

ANT 150: EVOLUTION FOR EVERYONE

Spring 2019 / Tues/Thurs 9-10:15AM / Rowand-Johnson 102

Dr. Christopher Lynn

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**Classroom Conduct**

Leave your phones hidden in your backpacks and in airplane mode or turned off. If you text in my class, check your social media, or engage in any other rude and unseemly behavior, I'll ask you to leave class; and you'll be marked as absent.

**ANT 150 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.

*The course is an approved elective toward the social and behavioral science core curriculum requirements.*

**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.

*\*As much as I would love it if you bought our book, you can download all of the chapters from Springer through our library when on campus.*

### ****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.comgroups/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](http://www.facebook.com/UAAnthroDept) 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

### 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, consult Dr. Bindon’s “The Research Paper” (<http://anthropology.ua.edu/bindon/ant570/pap_rule.htm>), which 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** |
| WEEK 0Thurs 1/10 | Intro/Formulating project |  | Brainstorm hypotheses | Mead & Mates 2009 |
| WEEK 1Tues 1/15 | Scientific method |  |  | EEAS Preface & Introduction |
| Thurs 1/17 | Everyday science | *Dogs Decoded* | Hypothesis due |  |
| WEEK 2Tues 1/22 | Falsifiability of hypothesis |  | Falsifiability and finding sources |  |
| Thurs 1/24 | Evolution acceptance among students | *No Dinosaurs in Heaven* |  | Glaze 2017, Branch 2017 |
| WEEK 3Tues 1/29 | Darwinism in Southern history | [Ron Numbers ALLELE](https://vimeo.com/157632179) |  |  Numbers & Lester 2017 |
| Thurs 1/31 | Polygenist history in Alabama (Peterson) | *Inherit the Wind* |  | Peterson 2017 |
| WEEK 4Tues 2/5 | Applying evolutionary theory in the arts | Victoria Ingolls lecture | “Background” section due |  |
| Thurs 2/7 | Evolution of the Universe (Nair) | *Creation* |  |  |
| **TEST 1 AVAILABLE 2/8, DUE BY MIDNIGHT 2/11** |
| WEEK 5Tues 2/12 | Research methods |  |  | Lynn et al. 2018 |
| Thurs 2/14 | Cosmochemistry (Cartwright) | Lawrence Krauss ALLELE |  | [Chiappini 2001](http://web.williams.edu/Astronomy/Course-Pages/402/images/AmSci_Chiappini_MW_ev.pdf) |
| WEEK 6Tues 2/19 | ~~How chemicals form life (Woski)~~Cosmochemistry II |  |  | [Aldridge 2003](https://www.chemistryworld.com/news/the-dna-story/3003946.article) |
| Thurs 2/21 | Cosmochemistry III |  |  |  |
| WEEK 7Tues 2/26 | Biological Basis of Life (Lynn) | [Chris Mooney ALLELE](https://vimeo.com/157634109) |  |  |
| Thurs 2/28 | Mass extinctions (Tobin) |  |  |  |
| WEEK 8Tues 3/5 | Trace fossils of Alabama (Buta) | [Anthony Martin ALLELE](https://vimeo.com/126813142) |  | Buta 2017 |
| Thurs 3/7 | Peer reviewing/Book reviewing |  | Project proposal due (bring to class)/Peer review |  |
| Tues 3/12 | SPRING BREAK |
| Thurs 3/14 |
| WEEK 9Tues 3/19 |  |  | Revised project proposal due | Lee et al 2010 |
| Thurs 3/21 | Macroevolution thru trace fossils (Mangano) |  | Post discussion question to Blackboard | Buatois & Mangano chapter |
| **TEST 2 AVAILABLE 3/22, DUE BY MIDNIGHT 3/25** |
| WEEK 10Tues 3/26 | Genetic variation & speciation (Reed) |  |  | Reed 2017 |
| Thurs 3/28 | Invertebrate evolution (Kocot) |  |  |  |
| WEEK 11Tues 4/2 | Sex ratios & game theory (Pienaar) | Douglas Emlen lecture |  |  |
| Thurs 4/4 | Naturalist drawing (Wegrynowski) | [John Hawks ALLELE](https://vimeo.com/123088944) |  |  |
| WEEK 12Tues 4/9 | Human consciousness (Buhr) | Monkey in the Mirror |  |  |
| Thurs 4/11 | Evolution of vulnerability (Geary) |  | Post discussion question to Blackboard | Geary 2018 |
| WEEK 13Tues 4/16 | Peer reviewing |  | **Book review due** (bring to class)/Peer review |  |
| Thurs 4/18 | Race and skin pigmentation | Nina Jablonski ALLELE | **Revised book review due** |  |
| Tues 4/23 | Dead week | Natalie Jeremijenko lecture |  |  |
| Thurs 4/25 | Lemurs of Madagascar (Wright) |  | Post discussion question to Blackboard | Kling & Wright 2018 |
| **TEST 3 AVAILABLE 4/25, DUE BY MIDNIGHT 4/27** |
| Tues 4/30, 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: Tests/exams are available to take over a several day span and cannot be made up if missed.

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>.

**ANT 480 Advanced EvoS**

**Course Description and Credit Hours**

This course is the capstone to the Evolutionary Studies minor and should be taken in the final semester of the program. This course meets in conjunction with “Evolution for Everyone,” the minor introductory course to the minor, to revisit the basic principles and application of evolutionary theory. These courses are team-taught by faculty from around the University and integrate the Alabama Lectures of Life’s Evolution series, so they are likely to be different for you in both iterations. The course will review applications of evolutionary theory in the natural, social, and applied sciences and in the humanities. Additionally, you will conduct or complete a culminating project during the first half of the semester. During the second half of the semester, you will present this to the class and submit an article based on your project for publication in a peer-reviewed science journal.

**Student Learning Outcomes**

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

* Complete a creative or research project related to evolutionary theory
* Produce a publishable paper or project that summarizes your project
* Present your findings to an audience of peers
* Produce a portfolio that outlines your accomplishments as an EvoS minor

**Blackboard**

This course will use Blackboard to distribute additional readings.  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.

**Exams and Assignments**

**Participation:**You will be required to compose relevant questions to ask the ALLELE speakers when they visit class. You will post these to Blackboard before class.

You will also be required to attend all ALLELE lectures. Dates are posted on the ALLELE website and Facebook page. You will take selfies at each lecture and send them to me via Blackboard to verify your attendance. If you cannot attend these lectures, you have two options. You can send someone in your place and have them take notes and a selfie to verify their presence. You can then send me a summary of the lecture from your proxy's notes and the selfie with their name. Or you can take advantage of other extra credit opportunities as outlined below.

**Presentation:** You will also prepare a conference-ready presentation of your paper and project to be given to the class on the date indicated. Conference presentations are typically 15 minutes long with a 5-minute question and answer period. Formats follow those of the paper and include visuals. You may use an abbreviated version or outline of your paper for guidance, but DO NOT READ YOUR PAPER VERBATIM. Presentations will be evaluated based on clarity and coherence, formatting and grammar/spelling, composure, and impact.

**Portfolio:**You will compile a portfolio outlining everything you have done as part of the EvoS program. The portfolio should be assembled in a 3-ring binder, use section separators with labeled tabs, and contain the following elements:

1. Cover page including your name, major, project adviser, and years documented by the portfolio.
2. Listing of the courses you completed for the minor.
3. 250-300 word summaries of what you learned in each course and your reflections on those courses.
4. Graded project proposal you composed for ANT 150.
5. Graded book review you composed for ANT 150.
6. Any graded papers or evidence of your integrative learning from any of the EvoS courses.
7. A written summary of your experiences interacting with the ALLELE speakers and reflection on those experiences. No more than 100 words is necessary for each speaker, but you must write about each speaker you encountered (i.e., read article by them, sat in class discussion with, went to lunch with, etc.).
8. The IRB proposal and approval (if relevant) you obtained to conduct your project.
9. A printout of your ANT 480 presentation.
10. A copy of your final ANT 480 paper.
11. Any additional material related to you EvoS experience (conference presentations, blog posts, photographs, Club officer roles or experiences).
12. A reflective summary of your EvoS experience (minimum 500 words). Think about how your EvoS experience has influenced your worldview or how it may be useful to you in future pursuits.
13. Finally, the grade you think you deserve in ANT 480 and why (no promises, but I take it into consideration).

**Grading Policy**

10% = PARTICIPATION

30% = PROJECT PAPER

20% = PRESENTATION

40% = PORTFOLIO

100%