ANT 392J - Introduction to Graduate Biological Anthropology, Part 2

Primate Behavior, Genetics, and Biological Variation

Course #: ANT 392J, Unique #: 31015
Mondays, 2:00 to 5:00 pm, SAC Room 5.124

Instructor: Dr. Anthony Di Fiore
Department of Anthropology
SAC Room 4.100H

Contact: anthony.difiore@austin.utexas.edu
512-471-2318

Office Hours: Fridays, 2:00 to 4:00 pm and by appointment

Website: Canvas (https://utexas.instructure.com/)

Check Canvas regularly for announcements, updated class information, readings, links, and various supplementary materials

I. Course Overview
This core course for the UT Biological Anthropology Graduate Program provides an overview of the behavioral ecology and social systems of primates and examines variation in these aspects of primate biology from the perspectives afforded by evolutionary ecology and socioecological theory. It also provides an overview of fundamental concepts and analytical tools in genetics and genomics and considers how studying patterns of intra- and inter-species biological variation can shed light on historical and evolutionary processes within and across lineages. Both classic and contemporary case studies from the primary literature be used to

II. Description
This course is divided into three roughly equal sections.

The first part of the course provides a brief introduction to the variation seen across primates in grouping and ranging patterns, foraging ecology, and mating systems and introduces the fundamental theoretical principles that modern biological anthropologists use to study and understand this variation, including the theory of evolution by natural selection, the concepts of reproductive success, inclusive fitness, and kin selection, and basic principles of behavioral ecology, population biology, and socioecology.
In the second part of the course, we turn our focus towards exploring individual behavioral strategies and social dynamics within groups, and we consider how decisions about dispersal, competitive and cooperative social interactions, and reproduction are influenced by both an individual’s attributes (e.g., age, sex, rank) and by its social and ecological environment.

Finally, in the last third of the class, we shift our focus to consider the nature of genetic and genomic variation within and among primate taxa and how that variation can be used to investigate evolutionary relationships, population histories, and adaptation to various environmental and social pressures, as well as to inform our understanding of individual behavior.

An important objective for this course is to ensure that graduate students in our program all receive introductory exposure to a range fundamental topics and issues in primate behavioral ecology, genetics, and biological variation. No doubt, given the different backgrounds of students taking the classes, many of you will find some of the material we cover to be mainly review and perhaps basic, while other material may be completely new and challenging. I hope that the choice of case studies and examples – and your input into those throughout the course – will offer something for everyone and keep us all interested and engaged!

II. Prerequisites

There are no prerequisites for this course, but students should have taken some relevant upper division undergraduate coursework in evolutionary biology, ecology, animal behavior, and/or genetics.

III. Readings

Obviously, no one text can do justice for the broad set of topics we will cover, particularly not for graduate-level students, thus I will be piecing together reading assignments (relevant background material and review papers, along with selected cases studies and examples) from many different sources. Each week, I will post the specific reading assignments for the upcoming class on Canvas. These assignments will typically include one or two general readings to give you an overview of the topic for that week, as well as more detailed treatments of particular key issues and both classic and recent case studies. References for a number of key textbooks are given below. You may already own at least some of these, but, if not, I recommend buying a few of them as they belong in the library of every evolutionary primatologist. I will make available PDF copies of as many of the readings as possible from Canvas for downloading and printing.

Required Text

Other Useful but Optional Texts


I also highly recommend the following general books for any serious student of animal behavior, ecology, genetics, or evolution. We will not necessarily read chapters from any of these texts this semester, but all of them are directly relevant and useful to the general topics we cover in this class and could be useful in preparing for your comprehensive exams.

Behavioral Ecology and Socioecology


Molecular Ecology and Genetics

Weekly Reading Assignments

Some of our readings for the semester are select chapters from the books listed above, but most are more detailed theoretical treatments or case studies drawn from the primary literature. Apart from the one required text, PDF versions of all required readings will be posted to the Canvas site and listed on the syllabus so that you can download them for printing and reading.

For those with further interest in a topic, I will also often post additional, OPTIONAL readings for some weeks.

PLEASE NOTE: All required readings should be completed before class as you are expected to be familiar with and ready to discuss this material during the class period!

IV. Learning Objectives

By the end of this course, you should...

- be familiar with **fundamental concepts and theoretical perspectives in behavioral ecology**, including evolution by means of natural selection, kin selection, inclusive fitness, reproductive success, socioecology, and sociobiology;
- be familiar with **major concepts and theoretical perspectives in molecular genetics and genomics**, including the “central dogma” of molecular biology, genome structure and organization, neutral and non-neutral genetic markers, gene regulation and epigenetics, methods of phylogenetic inference, and methods for describing molecular variation within and among taxa;
- be familiar with a wide range of **key terms used in the behavioral and evolutionary biology literatures**;
- be skilled at **reading, interpreting, critiquing, and synthesizing the primary literature** in primate behavioral biology, molecular genetics, and phylogenetics;
- and be comfortable **presenting and discussing material from the primary literature** in front of an audience of peers and at synthesizing and **presenting theoretical information and empirical results in multiple formats** (e.g., presentations, practicums, research papers).

V. Grading and Assessment

Your final grade in this course will be based on a several different kinds of assignments that hopefully will allow everyone the chance to be creative and excel. These include [a] two different oral presentations – a “case study synthesis” and a “practicum”, each described below and each associated with piece of writing – [b] a custom “infographic” on an assigned topic, and [c] a final term paper on a topic of interest and relevance to you, chosen in consultation with the instructor. Additionally, a portion of your grade will depend on your attendance, preparation for, and participation in class discussion. Simply put, you are expected to contribute to this course in order to get a good grade.
Case Study Synthesis and Supporting Paper (25%)

Each student in the class will be responsible for giving one short “case study synthesis lecture” on one or a few related research papers from the primary literature that are relevant to the topic of the lecture for the week assigned to you. This presentation will be incorporated into the regular lecture for the week and should constitute an example or extension of the primary material presented by the instructor. In your presentation, you will need to [a] summarize the research described in the papers assigned (goals, methods, results, conclusions), [b] discuss the significance of that work to the field of primate evolutionary biology in general, and [c] clearly INTEGRATE your presentation with the topics of that week's lecture. Your presentation should last ~30 minutes, and this oral portion of the assignment comprises 10% of your final grade. Additionally, you also will write a short paper (~4-5 double-spaced pages) that critically reviews the case studies you presented and their connection to the themes being covered in class. While in your paper you will clearly need to provide a short overview of the methods and results of the studies you review, the emphasis should be on assessing of the validity and significance of the research and its connection to a larger body of theoretical, intellectual, and empirical work. You are thus expected to incorporate (some) additional relevant material based on your own review of the literature. The supporting paper is due at the start of class two weeks after your presentation, and is worth 15% of your final grade.

Practicum Assignment (25%)

Your second oral presentation and accompanying written assignment is to design a “practicum” – a lab exercise, simulation, game – that creatively and effectively demonstrate a concept of interest or a particular analytical method that is relevant to the topics being discussed during the week assigned to you. For example, for the week on Dominance, Rank, and Power, you might design a lab where you provide a dataset of interactions between a set of individuals and then take the class through how you could use that data to construct Elo ratings and/or alternative dominance scores. For the written portion of this assignment (worth 15% of your final grade), you will prepare a detailed lab handout (with background information, objectives, and procedures for the class to follow), and for the oral portion of the assignment (worth 10% of your final grade), you will take the instructor and your peers through the exercise. Your aim should be to design an exercise that could be used in a course primate behavior, genetics, or evolutionary biology. The exercise should take ~45-60 minutes. The written portion of the practicum assignment is due at the start of class on the day you take the class through your exercise.

Note that each student will have different due dates for their two oral presentations and accompanying written assignments. You should make every effort to do at least one of these in the first half of the semester in order to avoid a time crunch later on.

Popular Science Infographic (10%)
Being able to effectively communicate research results and important concepts to a broad, non-expert audience is a hugely important part of being a scientist or academic. Your third major assignment challenges you to think about communicating information visually, rather than through the spoken or written word. In consultation with the instructor, you will choose either an important theoretical concept, analytical method, or set of empirical results and then design a custom “infographic” that presents relevant summary information in an easy to understand visual format. Your aim should be to design an informative, visually-appealing graphic or poster that could appear in a popular science magazine, a high school or college classroom, or an introductory textbook. Your infographic will be due at 2pm on Monday, April 16th.

**Term Paper (30%)**

Your final graded assignment will be a written term paper on a topic of interest and relevance to you, chosen in consultation with the instructor. The term paper will constitute 25% of your final grade, and it can be either a synthetic literature review of a particular issue or an original research paper. Strategically, it will be most useful to you if you can use the opportunity of writing the term paper to make significant progress on either your MA report or your PhD prospectus, so it is not too early to begin thinking about how your possible dissertation research interests intersect with and can be informed by the themes and topic we are addressing in this class. Further details about length, formatting, etc., for the term paper will be provided later in the semester. The term paper will be due at 2pm on Monday, May 7th, one week after our last class,

**Regular Attendance and Participation (10%)**

The best way for you to become familiar with the vast literature on primate behavioral ecology, genetics, and biological variation is to read it, ask questions about it, challenge it, argue over it, and so on – that is why class participation is absolutely essential. I am a firm believer in FULL student involvement in their own education, thus I expect you to have read all the assigned materials before coming to class and for you to DEMONSTRATE this to me through your comments, questions, and critiques. I also expect you all to be engaged with me and with one another while in class – do not be surprised if I put you on the spot with a question or ask for your comments on particular issues. In part, I will do that because I want to encourage you to be prepared for class – that does not mean you have to KNOW everything. But another reason for my doing this is because I see education – and graduate education especially – as a MUTUAL learning process, and I fully expect to learn things from you as well and to be challenged to think in new ways. Ten percent of your final grade depends on your regular participation in class discussion. Enrollment for this class is small, and attendance will be taken regularly during throughout the semester, so absences will be noted.

**VI. Other Logistical Information**

*Use of Canvas*
For this class, I will use Canvas – a Web-based course management system with password-protected access at [https://utexas.instructure.com/](https://utexas.instructure.com/) – to distribute course materials, to communicate with you, and to post assignments and grades. You will also be asked to use Canvas to submit some assignments.

**Behavioral Expectations**

**Attendance**

Inasmuch as students have voluntarily sought admission to the University, I expect you to attend all class meetings, including all lectures and all meetings of associated discussion sessions. Students may be excused for documented medical or personal emergency and will receive reasonable accommodation for the observance of religious holidays (see below). In these cases, they should contact me in advance or, in cases of emergency, as soon as is practicable. Students are responsible for making up any material or assignments they miss.

**Classroom Decorum**

Please remember that the classroom is a space for free and open inquiry and for the critical evaluation of ideas, and it should be free of personal prejudice. Every student has the *right* to learn as well as the *responsibility* not to deprive others of that right, and every student is accountable for his or her actions. Students and instructors alike have an obligation to all members of the class to create an educational atmosphere of mutual trust and respect in which differences of opinion can be subjected to deliberate and reasonable examination without animus. During classroom and online discussions and interactions with one another, please treat your fellow classmates with courtesy, civility and respect.

As a matter of courtesy to me and to your fellow students, I expect you arrive at class on time, prepared and ready to participate. Please do not schedule other engagements during this class time.

Students are reminded that cell phone use is forbidden in class. Please shut off all cellular telephones and pagers before class starts and refrain from checking messages and texts during class time. If this becomes an issue, students violating this rule will be asked to leave the class. Students should also refrain from eating in class unless the instructor indicates otherwise. You are welcome to bring in water or another non-alcoholic beverage to drink during class.

Except in cases of emergency, I expect you to remain in the classroom for the duration of the lecture or section meeting. If you know that you will need to leave a particular class session early, please let me know beforehand. If it is necessary to leave or enter a room once class has begun, please do so quietly and with as little disruption as possible.

Finally, please be aware that no audio or video recording of my lecture is permitted without prior, written approval, and I do not give assignments for extra credit, so please be sure to pay close attention to due dates of assignments.
Completion of Assignments

Students are expected to submit course work on time and to retain copies of their work until a final grade has been received for the course. Instructors are not obliged to accept late work and may assign a failing or reduced grade to such assignments.

Students who encounter sudden and incapacitating illness or other comparably grave circumstance beyond their control that prevents them from completing an examination or assignment in a course should see me immediately to discuss the situation. Under appropriate circumstances, the student may be granted a temporary mark of Incomplete. To receive an Incomplete, students must have completed all other requirements for the course, including satisfactory attendance, and there must be a strong likelihood they will pass the course when all work is completed.

Religious Holy Days

By University of Texas at Austin policy, you must notify me of your pending absence at least fourteen days prior to the date of observance of a religious holy day. If you must miss a class, an examination, a work assignment, or a project in order to observe a religious holy day, I will give you an opportunity to complete the missed work within a reasonable time after the absence.

Student Feedback

During this course, I will periodically be asking you to give me feedback on your learning in informal as well as formal ways, including through anonymous surveys about how my teaching strategies are influencing your learning. It is very important for me to know your reaction to the material we are covering in class and on graded materials and assessments, so I encourage you to respond to these surveys, ensuring that together we can create an effective environment for teaching and learning.

Important Policies

Late assignments

All assignments are due at the START of class on due date given. Assignments turned in after the start of class will be marked down 10% for each day or portion of a day that they are late.

Make-up assignments

Make-up assignments will not be permitted, except in the case of medical emergency (for which documentation from your physician’s office within 2 days of the due date is required) or for observance of religious holy days (in which case you must let me know two weeks in advance).
**Review of grades**

Please review all grades assignments immediately after they are returned. If you feel an error has been made in how you were graded or if there is anything you do not understand about why you received a particular grade, you must come to office hours or come see me in an individual appointment to bring that to my attention within one week of the assignment being returned. Email is not an acceptable venue for requesting a review of your grade.

**VII. Tentative Course Schedule**

Below is a TENTATIVE schedule of weekly topics, which represents my current plans and objectives. As we go through the semester, those plans are LIKELY to change somewhat to enhance the class learning opportunity. Such changes are not unusual and should be expected. Any changes, revisions, or updates to the course schedule will be posted in a timely fashion on the course Canvas site and/or noted in class. PDF files of the readings for each class, apart from those from the primary text, will also be posted on the course Canvas site, and you should check the site regularly for announcements and to be prepared for class.

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## IX. Academic Integrity

**The University of Texas Honor Code**

The core values of The University of Texas at Austin are learning, discovery, freedom, leadership, individual opportunity, and responsibility. Each member of the university is expected to uphold these values through integrity, honesty, trust, fairness, and respect toward peers and community.

As a student at The University of Texas, you are expected to maintain the highest integrity in your academic work and to adhere to and abide by the University of Texas Honor Code all times. All work you submit in this course for academic credit must be entirely your own work; you are permitted to collaborate with another student on a graded assignment without the express permission of the instructor.

You are encouraged to study with your fellow students and to discuss information and concepts covered in lecture and the sections with one another. You may also give "consulting" help to or receive "consulting" help from your classmates. However, this permissible cooperation should never involve one student having possession of a copy of all or part of work done by someone else, in the form of an email, an email attachment file, a diskette, or a hard copy. Should copying occur, both the student who copied work from another student and the student who gave material to be copied will both automatically receive a zero for the assignment.

During examinations, you must do your own work. Talking or discussion is not permitted during examinations, nor may you compare papers, copy from others, or collaborate in any way. Any collaborative behavior during examinations will result in failure of the exam, and may lead to failure of the course and additional University disciplinary action. During exams, you also may not use notes or other sources to answer exam questions without the instructor’s permission.

Plagiarism consists of presenting ideas and words without acknowledging their source. Whether intentional or inadvertent, plagiarism is another serious offense against academic integrity and will also result in failure on an assignment and possibly failure if the course and additional University disciplinary action. Any of the following acts constitutes a crime of plagiarism:

- Using a phrase, sentence, or passage from another person’s work without quotation marks and attribution of the source.
- Paraphrasing words or ideas from another’s work without attribution.

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<td>Week 14</td>
<td>2018-04-30</td>
<td>Modern Human Genetic Diversity and Adaptation</td>
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• Reporting as your own research or knowledge any data or facts gathered or reported by another person.
• Submitting in your own name papers or reports completed by another.
• Submitting your own original work toward requirements in more than one class without the prior permission of the instructors.

Plagiarism and other cases of academic fraud are matters of fact, not intention. It is therefore crucial that you be diligent in assuring the integrity of your work by:

• Using quotation marks to set off words not your own.
• Using proper forms of citation and attribution for source materials.
• Doing your own original work in each class, without collaboration, unless otherwise instructed.
• Not using published sources, the work of others, or material from the web without attribution.
• Asking your professor or preceptor if you have questions about an assignment or the use of sources.

Additional violations of academic integrity include the following:

• Giving your work to another student to submit as his or her own.
• Secreting or destroying library or reference materials.
• Submitting as your own work a paper or results of research that you have purchased from a commercial firm or another person.

Particular emphasis is placed on the use of papers and other materials to be found on the internet, whether purchased or freely available. Be aware that in addition to having access to the same search engines as students, faculty also have at their disposal a number of special websites devoted to detecting plagiarism from the web.

Penalty for violation of The University of Texas Honor Code and for all of the violations of academic integrity discussed above can also be extended to include failure of the course and University disciplinary action.

X. Other University Notices and Policies

Use of Email for Official Correspondence to Students

All students should become familiar with the University’s official e-mail student notification policy. It is the student's responsibility to keep the University informed as to changes in his or her e-mail address. Students are expected to check e-mail on a frequent and regular basis in order to stay current with University-related communications, recognizing that certain communications may be time-critical. It is recommended that e-mail be checked daily, but at a minimum, twice per week. The complete text of this policy and instructions for updating your e-mail address are available at http://www.utexas.edu/its/help/utmail/1564.
**Documented Disability Statement**

Any student with a documented disability who requires academic accommodations should contact Services for Students with Disabilities (SSD) at (512) 471-6259 (voice) or 1-866-329-3986 (video phone) or via the internet at [http://www.utexas.edu/diversity/ddce/ssd](http://www.utexas.edu/diversity/ddce/ssd). Faculty are not required to provide accommodations without an official accommodation letter from SSD.

- Please notify me as quickly as possible if the material being presented in class is not accessible (e.g., instructional videos need captioning, course packets are not readable for proper alternative text conversion, etc.).
- Please notify me as early in the semester as possible if disability-related accommodations for field trips are required. Advanced notice will permit the arrangement of accommodations on the given day (e.g., transportation, site accessibility, etc.).
- Contact Services for Students with Disabilities at 471-6259 (voice) or 1-866-329-3986 (video phone) or reference SSD’s website for more disability-related information: [http://www.utexas.edu/diversity/ddce/ssd/for_cstudents.php](http://www.utexas.edu/diversity/ddce/ssd/for_cstudents.php).

**Behavior Concerns Advice Line (BCAL)**

If you are worried about someone (e.g., a fellow student) who is acting differently, you may use the Behavior Concerns Advice Line to discuss by phone your concerns about another individual’s behavior. This service is provided through a partnership among the Office of the Dean of Students, the Counseling and Mental Health Center (CMHC), the Employee Assistance Program (EAP), and The University of Texas Police Department (UTPD). Call 512-232-5050 or visit [http://www.utexas.edu/safety/bcal](http://www.utexas.edu/safety/bcal).

**Q Drop Policy**

The State of Texas has enacted a law that limits the number of course drops for academic reasons to six (6). As stated in Senate Bill 1231:

“Beginning with the fall 2007 academic term, an institution of higher education may not permit an undergraduate student a total of more than six dropped courses, including any course a transfer student has dropped at another institution of higher education, unless the student shows good cause for dropping more than that number.”

**Emergency Evacuation Policy**

Occupants of buildings on the UT Austin campus are required to evacuate and assemble outside when a fire alarm is activated or an announcement is made. Please be aware of the following policies regarding evacuation:
• Familiarize yourself with all exit doors of the classroom and the building. Remember that the nearest exit door may not be the one you used when you entered the building.
• If you require assistance to evacuate, inform me in writing during the first week of class.
• In the event of an evacuation, follow my instructions or those of class instructors.
• Do not re-enter a building unless you are given instructions by the Austin Fire Department, the UT Austin Police Department, or the Fire Prevention Services office.