

ANT 150: EVOLUTION FOR EVERYONE

Spring 2017 / Tues/Thurs 2-3:15 / ten Hour 119

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Course Description: This course is designed to open student 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 an introduction to 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 (as a process) and how it applies to all life (the patterns). 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. Faculty from throughout the University who teach classes as part of the Evolutionary Studies minor or whose research is evolutionary in nature will provide guest lectures. 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:

- Describe what is meant by evolution as a process versus evolution as a pattern
- Summarize the nature of the forces of evolution
- Utilize evolutionary principles to develop a research project
- Outline how evolutionary theory is applied across diverse academic disciplines
- Critically evaluate different scholarly and lay approaches to evolution

COURSE MATERIALS

Required Texts

Lynn, Christopher D., Amanda L. Glaze, Laura Reed, and William Evans, eds. *Evolution Education in the American South: Politics, Culture, and Resources in and Around Alabama*. New York: Palgrave-Macmillan, 2017.

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.

We will also use Blackboard to turn in all assignments. I STRONGLY recommend you set up Blackboard to send you email notifications when things are posted, updated, due, or have been graded. To do this, follow these instructions:

1. Log in to Blackboard.
2. Toggle the arrow next to your name at the upper right hand corner of your screen.
3. Select "Settings" at the bottom of the screen that appears.
4. Select "Edit Notification Settings."
5. Select this course from the list.
6. Under "2. Settings," check the box above Email so it notifies you when any actions are taken.
7. Be sure to click the "Submit" button to save these settings.

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, and facilitate discussion. 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

You are required to come to class and participate. Attendance and participation will be monitored. You can miss 3 classes for any reason whatsoever with no penalty. However, if you miss more than 3 classes, whether excused or unexcused, 5 course points will be deducted from your course grade for each additional absence. Excessive absence will result in a failing grade in the course.

ASSIGNMENTS AND EXAMS

We will also use Blackboard to turn in all assignments. I STRONGLY recommend you set up Blackboard to send you email notifications when things are posted, updated, due, or have been graded. To do this, follow these instructions:

1. Log in to Blackboard
2. Toggle the arrow next to your name at the upper right hand corner of your screen
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4. Select "Edit Notification Settings"
5. Select this course from the list
6. Under "2. Settings," check the box above Email so it notifies you when any actions are taken.
7. Be sure to click the "Submit" button to save these settings.

PARTICIPATION

Class participation will be evaluated in several ways:

- Class attendance.
- Pop reading quizzes. These are short quizzes to motivate you to keep up with the reading.
- Viewing guides. You are assigned to watch several online documentaries and video lectures over the course of the semester via links provided. You are required to fill out submit viewing guides for each selection and submit them via Blackboard by the due date. Viewing guides are due by midnight on the dates assigned.
- Discussion questions. Compose relevant questions to ask the ALLELE speakers when they visit class. You will post these to Blackboard by noon BEFORE the class meeting.
- Peer review. Bring relevant material to class by the required time when we are doing group activities. For instance, you will be required to post research hypotheses to Blackboard and bring in a copy of your research proposal for group discussion.
- ALLELE lecture attendance. The schedule is on the ALLELE website and Facebook page. There will be a sign-in sheet at the lectures. If you cannot attend the lectures in person, you will need to watch TWO online evolution lectures on either the ALLELE Vimeo or EvoStudies.org site and turn in summaries of the lecture by the next class meeting.

PROJECT PROPOSAL

A 3-page project 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, 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), 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.

Research proposals should take the following form and contain section headers to indicate you have used this form (if you opt to do a creative project, talk to me about the structure):

Introduction (10 points)

background (summarizes what you're going to say)

hypothesis

Methods (10 points)

subjects/population

materials

procedure

analysis

Discussion (5 points)

implications

significance

Conclusion (5 points)

summarize what you've said

BOOK REVIEW/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 from the list provided (or one approved by me if not on list) 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 there are resources I can point you to that can give you an idea of how you might do this).

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 and the final review will be required on the dates posted, and you will be penalized if you do not come to class prepared to participate or turn in your assignment by that date.

TESTS AND FINAL EXAM

There are 3 take-home, open-book tests and a comprehensive final exam. Tests and 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

15% = PARTICIPATION

15% = RESEARCH PROPOSAL

15% = BOOK REVIEW

15% = TEST 1

15% = TEST 2

15% = TEST 3

10% = FINAL EXAM

100%

OUTLINE OF TOPICS

Date	Topic	Video	Activity/Assignment	Reading
Thurs 1/11	Intro/Formulating project		Brainstorm hypotheses	EEAS Preface & Front Matter
Tues 1/16	Scientific method	<i>Dogs Decoded</i>		Mead & Mates 2009
Thurs 1/18	Everyday science		Hypothesis due	
Tues 1/23	Falsifiability of hypothesis	Ron Numbers ALLELE	Falsifiability and finding sources	Souza & Bingham 2014
Thurs 1/25	Darwinism in Southern history			Numbers & Lester 2017
Tues 1/30	Polygenist history in Alabama (Peterson)	Sean Carroll ALLELE		Peterson 2017
Thurs 2/1	Alabama's disclaimer			Branch 2017, Hawley & Phillips

				2017
Tues 2/6	Evolution of the Universe (Bailin)	Lawrence Krauss ALLELE	“Background” section due	Chiappini 2001
Thurs 2/8	Evolution and psychology of human cognition (Crespi)		Post discussion question to Blackboard	Crespi 2016
Tues 2/13	Research methods	Natalie Jeremijenko		
TEST 1 AVAILABLE 2/13, DUE BY MIDNIGHT 2/14				
Thurs 2/15	How chemicals form life (Frantom or Dunkle)			Aldridge 2003
Tues 2/20	Evolution acceptance among students	No Dinosaurs in Heaven		Glaze 2017, Schrein 2017, Rissler et al. 2014
Thurs 2/22	How does inheritance work? (Lozier)			Lozier 2017
Tues 2/27	Sex in evolution (Fierst or Pienaar)	Mammals and Lice		
Thurs 3/1	Invertebrate evolution (Kocot)	Botany of Desire		
Tues 3/6	Peer reviewing		Project proposal due (bring to class)/Peer review	
Thurs 3/8	Wetland ecology & conservation (Cherry)	Chris Mooney ALLELE		
Tues 3/13	Paleoenvironments & climate change		Revised project proposal due	

	(Minzoni)			
Thurs 3/15	Mass extinctions (Tobin)	Linda Ivany ALLELE		
Tues 3/20	SPRING BREAK			
Thurs 3/22				
Tues 3/27	Trace Fossils of Alabama (Buta)			Buta 2017
TEST 2 AVAILABLE 3/27, DUE BY MIDNIGHT 3/28				
Thurs 3/29	Reviewing books	Anthony Martin ALLELE		
Tues 4/3	Human evolution			Bingham et al 2017
Thurs 4/5	Evolution of communication (Buhr)	John Hawks ALLELE		
Tues 4/10	Evolution of consciousness	Victoria Ingalls		
Thurs 4/12	Why evolution hides the truth from our eyes (Hoffman)		Post discussion question to Blackboard	Hoffman interview
Tues 4/17	Naturalist drawing (Wegrynowski)	John Muir Laws		https://johnmuirlaws.com/blog-archives/
Thurs 4/19	Peer reviewing		Book review due (bring to class)/Peer review	
Tues 4/24	Evolution and body modification	Rebecca Burch ALLELE	Revised book review due	Lynn & Medeiros 2017
Thurs 4/26	Evolution in media (Evans)			Evan 2017

TEST 3 AVAILABLE 4/26, DUE BY MIDNIGHT 4/27	
Wed 5/2, 8-10:30 AM	COMPREHENSIVE FINAL EXAM

OTHER COURSE MATERIAL

Policy On Missed Exams and Coursework

Attendance: If you miss a class, it is your responsibility to contact a classmate to get notes. There are no make-ups. Since I allow 3 absences without penalty for whatever reason. Absences over and above that are penalized as outlined above regardless of reason, so it is recommended you save your absences for emergency purposes.

Missed ALLELE lectures can be made up by watching two additional ALLELE or EvoStudies.org video lectures and writing summaries of them. Email me for details and due dates.

Quizzes, discussion questions, and viewing guides: Pop reading quizzes and discussion questions cannot be made up. Viewing guides can be submitted late for half credit.

Tests/Exam: If you miss a test or exam for any reason whatsoever, whether excused or unexcused, you will be able to make it up by completing a 15-page research paper.

Project 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.

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. See <https://evolutionarystudies.as.ua.edu/> for requirements and courses.

Undergraduate Research

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. Learn more about HBERG activities here: <http://cdlynn.people.ua.edu/hberg.html>. To apply to work with me, fill out the form at this portal: <http://cdlynn.people.ua.edu/join-us.html>.

COURSE READINGS

Aldridge, Susan. "The DNA Story." *Chemistry World* (April 1, 2003).

Bingham, Paul M., Joanne Souza, and John H. Blitz. "What can the Alabama Mississippians Teach Us about Human Evolution and Behavior?" In *Evolution Education in the American South*, 239-261: Springer, 2017.

Branch, Glenn. "'The Cadillac of Disclaimers': Twenty Years of Official Antievolutionism in Alabama." In *Evolution Education in the American South: Politics, Culture, and Resources in and Around Alabama*, edited by Lynn, Christopher D., Amanda L. Glaze, Laura Reed and William Evans. New York: Palgrave Macmillan, 2017.

Buta, Ronald J. "Trace Fossils of Alabama: Life in the Coal Age." In *Evolution Education in the American South*, 213-233: Springer, 2017.

Crespi, Bernard J. "Autism as a Disorder of High Intelligence." *Frontiers in Neuroscience* 10, (2016).

Glaze, Amanda L. "Bridging the Gaps: Evolution and Pre-Service Science Teachers." In *Evolution Education in the American South: Politics, Culture, and Resources in and Around Alabama*, edited by Lynn, Christopher D., Amanda L. Glaze, Laura Reed and William Evans. New York: Palgrave Macmillan, 2017.

Hawley, Patricia H. and Rachael K. Phillips. "Deconstructing the Alabama Disclaimer with Students: A Powerful Lesson in Evolution, Politics, and Persuasion." In *Evolution Education in the American South: Politics, Culture, and Resources in and Around Alabama*, edited by Lynn, Christopher D., Amanda L. Glaze, Laura Reed and William Evans. New York: Palgrave Macmillan, 2017.

Lozier, Jeffrey D. "Ecology: A Helping Habitat for Bumblebees." *Nature* 543, no. 7646 (2017): 498-499.

Lynn, Christopher D. and Cassandra A. Medeiros. "Tattooing Commitment, Quality, and Football in Southeastern North America." In *Evolution Education in the American South*, edited by Lynn, Christopher D., Amanda L. Glaze, William A. Evans and Laura K. Reed, 263-280. New York: Palgrave Macmillan, 2017.

Lynn, Christopher D., Amanda L. Glaze, Laura Reed, and William Evans, eds. *Evolution Education in the American South: Politics, Culture, and Resources in and Around Alabama*. New York: Palgrave-Macmillan, 2017.

Mead, Louise and Anton Mates. "Why Science Standards are Important to a Strong Science Curriculum and how States Measure Up." *Evolution: Education and Outreach* 2, no. 3 (09/01, 2009): 359-371. <http://dx.doi.org/10.1007/s12052-009-0155-y>.

Numbers, Ronald L. and Lester D. Stephens. "Darwinism in the American South." In *Evolution Education in the American South: Politics, Culture, and Resources in and Around Alabama*, edited by Lynn, Christopher D., Amanda L. Glaze, Laura Reed and William Evans. New York: Palgrave-Macmillan, 2017.

Peterson, Erik L. "Race and Evolution in Antebellum Alabama: The Polygenist Prehistory we'D rather Ignore." In *Evolution Education in the American South: Politics, Culture, and Resources in and Around Alabama*, edited by Lynn, Christopher D., Amanda L. Glaze, Laura Reed and William Evans. New York: Palgrave Macmillan, 2017.

Rissler, Leslie J., Sarah I. Duncan, and Nicholas M. Caruso. "The Relative Importance of Religion and Education on University Students' Views of Evolution in the Deep South and State Science Standards Across the United States." *Evolution: Education and Outreach* 7, no. 1 (2014): 1-17.

Schrein, Caitlin. "Evolution Acceptance among Undergraduates in the South." In *Evolution Education in the American South: Politics, Culture, and Resources in and Around Alabama*, edited by Lynn, Christopher D., Amanda L. Glaze, Laura Reed and William Evans. New York: Palgrave Macmillan, 2017.

Souza, Joanne and Paul M. Bingham. "Disciplinary Unification of the Natural Sciences, the Humanities, and the Social Sciences: Adapted Minds and Strategic Approaches to Consilience in the Academy." *EvoS Journal: The Journal of the Evolutionary Studies Consortium* 6, no. 1 (2014): 12-23.

COURSE AND UNIVERSITY POLICIES

Nondiscrimination Policy

In this class, we discuss many controversial social issues. As an academic community, our educational mission is enhanced by the robust exchange of ideas that occurs among a diverse student body, faculty, and staff within a respectful and inclusive learning environment. In that spirit, any opinion is welcome in class discussion, provided it is presented in a respectful way.



The University of Alabama is committed to providing an inclusive environment that is free from harassment or discrimination based on race, genetic information, color, religion, ethnicity, national origin, socioeconomic status, political beliefs, sex, sexual orientation, gender expression, gender identity, age, ability, size, or veteran status. The University of Alabama prohibits any verbal or physical conduct that threatens or endangers the health or safety of any individual or group, including physical abuse, verbal abuse, threats, stalking, intimidation, harassment, sexual misconduct, coercion, or other communication or conduct that creates a hostile living or learning environment. Harassment or other illegal discrimination against individuals or groups not only is a violation of University Policy and subject to disciplinary action but also is inconsistent with the values and ideals of the University.

The UAct website (www.ua.edu/uact) provides a list of reporting channels that can be used to report incidents of illegal discrimination, harassment, sexual assault, sexual violence, retaliation, threat assessment or fraud.

Social Media

I use Twitter as a way to share information during and between classes. We use hashtag #ant474. You can follow me @Chris_Ly and the department @BamaAnthro.

HOWEVER, it is extremely rude to be constantly texting or using your smartphone if you are not doing it for class and only with express permission. Therefore, if I see you on your device during class, I will be looking for course-relevant tweets. If you need to use your devices for anything but coursework, take it into the hallway, or I will ask you to do so. I will warn you once if I see you using social media during class except to tweet notes about the class using the #ant474 hashtag. After the first warning, I will ask you to leave class and count you as absent that session.

Notification of Changes

I endeavor to follow the guidelines of this syllabus as listed; however, I reserve the right to amend this document as the need arises. In such instances, I will notify you in class or via email and endeavor to provide reasonable time for you to adjust to any changes.

Statement on Academic Misconduct

Students are expected to be familiar with and adhere to the official [Code of Academic Conduct](#) provided in the Online Catalog. The [UAct website](#) provides an overview of The University's expectations regarding respect and civility.

Statement on Disability Accommodations

Contact the [Office of Disability Services \(ODS\)](#) as detailed in the Online Catalog.

Severe Weather Protocol

Please see the latest [Severe Weather Guidelines](#) in the Online Catalog.