

Evolution for Everyone

ANT 150 Section 001

Spring 2015, Lecture

Dr. Christopher Lynn

Office Hours and Contact Information

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Prerequisites

UA Course Catalog Prerequisites

No prerequisites or none listed.

Course Description

UA Course Catalog Information

This course is designed to open students minds to what evolution is and how it applies to all life. Toward that end, we will view lectures given by evolutionary scholars from varied institutions and disciplines.

The theory of evolution by natural selection is one of the most fundamentally transformative concepts of the modern era, yet it is not well understood by the average person. The purpose of a liberal arts education is to create well-rounded citizens, and, therefore, a basic liberal arts education should include

evolution for everyone. This course is that introduction to the principles and applications of evolution. It is designed to open your mind to what evolution is and how it applies to all life. We will do that through a series of guest lectures, readings on the practical utility of evolutionary principles, group work to develop a research project, and by reviewing a popular book that applies evolutionary theory and sharing your reviews with everyone. Guest lectures will be provided by faculty from throughout the University who teach classes as part of the Evolutionary Studies minor or whose research is evolutionary in nature. 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 from our series and other institutions. This course is designed to touch upon evolution as utilized in the natural or social sciences, humanities, and applied sciences and arts. This diversity of topics should make for an academic experience that is nothing short of fascinating.

Student Learning Outcomes

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

- Define and describe what evolution is and is not
- Summarize the nature of the forces of evolution
- Utilize evolutionary principles to develop a research project
- Outline how evolutionary theory applies across academic disciplines
- Critically evaluate different scholarly and lay approaches to evolution

Required Texts

UA Supply Store Textbook Information

- CARROLL (RENTAL) / (RENTAL) MAKING OF THE FITTEST **(RENTAL)**
- CARROLL / MAKING OF THE FITTEST **(Required)**
- WILSON (RENTAL) / (RENTAL) EVOLUTION FOR EVERYONE **(RENTAL)**
- WILSON / EVOLUTION FOR EVERYONE **(Required)**

Other Course Materials

Blackboard: This course will use Blackboard to distribute additional readings, including readings by our scheduled ALLELE speakers. Those should be posted at least a week in advance of when they are assigned. Access Blackboard via myBama. There is a box called Blackboard on the Academics tab that should list your courses that are currently let up with Blackboard.

Facebook: There is a closed Facebook group for the course at <http://www.facebook.com/groups/ant150/>. This group is used to share relevant information from media sources, facilitate discussion, and submit some assignments. Please request to join the group. If you are not on Facebook, you will need to join, if

only to participate in our group (you can make your profile private so no one finds out).

While you're at it, "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.

Attendance Policy

You are required to come to class and participate. Attendance and participation will be monitored. If you miss more than 3 classes, points will be deducted from your course grade. Excessive absence will result in a failing grade in the course.

Outline of Topics

Date	Topic	Instructor/Speaker	Activity/Assignment	Reading*
Thurs 1/8	<i>Intro/ Research proposal & formulating a hypothesis</i>		Brainstorm hypotheses	Wilson chap 1
Tues 1/13	<i>Scientific method</i>			Wilson chaps 2-3
Thurs 1/15	<i>Forces of evolution</i>		Hypothesis due (post to Facebook group BY MIDNIGHT)	Wilson 4-6
Tues 1/20	Paleontology	Ehret (AMNH)		Wilson 7-9
Thurs 1/22				Wilson 10-12
Tues 1/27	<i>Reviewing literature</i>		Discuss falsifiability of your hypotheses & how to find/review sources	Wilson 13-15
Thurs 1/29	ALLELE	Patrick McGovern	Discussion questions (post to Facebook group BEFORE class)	McGovern article (Blackboard)

Tues 2/3	FILM: Dogs Decoded		"Background" section due	Wilson 16-18
Thurs 2/5	Biochemistry	Frantom (Chemistry)		Wilson 19-21
Tues 2/10	<i>Research methods</i>			Wilson 22-24
Thurs 2/12	Population Genetics	Lozier (Biology)		Wilson 25-27
Tues 2/17	<i>Project proposal peer review</i>		Proposal due (bring a PRINTED copy TO CLASS) / Peer reviewing	Wilson 28-30
Thurs 2/19	"Evolution for Everyone"		Discussion of the book	Wilson 31-33
Tues 2/24	Epigenetics	Reed (Biology)		Wilson 34-36
Thurs 2/26	ALLELE	Michael Antolin	Discussion questions (post to Facebook group BEFORE class)	Antolin article TBD
Tues 3/3	MIDTERM EXAM			
Thurs 3/5	Video: John Hawks "Neandertime"			Carroll preface & chap 1
Tues 3/10	Brain development	Eyer (Psychology)	Revised research proposal due (via Blackboard dropbox by midnight)	Carroll 2
Thurs 3/12	ALLELE	Rebecca Burch	Discussion questions (post to Facebook group BEFORE class)	Burch TBD
Tues	Video: Frans de			Carroll 3

3/17	Waal			
Thurs 3/19	Primate sexuality	Lynn (Anthropology)	Book review title due (post to Facebook group)	book review article
Tues 3/24	SPRING BREAK			
Thurs 3/26				
Tues 3/31	History of Science	Peterson (History)		Carroll 4
Thurs 4/2	Naturalist drawing	Wegrynowski (Art)	Drawing!	Carroll 5
Tues 4/7	<i>Reviewing books/</i> Video: Victoria Ingalls			Carroll 6
Thurs 4/9	Communication	Buhr (Comm Dis)		Carroll 7
Tues 4/14	Video: Baba Brinkman "Rap Guide to Evolution"			Carroll 8
Thurs 4/16	Culture and Media	Evans (TCF)	Book review due (bring to class) / Peer review	Carroll 9
Tues 4/21	Evolution Developmental Biology	Yoder (Biology)	Revised book review & research proposal due	Carroll 10
Thurs 4/23	ALLELE	Sean Carroll	Discussion questions (post to Facebook group BEFORE class)	
Wed, April 29,	FINAL EXAM			

3:30-6:00

PM

*If you want to pick your review book to read early so you can pace yourself by reading it throughout the semester, feel free to do so. Just make sure your title is approved by Dr. Lynn before starting.

Exams and Assignments

Participation: In addition to attending, you will

1. Complete periodic pop reading quizzes. These are short quizzes to motivate you to keep up with the reading.
2. Compose relevant questions to ask the ALLELE speakers when they visit class. You will post these to our Facebook group BEFORE the class meeting.
3. Bring relevant material to class or post it to Facebook by the required time when we are doing group activities. For instance, you will be required to post research hypotheses and bring in a copy of your research proposal for group discussion.
4. Attend ALLELE lectures. They take place at 7:30 PM in the Biology Auditorium, and there will be 4 throughout the course of the semester. The schedule is on the ALLELE website and Facebook page. You will verify your attendance by taking selfies at the lecture with the speaker in the background and sending them to me **via Blackboard**. If you cannot attend a lecture, you can send someone in your place as a proxy to take notes and a selfie. Submit a summary of the lecture from their notes and their selfie with their name via Blackboard to receive credit. Alternately, there are other extra credit opportunities listed below if you cannot attend these public lectures.

Research Proposal: A 3-page research proposal is to be completed during the first half of the semester. The purpose of this proposal is to help you start thinking about evolutionary problems in terms of testable hypotheses. Your proposal should outline a study you could do here at UA as an undergraduate and one that, in fact, you will do if you are an EvoS minor. Your proposal should outline the background of your topic and how you came to formulate your hypothesis, state your pursuit in terms of a falsifiable hypothesis, the methods you would use to conduct your study (including the population or subject of interest, the materials you would use for the study, and how you would analyze your data), and what you expect to find and the implications of these findings with regard to the existing literature on the topic. You will be expected to cite that literature appropriately.

If you do not know how to cite literature scientifically, I have posted a link to Dr. Bindon's ["The Research Paper"](#) that will help you with this and many other aspects of academic research. We will also work on these sections in class. Drafts will be required on the dates posted, and you will be penalized if you do not come to class prepared to participate.

Your proposal should take the following form and contain section headers to indicate you have used this

form:

1. Introduction (3 points)
 - background (summarizes what you're going to say)
 - hypothesis
2. Methods (5 points)
 - subjects/population
 - materials
 - procedure
 - analysis
3. Discussion (5 points)
 - implications
 - significance
4. Conclusion (2 points)
 - summarize what you've said

Book Review or Analysis: You will complete a book review during the second half of the semester. The book you will review will be a recently published non-fiction trade book that addresses evolutionary principles for an educated lay audience (like yourselves), a fiction book that utilizes evolutionary theory to develop its story line, or a book you can analyze from an evolutionary perspective (the latter is more advanced, but the Ingolls video on 4/9 will give you an idea of how you might do this). You must submit the title of book to review to me NO LATER THAN MARCH 19 (earlier is fine though). If you do not have a book by that date, I will assign one to you.

Your book review or analysis must be of publication quality, as your objective will be to submit them for consideration to *JOSHUA*, the *EvoS Journal*, or some other professional forum for consideration. An article outlining academic book reviews with guidelines and a worksheet for writing one is posted to Blackboard, and we will discuss this in class. Only reviews that receive an A will be approved for submission for publication.

Drafts will be required on the dates posted, and you will be penalized if you do not come to class prepared to participate. Your final book review or analysis will be due April 21.

Exams There are two exams, worth 25 points each. 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.

Grading Policy

20% = PARTICIPATION

20% = RESEARCH PROPOSAL

20% = BOOK REVIEW

20% = MIDTERM EXAM

20% = FINAL EXAM

100%

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 for any reason whatsoever, whether excused or unexcused, you will be able to make it up by completing a 15-page research paper. The topic will be chosen by Dr. Lynn and format instructions will be provided. If you miss the midterm, the research paper will be due on the day of the final exam. If you miss the final exam, you will be given two weeks to complete and turn in the research paper make-up.

Research Proposal & Book Review: Late submissions will only be accepted by prior arrangement and/or with a very good reason. Otherwise, I will begin deducting 1 point from the research proposal score or the book review for each day or portion thereof that it is late. If it is received more than 15 days late, you will receive a 0 for the assignment. 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 multiple ways to earn extra credit. You may do any or all of these things, earning a possible 15 total extra credit points:

- You can receive extra credit by bringing guests to ALLELE lectures. You will receive 1 course points per lecture for each person you bring. To get credit, take a "selfie" with your camera or smartphone with your guests and the speaker in the background send the photo(s) to Dr. Lynn **via Blackboard** indicating your guests' first and last name. Your guests cannot be someone who is already there for another class, and you cannot double-dip if you are taking two classes with me. Choose which class you want credit in, and only send me the photo via that course's Blackboard messages.
- 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 3 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.

- Other opportunities may arise and be announced during the course of the semester.

Evolutionary Studies

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 [\[www.facebook.com/ALLELEseries\]](http://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, there is also an EvoS club. 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. The Club will be hosting a Darwin Day (Feb. 12) research colloquium this year that I encourage you to attend.

Contact me if you are interested in the EvoS minor (either to declare or for more information).

Undergraduate Research

The Anthropology Department offers several avenues for getting involved in undergraduate research. We offer a course in Undergraduate Research that you can take in conjunction with mentoring by a department faculty member. There is a portal on the department website that will help us guide you to appropriate mentor and project: <http://anthropology.ua.edu/ugres.php>. Additionally, I take new students into the Human Behavioral Ecology Research Group (HBERG) every semester who are interested in getting involved in the kind of research I conduct and which is related to this course. Under some circumstances, I may offer extra credit for such participation, but you can also get involved without receiving credit, if you simply desire research experience. You can learn more about HBERG activities here: <http://anthropology.ua.edu/hberg/>. To apply to work with me, fill out the form at this portal: <http://anthropology.ua.edu/hberg/4/>.

Severe Weather Guidelines

The guiding principle at The University of Alabama is to promote the personal safety of our students, faculty and staff during severe weather events. It is impossible to develop policies which anticipate every weather-related emergency. These guidelines are intended to provide additional assistance for responding to severe weather on campus.

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 University 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 UA Alerts to faculty, staff and students
- 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-TV/WUOA-TV, and on the website at <http://wvuatv.com/content/weather>. WVUA-TV Home Team Weather provides a free service you can subscribe to which allows you to receive weather warnings for Tuscaloosa via e-mail or cell phone. Check <http://wvuatv.com/content/free-email-weather-alerts> for more details and to sign up for weather alerts.

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.

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 (205) 348-4285 (Voice) or (205) 348-3081 (TTY) 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 of Alabama expects from its students a higher standard of conduct than the minimum required to avoid discipline. At the beginning of each semester and on examinations and projects, the professor, department, or division may require that each student sign the following Academic Honor Pledge: “I promise or affirm that I will not at any time be involved with cheating, plagiarism, fabrication, or misrepresentation while enrolled as a student at The University of Alabama. I have read the Academic Honor Code, which explains disciplinary procedure resulting from the aforementioned. I understand that violation of this code will result in penalties as severe as indefinite suspension from the University.”

See the [Code of Student Conduct](#) for more information.

Emergency Contact Information

UA's primary communication tool for sending out information is through its web site at www.ua.edu. In the event of an emergency, students should consult this site for further directions. Additional course information will be posted using Blackboard Learn.