

ANT 150 Section 001: Evolution for Everyone

Introduction to Evolutionary Studies

Spring, 2011

3 Credit Hours

Primary Instructor: Christopher Lynn

Syllabus subject to change.

Office Hours (Updated 2011-01-12)

Professor: Christopher Lynn

Office: 12 ten Hour

Office hours: MW 2-4 or by appointment

Office phone number: 348-4162

E-mail: cdlynn@ua.edu

Classroom: ten Hour 353

Module instructors: Leslie Rissler (rissler@as.ua.edu), Fred Andrus (fandrus@as.ua.edu), Philip Gable (pgable@as.ua.edu), Ryan Earley (rlearley@bama.ua.edu), Renee Raphael (rjraphael@as.ua.edu)

Prerequisites

From the Student Records System:

No prerequisites found.

Course Description

This course is the introduction of the Evolutionary Studies (EvoS) minor. This course is team-taught to provide you an interdisciplinary introduction to evolutionary theory and applications. Several of our meetings will also involve guest experts from other institutions as part of the Alabama Lectures on Life's Evolution (ALLELE) series and video lectures culled from the EvoS Consortium archives. The disciplines represented this semester include biology, anthropology, psychology, geology, philosophy, and history. These meetings will all include readings assigned by the lecturer or readings of the guest speaker that will be assigned. This course is designed to open your mind to what evolution is and how it applies to all life. Topics will be diverse and may include speciation, animal behavior, dinosaur paleontology, evolution of religion, evolutionary medicine, human emotions, deception, human fossils, and the evolutionary biology of physical attractiveness. This diversity of topics should make for an academic experience that is nothing short of fascinating.

Evolutionary Studies (Updated 2011-01-12)

This course is the introduction to a minor in Evolutionary Studies (EvoS). It is open to all students but is a requirement for the minor. If you have not already decided to declare a minor in EvoS, we hope this course leads you to consider doing so. EvoS is an interdisciplinary minor, designed to introduce students to the fundamental importance of evolutionary theory as an explanatory model for life and behavior. Requirements of the minor include two capstone courses (including this introduction), a 200-level course in the biological principles of evolution, and another foundational course in one of three disciplines. Additionally, minors are required to complete six elective hours in two separate disciplines.

This program is integrated with UA's [Evolution and Origins Working Group \(EVOWOG\)](#) and its [Alabama Lectures on Life's Evolution \(ALLELE\)](#) speaker series ("Like" us on Facebook [www.facebook.com/ALLELEseries] to stay informed!). The speakers you will meet this semester are here as part of that series. In addition to meeting with this class, they will each present a public lecture and a lecture for a sponsoring department. You are strongly encouraged to attend these lectures. This minor is part of a larger [EvoS Consortium](#), which includes approximately 42 other institutions worldwide, though we are only one of four full-fledged minors. We take pride in this fact, given that Alabama recently scored at the very bottom of the 50 states in teaching evolution at the k-12 levels (even worse than Mississippi!).

As part of the EvoS program, we are starting an EvoS club, that we hope will grow out of this class. You are welcome to become part of this club whether you declare yourself an EvoS minor or simply maintain an abiding interest in evolutionary theory and its myriad applications and implications. We hope the activities of the club will include regular evolution-oriented field trips and organizing activities around ALLELE speakers. The first trip that is being planned is one to visit the new human evolution exhibit at the Smithsonian Institute in Washington, D.C.

If you are interested in the EvoS minor (either to declare or for more information), contact Dr. Lynn (cdlynn@ua.edu) or Dr. Rissler (rissler@as.ua.edu).

Objectives

By the end of this term, you should be able to:

- Describe the basic principles of evolutionary theory
- Summarize the nature of the forces of evolution
- Use evolutionary theory to explain species variation
- Outline how evolutionary theory applies across academic disciplines
- Critically evaluate different scholarly approaches to evolution

- Explain the interface between evolutionary scholarship and human societies
- Critique topics that have been explained using evolutionary theory or use evolutionary theory as a critical device
- Generate testable hypotheses about topics related to evolution
- Effectively research and write a paper related to evolution

Attendance Policy

ATTENDANCE and PARTICIPATION POLICY: Attendance is required and will be monitored. More than two unexcused absences (or excessive tardiness) will lower your grade by 5 course point for every absence. However, you will receive 5 bonus course points if you have no absences. Classroom participation will not be directly graded but will be monitored, discussed by all the module instructors, and active participation is likely to enhance your performance in the course.

Required Texts

UA Supply Store Textbook Information:

- **WILSON / EVOLUTION FOR EVERYONE**
(Required)

Other Course Materials (Updated 2011-01-12)

Bshary, Redouan

2002 Biting Cleaner Fish use Altruism to Deceive image-scoring Client Reef Fish. Proceedings of the Royal Society of London. Series B: Biological Sciences 269(1505):2087-2093.

Carver, Charles S.

2001 Affect and the Functional Bases of Behavior: On the Dimensional Structure of Affective Experience. Personality and Social Psychology Review 5(4):345-356.

Coyne, Jerry

2010 Written in the Rocks. *In Why Evolution is True*. Pp. 21-58. New York: Penguin.

Cronk, Lee, and Bria Dunham

2007 Amounts Spent on Engagement Rings Reflect Aspects of Male and Female Mate Quality. Human Nature 18(4):329-333.

Darwin Correspondence Project

2011 Top 10 Letters. Electronic document, <http://www.darwinproject.ac.uk/top-10-letters>, accessed 1/10, 2011.

Darwin, Charles

1871 Natural Selection. *In* *On the Origin of Species by Means of Natural Selection, Or the Preservation of Favored Races in the Struggle for Life*. Pp. 119-154. New York: D. Appleton.

diCarlo, Christopher W.

2010 The Co-Evolution of Consciousness and Language and the Development of Memetic Equilibrium. *Journal of Consciousness Exploration & Research* 1(4):410-428.

Evans, Jonathan P.

Quantitative Genetic Evidence that Males Trade Attractiveness for Ejaculate Quality in Guppies. *Proceedings of the Royal Society B: Biological Sciences*.

Fields, Helen

2006 Dinosaur shocker. Electronic document, <http://www.smithsonianmag.com/science-nature/dinosaur.html>, accessed 1/11, 2011.

Frijda, N. H.

1988 The Laws of Emotion. *The American Psychologist* 43(5):349-358.

Gallup, Gordon G., Jr., and Rebecca L. Burch

2006 The Semen-Displacement Hypothesis: Semen Hydraulics and Intra-Pair Copulation Proclivity Model of Female Infidelity. *In* *Female Infidelity and Paternal Uncertainty*. Steven M. Platek and Todd K. Shackelford, eds. Pp. 129-140. New York: Cambridge University Press.

Gibbons, Ann

2010 The human family's earliest ancestors. Electronic document, <http://www.smithsonianmag.com/science-nature/The-Human-Familys-Earliest-Ancestors.html>, accessed 1/12, 2011.

Gross, Mart R.

1996 Alternative Reproductive Strategies and Tactics: Diversity within Sexes. *Trends in Ecology & Evolution* 11(2):92-98.

Hall, Stephen S.

2008 Last of the Neanderthals. *National Geographic*(October):34-59.

Krams, Indrikis, Tatjana Krama, Kristine Igaune, and Raivo Mänd

2008 Experimental Evidence of Reciprocal Altruism in the Pied Flycatcher. *Behavioral Ecology and Sociobiology* 62(4):599-605.

Muehlenbein, Michael P.

2010 Evolutionary Medicine, Immunity, and Infectious Disease. *In* *Human Evolutionary*

- Biology. Michael P. Muehlenbein, ed. Pp. 459-490. Cambridge: Cambridge University Press.
- Nowak, Martin A., Corina E. Tarnita, and Edward O. Wilson
2010 The Evolution of Eusociality. *Nature* 466(7310):1057-1062.
- Oatley, Keith
2006 Evolution of Emotions. *In Understanding Emotions*. Keith Oatley, Dacher Keltner and Jennifer M. Jenkins, eds. Pp. 33-54. Hoboken: Wiley-Blackwell.
- Paley, William
State of the argument/Application of the Argument. *In Natural Theology : Or, Evidences of the Existence and Attributes of the Deity, Collected from the Appearances of Nature*. Pp. 5-27. Boston: Gould and Lincoln,.
- Panksepp, Jaak
2003 At the Interface of the Affective, Behavioral, and Cognitive Neurosciences: Decoding the Emotional Feelings of the Brain. *Brain and Cognition* 52(1):4-14.
- Rilling, James K., Brooks King-Casas, and Alan G. Sanfey
2008 The Neurobiology of Social Decision-Making. *Current Opinion in Neurobiology* 18(2):159-165.
- Sagarin, Brad J.
2005 Reconsidering Evolved Sex Differences in Jealousy: Comment on Harris (2003). *Personality and Social Psychology Review* 9(1):62-75.
- Schweitzer, Mary Higby, Zhiyong Suo, Recep Avci, John M. Asara, Mark A. Allen, Fernando Teran Arce, and John R. Horner
2007 Analyses of Soft Tissue from Tyrannosaurus Rex Suggest the Presence of Protein. *Science* 316(5822):277-280.
- Smith, David Livingston
2007 *The most Dangerous Animal : Human Nature and the Origins of War*. 1st ed. New York: St. Martin's Press.
- Sosis, Richard
2004 The Adaptive Value of Religious Ritual. *American Scientist* 92:166-172.
- Watson, David, David Wiese, Jatin Vaidya, and Auke Tellegen
1999 The Two General Activation Systems of Affect: Structural Findings, Evolutionary Considerations, and Psychobiological Evidence. *Journal of Personality and Social Psychology* 76(5):820-838.
- Wheeler, Brandon C.
Monkeys Crying Wolf? Tufted Capuchin Monkeys use Anti-Predator Calls to Usurp Resources from Conspecifics. *Proceedings of the Royal Society B: Biological Sciences*.

Wilson, David Sloan

2007 *Evolution for Everyone : How Darwin's Theory can Change the Way we Think about our Lives*. New York: Delta.

Wohlrab, Silke, Jutta Stahl, Thomas Rammsayer, and Peter M. Kappeler

2007 Differences in Personality Characteristics between Body-Modified and Non-Modified Individuals: Associations with Individual Personality Traits and their Possible Evolutionary Implications. *European Journal of Personality* 21(7):931-951.

Wong, Kate

2010 Ancient cut marks reveal far earlier origin of butchery. Electronic document, <http://www.scientificamerican.com/article.cfm?id=ancient-cutmarks-reveal-butchery>, accessed 1/12, 2011.

Exams and Assignments

Quizzes (20 points): There will one quiz on eLearning FOR EACH CHAPTER of Wilson's *Evolution for Everyone* book. These will be accessible until Spring Break. Upon opening each quiz, it MUST BE ANSWERED WITHIN 5 MINUTES. If you do not answer it within 5 minutes, the quiz will close and you will not be able to submit it. If you have done the assigned reading, 5 minutes will be more than enough time. However, it will not provide you enough time to read the question and then look for the answer. There will be 36 quizzes. Each quiz will be 1-2 questions. Quiz scores will be calculated as % correct out of 100%. This percent will then be divided by 5 to determine your course points out of 20. This means that, although the Wilson book is assigned to be read during the first two weeks of the course, there is some flexibility. It is recommended that you immediately take the respective quiz immediately upon reading each chapter.

Exams (60 points): There one midterm and one final exam. Exams are based on readings, lectures, and discussion material. You are responsible for all the material of the course, so it is imperative that you come to every session of class, take notes, participate, and seek clarification for material you do not understand. Each exam will consist of 10 short answer questions worth 10 points each.

Term Paper (20 points): All students will complete an original paper on a topic related to this course pre-approved by Dr. Lynn. Papers, topics, and outlines should all be submitted in class on the day they are due. DO NOT PUT YOUR NAME ON YOUR TOPIC, OUTLINE, OR PAPER—PUT ONLY YOUR CWID. This is to prevent any bias when it is time to grade. However, please do not hesitate to talk to or email me if you have questions about your topic or paper. I am happy to assist and discuss these with you.

Topics must be submitted for pre-approval (see calendar for due date). Topics will not be graded, but 5% will be deducted from your paper grade for every day they are late.

Outlines for approved topics must be submitted (see calendar for due date). Outlines will not be graded, but 5% will be deducted from your paper grade for every day they are late.

Rough drafts are strongly encouraged but not required. People who submit rough drafts usually earn A's. However, a rough draft should be the best you can do. In other words, it should only be rough to me, not to you. I will not read papers that are not in their final form in terms of development of ideas, citations, style, grammar and spelling, etc. But I am happy to help you improve what you already consider a

complete paper. The final paper should be an improvement on the rough draft. If you choose to submit a rough draft, it is due by April 14 to afford time for me to read/comment and for you to revise.

Final papers are due the last day of class.

The following guidelines are requirements of your paper, NOT suggestions.

- Papers must be 5-8 pages double-spaced, 12-point type, Times Roman font, with 1-inch margins all around.
- Do not use space before or after paragraphs (turn this off in Word by clicking on Paragraph, then set Spacing to 0 before and after).
- Be sure to insert page numbers in either your header or footer.
- Include a separate Title page and give your paper a title (not “Evolution for Everyone Paper”). Also include your CWID (NOT your name), the number and title of the course, and the semester (Spring 2011).
- Include a separate References page.
 - Use primary sources from scholarly journals.
 - AT LEAST 5 references should come from outside of our course readings.
- Citations and bibliographic references should be in a consistent style
 - Unless you already use other software, I STRONGLY recommend you use <http://refworks.ua.edu/>, which is bibliographic software that is free for you to use as UA students and has the American Anthropological Association style available.
 - Cite sources in-text—i.e., Blah blah blah (Lynn 2011) or “blah blah blah” (Lynn 2011:15) or, According to Lynn (2011), blah blah blah or According to Lynn (2011:15), “blah blah blah.” If you have multiple sources for the same or integrated material, cite it as follows: (Earley 1999; Gable 2011; Lynn 2010; Raphael 1971). Notice these are in alphabetical order. Alternatively, you can sometimes list them chronologically.
 - I will post a style guide on eLearning to which you can refer.
- Papers must be carefully spell-checked and proofread for grammar and coherence.
- Do not write in first person. Paper will include at least 4 references (preferably more) and be cited properly in-text.
- Do use texting abbreviations.
- Only use quotes sparingly and cite properly.

Papers will be graded in terms of the following:

	1=poor	2=fair	3=good	4=excellent
Coherence (grammar, spelling, adherence to style)				
Internal logic (sources are appropriate and make sense with regard to topic)				
Integration of evolutionary theory				
Innovation (says something new or takes novel approach)				
Overall impression				

Grading Policy

20 points--QUIZZES

30 points--MIDTERM EXAM

20 points--TERM PAPER

30 points--FINAL EXAM

100 points

Policy on Missed Exams & Coursework

Attendance: If you miss a class, it is your responsibility to utilize Tegrity to view lectures or contact a classmate to get notes. However, I cannot guarantee that every lecture will be posted to Tegrity. Furthermore, discussions will be an important aspect of this course, which is difficult to re-experience via Tegrity.

Exams: If you miss an exam due to legitimate circumstances beyond your control, you may make it up if arrangements are made with me in a timely fashion (i.e., you should be able to get notice to me by the next day or within 3 under extreme circumstances). Legitimate circumstances may include illness sufficient to merit a visit to the Student Health Center (in which case, be prepared to provide proof of visit) or death or illness in the family. Under the latter circumstances, I expect you will be notifying your academic adviser and other instructors of your absence in their classes too, which I may elect to verify.

Term Paper: If topics or outlines are not received when they are due, I will begin deducting 5% from your paper grade for each day they are late. Late submissions will only be accepted by prior arrangement and/or with a very good reason. Otherwise, I will deduct 10% from your paper grade for each day (or part of a day) they are late. Many assignments being due at the same time is *never* a good reason, and extensions will never be authorized on that basis, so please don't ask. No extensions will be authorized during the 3 days immediately prior to the due date except in the case of a legitimate medical emergency.

Extra Credit Opportunities

There are three ways to earn extra credit. You may do any or all of these things, earning a possible 15 total extra credit points:

- Perfect attendance will earn you 5 extra course points. No exceptions. This means you cannot miss ANY class sessions, even if they are excused or reasonable absences.
- You may have the opportunity to participate in miscellaneous studies conducted by students or faculty at UA. Participating in research is a great way of learning how studies are designed and conducted. Extra credit will be granted for such participation. The number of points will be determined by the extent of your participation, not to exceed 5 points. Proof of your participation must be submitted by the researcher(s) conducting the study with an indication of the extent (e.g., time, activities) of your participation.
- Conducting independent research testing an evolutionary model that is not being done for another course. For instance, I run a research group that regularly involved undergraduates. Participation in this research group can earn you extra credit. Points will be assigned based on the extent of your participation, not to exceed 5 course points.

Outline of Topics (Updated 2011-01-12)

<u>Dates</u>	<u>Instructor</u>	<u>Activity</u>	<u>Readings</u>	<u>Due</u>
Thurs, Jan 13	Lynn	Syllabus, note-taking, writing term paper & choosing sources	Wilson, ch. 1-18	
Tues, Jan 18	Lynn	Scientific Method		
Thurs, Jan 20	Andrus	ALLELE guest: Mary Schweitzer	Schweitzer 2007; Smithsonian article	
Tues, Jan 25	Lynn	Cell Biology & DNA	Wilson, ch. 19-36	
Thurs, Jan 27	Lynn	Forces of Evolution		
Tues, Feb 1	Andrus	Paleontology I: outcrops field trip		
Thurs, Feb 3	Andrus	Paleontology II: Natural History Museum field trip		
Tues Feb 8	Andrus	Paleontology III: Written in the rocks	Coyne 2010	PAPER TOPIC
Thurs, Feb 10	Rissler	Evolutionary Biology	TBA	
Tues, Feb 15	Rissler	Evolutionary Biology	TBA	
Thurs, Feb 17	Rissler	Evolutionary Biology	TBA	
Tues, Feb 22	Earley	Animal Behavior I: Cooperation, Prisoners	Krams 2008, Rilling 2008, Nowak 2010	

		Dilemma, Reciprocal Altruism		
Thurs, Feb 24	Lynn	ALLELE guest: Chris diCarlo	diCarlo 2010	
Tues, Mar 1	Earley	Animal Behavior II: Deception	Bshary 2002, Wheeler 2009	
Thurs, Mar 3	Earley	Animal Behavior III: Alternative reproductive strategies	Evans 2010, Gross 1996	
Tues, Mar 8	Lynn	Human Evolution I: Ardy, Lucy, & Neandertals	Hall 2008 ; Gibbons 2010 ; Wong 2010	PAPER OUTLINE
Thurs, Mar 10	Lynn	Midterm Exam		
Mar 15 & 17		SPRING BREAK		
Tues, Mar 22	Lynn	Human Evolution II: Human Signaling	Sosis 2004, Cronk & Dunham 2007, Wohlrab 2007	
Thurs, Mar 24	Rissler	ALLELE guest: Doug Futuyma	TBA	
Tues, Mar 29	Lynn	Human Evolution III: Evolutionary Medicine	Muehlenbein 2010	
Thurs, Mar 31	Gable	Evolution of Emotions I	Oatley 2006	
Tues, Apr 5	Gable	Evolution of Emotions II	Panksepp, 2003; Frijda, 1988	
Thurs, Apr 7	Gable	Evolution of Emotions III	Carver, 2001; Watson et al., 1999	
Tues, Apr 12	Raphael	History of Evolution	Paley "Natural Theology"	ROUGH DRAFT DUE
Thurs, Apr 14	Raphael	History of Evolution	Darwin "Natural Selection"	
Tues, Apr 19	Raphael	History of Evolution	Darwin letters	
Thurs, Apr 21	Lynn	Video lecture: David Livingstone Smith "Origin of War"	Smith 2007 chaps 1-2 ; "Why War"	
Tues, Apr 26	Lynn	Video lecture: Gordon Gallup "Science of Sex Appeal"	Gallup & Burch 2006	FINAL DRAFT OF PAPER
Thurs, Apr 28	Gable	ALLELE guest: Brad Sagarin	Sagarin 2005	

Fri, May 6		FINAL EXAM		
3:30-6PM				

Facebook

"Like" the UA Department of Anthropology (www.facebook.com/UAAnthroDept) and the ALLELE series (www.facebook.com/ALLELEseries) on Facebook so that we can keep in touch with you and you can stay informed about our events and activities.

Disability Statement

If you are registered with the Office of Disability Services, please make an appointment with me as soon as possible to discuss any course accommodations that may be necessary. If you have a disability, but have not contacted the Office of Disability Services, please call 348-4285 or visit 133-B Martha Parham Hall East to register for services. Students who may need course adaptations because of a disability are welcome to make an appointment to see me during office hours. Students with disabilities must be registered with the Office of Disability Services, 133-B Martha Parham Hall East, before receiving academic adjustments.

Policy on Academic Misconduct

All students in attendance at the University of Alabama are expected to be honorable and to observe standards of conduct appropriate to a community of scholars. The University expects from its students a higher standard of conduct than the minimum required to avoid discipline. Academic misconduct includes all acts of dishonesty in any academically related matter and any knowing or intentional help or attempt to help, or conspiracy to help, another student.

[The Academic Misconduct Disciplinary Policy](#) will be followed in the event of academic misconduct.

Severe Weather Protocol

In the case of a tornado warning (tornado has been sighted or detected by radar; sirens activated), all university activities are automatically suspended, including all classes and laboratories. If you are in a building, please move immediately to the lowest level and toward the center of the building away from windows (interior classrooms, offices, or corridors) and remain there until the tornado warning has expired. Classes in session when the tornado warning is issued can resume immediately after the warning has expired at the discretion of the instructor. Classes that have not yet begun will resume 30 minutes after the tornado warning has expired provided at least half of the class period remains.

UA is a residential campus with many students living on or near campus. In general classes will remain in session until the National Weather Service issues safety warnings for the city of Tuscaloosa. Clearly, some students and faculty commute from adjacent counties. These counties may experience weather related problems not encountered in Tuscaloosa. Individuals should follow the advice of the National Weather Service for that area taking the necessary precautions to ensure personal safety. Whenever the National Weather Service and the Emergency Management Agency issue a warning, people in the path of the storm (tornado or severe thunderstorm) should take immediate life saving actions.

When West Alabama is under a severe weather advisory, conditions can change rapidly. It is imperative to get to where you can receive information from the [National Weather Service](#) and to follow the instructions provided. Personal safety should dictate the actions that faculty, staff and students take. The Office of Public Relations will disseminate the latest information regarding conditions on campus in the following ways:

- Weather advisory posted on the UA homepage
- Weather advisory sent out through Connect-ED--faculty, staff and students ([sign up at myBama](#))
- Weather advisory broadcast over WVUA at 90.7 FM
- Weather advisory broadcast over Alabama Public Radio (WUAL) at 91.5 FM
- Weather advisory broadcast over WVUA 7. WVUA 7 Storm Watch provides a free service you can subscribe to that allows you to receive weather warnings for Tuscaloosa via e-mail, pager or cell phone. Check <http://www.wvua7.com/stormwatch.html> for details.