheritance, the evidence for evolution, evolution at the molecular level, adaptation, units of selection, species concepts, phylogeny and much more. By the end of this course you will hopefully realize that evolution effects all aspects of life and that it has consequences for your life on an everyday basis.

The required text for this course (Evolution, by Ridley, 2004) is a large and comprehensive view of evolution. In this one semester course we will not have the opportunity to cover every chapter. I will assign specific chapters to read. I expect you to come to class having read the assigned reading- this will greatly enhance your understanding of the lecture material and will undoubtedly have a positive effect on your grade.

Exams: There will be four exams: three midterm exams and a final. *Your **lowest exam** score will be dropped and your grade will be based on your best three exams*. There will be no make-up exams. For a valid absence from an exam, the grading scheme will be at the discretion of the instructor (typically a 15 page research paper). Trust me, you do not want to miss a second exam if at all possible. Exam 1 will cover the first third of the class. Exam 2 will cover the second third of the class. Exam 3 will cover the final third of the class. The final exam will be comprehensive covering the entire semester.

Exam 1	100	points	
Exam 2	100	points	
Exam 3	100	points	
Exam 4 (FINAL)	100	points	
Total Credit	300	points	(**lowest exam is dropped**)
Extra Credit	10	points	

Final Exam: Saturday 12 May 10-Noon (or whatever the catalog says- **follow catalog** if it disagrees). The final exam is comprehensive.

Grading: Your course grade is based on your performance in this course. In order to perform well in this class you will need to comprehend, interpret, and synthesize the information presented in the lectures and the assigned reading. It will help significantly if you have done the reading prior to coming to the lectures. Your grade, therefore, is based on your *understanding* of the information. You do not need to *believe* any of the information presented (nor would you be required to believe in the theory of gravity if I were teaching a course in physics). Evolution and gravity however, are powerful tools for understanding the natural world and both play a critical role in our everyday lives.

Your grade should not be a mystery. The information below should allow you to gauge how well (or poorly) you are doing in this course. If you are not doing as well in this course as you would like, I strongly encourage you to talk with me during office hours to come up with a plan of action to help improve your performance in this course.

Grades will be assigned based on the breakdown below:

A	90 —	100%
B	80 —	89%
C	70 —	79%
D	60 —	69%
F	0 —	59%

Note: The final grading scale may be curved based on class performance. However, the scale will NOT be raised such that a student's grade suffers (i.e., changes may raise your grade, but will NOT lower it).

Pre-exam Discussions: A portion of the lecture period preceding each of the three mid-term exams will be devoted to answering student questions. Come prepared to ask questions. If there are no questions I will assume that all the material has been fully understood by the entire class!

Extra Credit* Supplementary Reading**: I have listed several books below that should be enjoyable reading that will enhance your pleasure and comprehension of evolutionary biology. I suggest you pick one of these books that best reflects your interest in biology and read it. Although Darwin's classic book was written in 1859, it is still very readable today. It was a sellout best seller in its time, and was read by the general populace as well as scientists, scholars, and the clergy. Feel free to ask me about other books if none of these titles strike you as interesting. If you do decide to read a book during the semester and are interested in extra credit, I will have you write a two page summary of the book (further information to be presented in class) for **10 extra credit points** (this corresponds to ***an entire exam letter grade!).

(1) *Origin of Species*. Charles Darwin (1859). [get a facsimile copy of the 1st edition]

(2) *The Song of the Dodo. Island Biogeography in an Age of Extinctions*. David Quammen (1996). Scribner Inc. (**probably *the* best book on this list**).

(3) *The Beak of the Finch : A Story of Evolution in our Time*. onathan Weiner (1994). Anchor Books.

(4) *The Flight of the Iguana; A Sidelong View of Science and Nature*. David Quammen (1989). Anchor Books.

(5) *The Mismeasure of Man*. Stephen J. Gould (1996). Norton.

(6) *At The Waters Edge, Macroevolution and the Transformation of Life*. Carl Zimmer (1998). The Free Press.

(7) *Monster of God*. David Quammen (2003). W.W. Norton and Co.

(8) *The Flight of the Iguana; A Sidelong View of Science and Nature*. David Quammen (1998). Anchor Books.

(9) *Antipode: seasons with the extraordinary wildlife and culture of Madagascar*. Heather E. Heying (2002). St. Martin's Press.

Disability Statement: If you have emergency medical information to share with me, if you need special arrangements in case the building must be evacuated, or if you need accommodations in this course because of a disability, please make an appointment with me as soon as possible. My office location and hours are located on this syllabus. If you plan to request disability accommodations please contact the Office of Disability Services (112 Johnston Hall, 578-5919).

Academic Honesty: I expect all students to conduct themselves with academic honesty at all times. The guidelines of student conduct can be found on LSU's website. I take academic integrity very seriously. Academic dishonesty will not be tolerated; all students are expected to do his or her own work. **Please take a few minutes to read the full version of the LSU Code of Student Conduct which can be located on LSU's web site.**

The following is **Section 5.1C of the Code of Student Conduct**. It details the definitions of academic misconduct:

"**Academic Misconduct**" includes, but is not limited to, cheating, plagiarism, collusion, falsifying academic records, and any act designed to give an unfair academic advantage to the student (such as, but not limited to, submission of essentially the same written assignment for two courses without the prior permission of the instructors, providing false or misleading information in an effort to receive a postponement or an extension on a test, quiz, or other assignment), or the attempt to commit such an act. Other specific examples of academic misconduct include:

1. Copying from another student's test paper or assignment;
2. Allowing another student to copy from a test paper or assignment;
3. Using during a quiz/test the course textbook or other materials such as a notebook normally brought to a class meeting but not authorized for use during a quiz/test by the person giving the quiz/test. Having such forbidden material open and in sight of the student will be considered prima facie evidence of use;
4. Failing to thoroughly follow requirements related to the preparation and presentation of work, including group projects, submitted for credit in a manner that results in submitting as one's own the work of another or misleading an instructor as to the condition under which the work was prepared;
5. Collaborating during a test or any other assignment with any other person by giving, receiving or otherwise sharing information without prior approval of the instructor. Speaking to another person without the consent of the person proctoring the exam may be considered prima facie evidence of collaboration;
6. Using specially prepared materials (e.g., notes, formula lists, notes written on student's clothing or body) during a test. Bringing such forbidden material to a test will be considered prima facie evidence of use or attempted use;
7. Stealing, buying, or otherwise obtaining through unauthorized access, all or part, including answers, of an unadministered test;
8. Seeing or giving away all or part of an unadministered test, including answers to an unadministered test;
9. Bribing any other person to obtain an unadministered test or information about an unadministered test;
10. Substituting for another student, or permitting any other person to substitute for oneself, to take a test;
11. Submitting as one's own, in fulfillment of academic requirements, any work (such as, but not limited to, a theme, report, term paper, essay, computer software, other written work, painting, drawing, sculpture, or other scholastic art work) prepared totally or in part by another;
12. Selling, giving, or otherwise supplying to another student for use in fulfilling academicrequirements any theme, report, term paper, essay, computer software, other written work, painting, drawing, sculpture, or other scholastic art work;
13. Entering a building or office for the purpose of changing a grade in a grade book/computer, on a test paper, or on other work for which a grade is given;
14. 1Changing, altering, or being an accessory to changing and/or altering a grade in a grade book/computer, on a test paper, on other work for which a grade is given, on a "drop slip," or on any other academic record of the University;

15. Entering into an arrangement with an instructor to receive a grade of "F" or any other reduced grade in a course, on a test, or any other assigned work in lieu of being charged with academic misconduct under the Code of Student Conduct;
16. Committing Plagiarism. "Plagiarism" is defined as the unacknowledged inclusion of someone else's words, structure, ideas, or data. When a student submits work as his/her own that includes the words, structure, ideas, or data of others, the source of this information must be acknowledged through complete, accurate, and specific references, and, if verbatim statements are included, through quotation marks as well. Failure to identify any source (including interviews, surveys, etc.), published in any medium (including on the internet) or unpublished, from which words, structure, ideas, or data have been taken, constitutes plagiarism;
17. Violating any applicable professional code of ethics or conduct while enrolled in a course of study designed to qualify the student for certification in a profession or while in the course or scope or any required practicum or clinical experience; attempting to commit, or assisting someone in the commission or attempted commission of an offense listed above.

Tentative Lecture Schedule M, W, F 9:30-10:30

Lecture	Day	Date	Topic	Reading
1	W	Jan 17	The Rise of Evolution	Chapter 1: pp. 3-20
2	F	Jan 19	Molecular & Mendelian Genetics	Chapter 2: pp. 21-42
3	M	Jan 22	Molecular & Mendelian Genetics	Chapter 2: pp. 21-42
4	W	Jan 24	Molecular & Mendelian Genetics	Chapter 2: pp. 21-42
5	F	Jan 26	The Evidence for Evolution	Chapter 3: pp. 43-70
6	M	Jan 29	The Evidence for Evolution	Chapter 3: pp. 43-70
7	W	Jan 31	Natural Selection & Variation	Chapter 4: pp. 71-92
8	F	Feb 2	Natural Selection & Variation	Chapter 4: pp. 71-92
9	M	Feb 5	Natural Selection & Variation	Chapter 4: pp. 71-92
10	W	Feb 7	The Theory of Natural Selection	Chapter 5: pp. 93-136
11	F	Feb 9	The Theory of Natural Selection	Chapter 5: pp. 93-136
12	M	Feb 12	Wrap-up & Discussion	
Exam	W	Feb 14	**EXAM 1**	
13	F	Feb 16	Random Events in Population Genetics	Chapter 6: pp. 137-154
Holiday	M	Feb 19	**Mardi Gras Break**	
Holiday	W	Feb 21	**Mardi Gras Break**	
14	F	Feb 23	Random Events in Population Genetics	Chapter 6: pp. 137-154
15	M	*Feb 26*	Natural Selection and Random Drift in Molecular Evolution	Chapter 7: pp. 155-193
16	W	Feb 28	Natural Selection and Random Drift in Molecular Evolution	Chapter 7: pp. 155-193
17	F	Mar 2	Quantitative Genetics	Chapter 9: pp. 222-252
18	M	Mar 5	Quantitative Genetics	Chapter 9: pp. 222-252
19	W	Mar 7	Adaptive Explanation	Chapter 10: pp. 253-291
20	F	Mar 9	Adaptive Explanation	Chapter 10: pp. 253-291
21	M	Mar 12	Adaptive Explanation	Chapter 10: pp. 253-291

Lecture		Date	Topic	Reading
22	W	Mar 14	Adaptive Explanation	Gould and Lewontin (1979)
23	F	Mar 16	Units of Selection	Chapter 11: pp. 292-312
24	M	Mar 19	Units of Selection	Chapter 11: pp. 292-312
25	W	Mar 21	Wrap-up & Discussion	
Exam	F	Mar 23	**EXAM 2**	
26	M	Mar 26	Classification and Evolution	Chapter 16: pp. 471-491
27	W	Mar 28	Classification and Evolution	Chapter 16: pp. 471-491
28	F	Mar 30	Species Concepts and Intraspecific Variation	Chapter 13: pp. 345-380
Holiday	M	Apr 2	**Spring Break**	
Holiday	W	Apr 4	**Spring Break**	
Holiday	F	Apr 6	**Spring Break**	
29	M	Apr 9	Species Concepts and Intraspecific Variation	Chapter 13: pp. 345-380
30	W	Apr 11	Speciation	Chapter 14: pp. 381-422
31	F	Apr 13	Speciation	Chapter 14: pp. 381-422
32	M	Apr 16	The Reconstruction of Phylogeny	Chapter 15: pp. 423-470
33	W	Apr 18	The Reconstruction of Phylogeny	Chapter 15: pp. 423-470
34	F	Apr 20	Evolutionary Biogeography	Chapter 17: pp. 492-520
35	M	Apr 23	Evolutionary Biogeography	Chapter 17: pp. 492-520
36	W	Apr 25	Extinction and Radiation	Chapter 23: pp. 643-681
37	F	Apr 27	Extinction and Radiation	Chapter 23: pp. 643-681
Exam	M	Apr 30	**EXAM 3**	
38	W	May 2	Wrap-up of the semester	
39	F	May 4	Wrap-up of the semester	
Exam	Saturday	May 12	**EXAM 4 FINAL**	Comprehensive Final