

EVOLUTION, ECOLOGY AND ORGANISMAL BIOLOGY

Graduate Student Core Course

Thursday, 10:15 AM - 1:00 PM

Long Hall 222

<u>Week</u>	<u>Topic</u>
INSTRUCTOR: Dr. J. Antonio Baeza - INTRODUCTION & E-LEARNING DAY	
1 – Aug. 22	Organization & Introduction: Critically Evaluating Scientific Literature
2 – Aug. 29	E-learning day [August 29 - American Football game]
INSTRUCTOR: Dr. Michael Sears - ECOLOGY	
3 – Sept. 5	The ecological niche, operative environments, and physiological ecology
4 – Sept. 12	From individuals to populations to communities (and beyond)
5 – Sept. 19	Responses to global change across natural and urban environments Sears unit final assessment
INSTRUCTOR: Dr. Matt Koski - MICROEVOLUTION	
6 – Sept. 26	Processes of microevolution: mutation, gene flow, drift and selection
7 – Oct. 3	Detecting natural selection on phenotypes and the genome
8 – Oct. 10	Drivers of pop.-level variation: clines, mosaics, and range dynamics Koski unit final assessment
INSTRUCTOR: Dr. J. Antonio Baeza - MACROEVOLUTION	
9 – Oct. 17	FALL BREAK
10 – Oct. 24	Selected Theoretical Frameworks in EEOB: Parental Investment, Sexual Conflict, Mating Systems, Sociality
11 – Oct. 31	Using Phylogenetics and the Comparative Method in EEOB
12 – Nov. 7	Phylogenetics and the Comparative Method in EEOB Baeza unit final assessment
INSTRUCTOR: Dr. Rick Blob - STRUCTURE & FUNCTION	
13 – Nov. 14	What is Functional Biology?
14 – Nov. 21	How Funct. Biol. Builds Understanding of Biological Diversity & Change
15 – Nov. 28	THANKSGIVING BREAK
16 – Dec. 5	Matches Between Form and Function – Expectations and Complications Blob unit final assessment
INSTRUCTOR: Dr. J. Antonio Baeza - WRAP UP & STUDENT EVALUATIONS	
17 – Dec. 12	WRAP - UP & Student Evaluations

Schedule is tentative and subject to announced change

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INSTRUCTORS: Dr. J. Antonio Baeza (coordinator) Office: 226 Long, jbaezam@clermson.edu
Dr. Michael Sears Office: 323 Long, sears3@clermson.edu
Dr. Matthew Koski Office: 134 Long, mkoski@clermson.edu
Dr. Rick Blob Office: 342 Long, rblob@clermson.edu

All at the Department of Biological Sciences, College of Science.

OFFICE HOURS:

Variable, depending upon instructor. Skype or Zoom.

GENERAL COURSE FORMAT:

This course is a team-taught graduate course by faculty with expertise in evolution, ecology and organismal biology. It is meant to extend your basic understanding of these areas to include theory and application of sound experimental design used to make scientific discoveries in the EEOB area of biology. As graduate students, you will be expected to have an undergraduate level working knowledge of these fields, and it will be your responsibility to review concepts that you are unfamiliar with. The Instructors will be happy to point you to sources for further reading on your own.

Each instructor will have a three-week unit and some type of final assessment for the unit. You will be notified at the beginning of each unit the required work that is expected for assessment of student learning.

There is no formal text for the course, but you will be assigned readings from the primary literature and other scientific sources. A reading list is provided as a guide, but individual instructors may assign additional reading and you will be asked to find published journal articles on your own.

COURSE OBJECTIVES:

1. Understand and appreciate the theoretical framework that underlies the evolution of biodiversity, the ecological interactions of organisms within their environments and the relationship of organismal form and function and how such theory contributes to understanding patterns of evolutionary and ecological diversity.
2. Understand what motivates research, inferences made from data and critical evaluation of scientific findings in the field of evolution, ecology and organismal biology.
3. Synthesize theory and application to design experiments that test important hypothesis to explain observable processes that generate organismal diversity.

LEARNING GOALS:

1. Students will be able to describe the basic theories that underlie research questions in evolution, ecology and organismal biology.
2. Students will be able to design experiments to test hypotheses within ecological, evolutionary and functional biology frameworks
3. Students will be able to critically evaluate experimental evidence from the primary literature and determine the direction of future research in these EEOB areas.

GRADING

Lecture grades will be based on a combination of different activities (essays, manuscript comprehension, participation, projects) given to students by each lecturer. Quality points will be assigned as follows: A: 4.00, A-: 3.66, B+: 3.34, B: 3.00, B-: 2.66, C+: 2.34, C: 2.00, C-: 1.66, F: 0.00.

Course and University Policies

Attendance

Students are expected to wait 15 min for the instructor if you are late for class.

Because privacy regulations stipulate that faculty and staff communicate with students through authorized University channels, use your University email account or Canvas's messaging system to contact me.

Canvas allows you as a student to quickly notify instructors of an absence from class and provides set categories (e.g. court attendance, illness, family illness or death, military duty, hospitalization, university function, religious observance). This does not serve as an excuse from class but allows students to communicate with instructors (all or some, of their choice). Consult with instructors when discussing absences. The Dean of Students' office can also be of assistance.

Important Information

Should an instructor needs to miss class due to illness or travel there will either be a substitute or an e-Learning activity. This would be communicated to you via Canvas

e-Learning and Academic Continuity Plan

Clemson has developed an Academic Continuity Plan for academic operations. Should university administration officially determine that the physical classroom facility is not available to conduct classes in, class will be conducted in a virtual (online) format. The University issues official disruption notifications through email /www /text notification/Social Media.

When notified, use one of the following links to navigate to Clemson Canvas where you will find important information about how we will conduct class:

Primary access link: www.clemson.edu/canvas

Secondary access link, if needed: <https://clemson.instructure.com/> You can also use the Canvas Student App.

Our activities for teaching and learning will occur through our Canvas course. You will receive a Canvas announcement with all details of what you should do in case of university closure or my absence. In general, you might watch a video of the lecture that would have been given during the regularly scheduled class session on that day.

We will be conducting a real-time test of the Academic Continuity Plan on August 29, 2019 due to a Thursday night football game. This day will therefore be an e-Learning Day and you should check Canvas for the relevant assignment.

Student Accessibility Services

Clemson University values the diversity of our student body as a strength and a critical component of our dynamic community. Students with disabilities or temporary injuries/conditions may require accommodations due to barriers in the structure of facilities, course design, technology used for curricular purposes, or other campus resources. Students who experience a barrier to full access to this class should let the professor know, and make an appointment to meet with a staff member in Student Accessibility Services as soon as possible. You can make an appointment by calling 864-656-6848, by emailing studentaccess@lists.clemson.edu, or by visiting Suite 239 in the Academic

Success Center building. Appointments are strongly encouraged – drop-ins will be seen if at all possible, but there could be a significant wait due to scheduled appointments. Students who receive Academic Access Letters are strongly encouraged to request, obtain and present these to their professors as early in the semester as possible so that accommodations can be made in a timely manner. It is the student's responsibility to follow this process each semester. You can access further information at the [Student Accessibility Services Website \(Links to an external site.\)Links to an external site.](#) and the [Office of Access and Equity Website \(Links to an external site.\)Links to an external site.](#)

Email Policy / Response Time

You can expect a response to your email inquiries within 36 hours, excluding weekends and university holidays.

Submission of Work from Other Courses:

Via email or as discussed by the instructor during class.

Copyright

All materials found in this course are strictly for the use of students enrolled in this course and for purposes associated with this course; they may not be retained or further disseminated. Clemson students, faculty, and staff are expected to comply fully with institutional copyright policy as well as all other copyright laws.

Privacy Policy

This course is designed with your privacy in mind. If, however, you feel that an assignment or technology tool undermines your right to privacy, please contact me immediately. We will work together to determine an alternative assignment that will help you achieve the course learning outcomes.

Academic Integrity

As members of the Clemson University community, we have inherited Thomas Green Clemson's vision of this institution as a "high seminary of learning." Fundamental to this vision is a mutual commitment to truthfulness, honor, and responsibility, without which we cannot earn the trust and respect of others. Furthermore, we recognize that academic dishonesty detracts from the value of a Clemson degree. Therefore, we shall not tolerate lying, cheating, or stealing in any form.

A simple definition of plagiarism is when someone presents another person's words, visuals, or ideas as his or her own. The instructor will deal with plagiarism on a case-by-case basis. I will use, at my discretion, the Plagiarism Resolution Form. All infractions of academic dishonesty will be reported to Undergraduate Studies for resolution through that office.

See the [Undergraduate Academic Integrity Policy \(Links to an external site.\)Links to an external site.](#) website for additional information about academic integrity at Clemson.

Notification of absences

Please, use the Notification of Absence application at <https://noa.app.clemson.edu/> to inform instructors of either an anticipated or an unanticipated absence. The responsibility to manage class absences resides with the student. Students expecting to miss a class must communicate with the instructor well in advance to make arrangements to submit assignments or make up missed work. In the case of unexpected absence due to unforeseen circumstances, the student's responsibility is to contact the instructor as soon as practical to communicate the reason for the absence and to make

up missed work. Instructors should take reasonable actions to assist students with missed work and material but are under no specific mandate to do so.

Retention of examinations

Clemson University faculty members who exercise their right to retain student examinations are required to retain those examinations on file for the 60 (sixty) calendar day duration (exclusive of summer) allocated for final grade protests in the form of academic grievances; otherwise, exams should be returned to the students.

Posting of grades

The United States Family Educational Rights and Privacy Act (FERPA) prohibits the public distribution of grades or graded work. Instructors should avoid posting grades by student names, initials, student social security number, or Clemson ID number. Instructors should also avoid placing of graded material in a public place where individuals could access others graded work.

Academic Grievances

Students are advised to visit the [Ombuds' Office \(Links to an external site.\)](#)[Links to an external site.](#) prior to filing a grievance. After discussion with the undergraduate academic ombudsman, students should contact Undergraduate Studies (656-3022) for assistance filing official paperwork.

Non-Discrimination

Clemson University is committed to providing a higher education environment that is free from sexual discrimination. Therefore, if you believe you or someone else that is part of the Clemson University community has been discriminated against based on sex, or if you have questions about Title IX, please contact the Title IX Coordinator, Alesia Smith, who also serves as the Executive Director of Equity Compliance, at 110 Holtzendorff Hall, 864-656-3181 (voice) or 864-656-0899 (TDD). The Title IX Coordinator is the person designated by Clemson University to oversee its Title IX compliance efforts. Please consult the [University's Title IX policy \(Links to an external site.\)](#)[Links to an external site.](#) for full details.

Student Support Services

Academic Success Center

The Academic Success Center provides free services, including tutoring, academic coaching, and academic skills workshops, for all Clemson students. Visit the [Academic Success Center website \(Links to an external site.\)Links to an external site.](#) for more information on their services and workshops.

Writing Center

Clemson University's Writing Center offers free one-on-one tutoring for all Clemson students. Visit the [Writing Center's website \(Links to an external site.\)Links to an external site.](#) for more information about their services or to make an appointment.

Cooper Library

Reference librarians are available in person and via text, phone, email, and chat to answer your research questions. Visit [Ask a Librarian \(Links to an external site.\)Links to an external site.](#) for more information or to get in touch with a librarian.

Technical Support

If you are having hardware or software problems, CCIT's Service Desk may be able to help you. Contact them at ITHELP@clemson.edu with a detailed description of your problem.

Academic Advising

[Academic advising \(Links to an external site.\)Links to an external site.](#) is an ongoing educational process that connects the student to the University. Academic advising supports the University's mission of preparing the student for learning beyond the confines of the academy. Academic advisors represent and interpret University policies and procedures to the student and help the student navigate the academic and organizational paths of the institution.

Registrar

The [Registrar's office \(Links to an external site.\)Links to an external site.](#) provides information about important deadlines, degree and program requirements, and other key information, including use of iROAR to add, drop, or withdraw from courses. ([Include key dates here.](#))