

ECOL280: SOCIOBIOLOGY AND EVOLUTION OF COOPERATION
FALL 2018
NATS Tier II

Description of course

Why do animals and other organisms sometimes compete and sometimes cooperate? How do organisms in groups interact, how do they organize themselves or make group decisions? This course will give you some answers to these questions. We will discuss how social behavior evolves, and how it changes the life style of the animals that display it. We will also discuss whether this research can teach us about human social behavior.

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Class room and meeting times

The class will take place Mo, Wed, Fri at 10am-10:50am in **TBD**.

Course format and teaching methods

This is an active-learning class, which means that there will be only a small amount of 'lecturing'; instead, much of your time in class will be spent on small-group activities or problem solving.

Class topic and goals

The learning objective for the class is to familiarize you with how and why questions can be answered objectively in science. You will hear about the diversity of social systems across animals, and understand how ecology and evolution shape organisms and their behavior. You will practice reading and understanding original scientific literature. Another main learning goal is to be able to structure and communicate what you have learned, both in conversations in class and by preparing a video presentation. The course thus particularly promotes and practices thinking critically, using information effectively, and communicating effectively.

Course website

Before the semester starts, or if you are not enrolled, you can get information such as this syllabus on the course website <http://socialinsectlab.arizona.edu/ecol280>.

The website you will be actively using during the course is located on D2L, at d2l.arizona.edu. You will be able to access it when the semester starts. You have to check this site regularly to obtain readings and announcements for the class. You can also submit assignments and check your grades there. You can access the site from computers on campus if you don't have one at home. Note that student computer labs also offer printing services if you would like to print out readings. To access your course on D2L you must have a UA NetID and be officially enrolled in the course for at least 24 hours.

Textbook

Gadagkar, R. Survival strategies: cooperation and conflict in animal societies. 1997, Harvard University Press.

The textbook is required but not the only reading. Other reading material will be available online (on D2L). You can find which reading is due for each class in the 'Readings and lecture schedule' on D2L. Note that readings listed there are required, and it is your responsibility to check the website regularly for changes, and to read the reading when it is

due. Readings will not always be mentioned in class ahead of time, and content from the readings is relevant for exams, whether or not it was discussed during class. If you have questions about a reading, always ask them – ideally at the beginning of the class session, or otherwise after class or by email.

Writing

All Tier One and Tier Two General Education Courses are writing intensive (<http://gened.arizona.edu/content/writing-component>).

There will be four written homework assignments. These will involve researching original scientific papers and summarizing their results. All of these assignments are short essays (<300 words) that will be graded on content, readability/structure as well as writing style and spelling/grammar (see detailed rubric below). At the end of the semester, you will be allowed to revise and re-submit one of the assignments to get additional points. The deadlines for written assignments are listed on D2L and are firm. All assignments must be uploaded to the respective D2L site.

In total, students should write approximately 4 pages for these homework assignments, one page for the revised assignment, about 10-30 words each for about 25 in-class quizzes (about one per class session, consisting of a single question, see below), and about two pages of writing per each exam (3 total). This meets the General Education writing requirement of 10 pages total for the semester.

Grading

Your final grade will be determined by the percentage of the total number of points you have accumulated from exams, the presentation, assignments, and quizzes. You can check your current grade status at any time on the website (d2l.arizona.edu).

You will receive 40% of your grade by the 8th week of classes (see schedule; this includes the first exam grade, the first three written assignments, and half of the quizzes).

Grade calculation	Points	
First exam	15	A: 80-100 %
Mid-term exam	15	B: 70-79.9 %
Final exam	20	C: 60-69.9 %
Video project	10	D: 50-59.9 %
Assignments	20	E (fail): 0-49.9 %
Quizzes on readings	20	[note difference to typical grade breakdown]
Total points	100	

Mini Quizzes

There will be 40 (almost every class) ‘mini-quizzes’ in class; each is answered on one 3x5 inch index card and contains 1-3 questions. Some are answered in small-group works; pay attention to instructions given in class. No reading or online material should be used to answer them (breaking this rule is considered a violation of academic integrity). Mini-quizzes will frequently be about assigned readings or the topics from last class.

Exams

There will be three exams (first, mid-term, final). The final exam will cover the whole course (cumulative). The exams are largely ‘short answer’ format.

The date and time of the final exam, along with links to the Final Exam Regulations, can be found at <https://www.registrar.arizona.edu/courses/final-examination-regulations-and-information?audience=students&cat1=10&cat2=31> and the Final Exam Schedule can be found at <http://www.registrar.arizona.edu/schedules/finals.htm>.

Written assignments

The written assignments are short essays to practice your writing and literature research skills. Each of the four assignments is worth 5 points, and you have a chance to earn 5 bonus points for submitting a revised version of one of these assignments of your choice.

Each assignment is graded as follows:

1 pt for correct reference list: original scientific paper(s) (first publication of novel result, peer reviewed) cited, giving author names, year, title of article, journal name, volume and page numbers (DOI optional). No information about library or where you found the article (rather than where it was published) is given.

2 pts for placing the aim and results of the article in the question-hypotheses-predictions framework, i.e. identifying a question that is answered, the general answers considered (=hypotheses), and the specific predictions that are measured in the article.

1 pt for correct spelling, grammar, and understandable wording/sentence structure, and staying at or below 300 words.

1 pt for additional information about one of the authors, including at least current affiliation, field of research, and at least one other interesting fact (e.g. PhD advisor or what they did their PhD about, what teaching/outreach they do, where they are originally from, etc.).

Presenting scientific information: student video shows

Each student will prepare a short (3-4 min) video presentation on a topic that relates to the class theme (i.e. about a social behavior from an evolutionary perspective). Instructions will be given in class about how to do this using PowerPoint; use of other software is welcomed. Students will receive feedback on draft versions. The topic will be researched in the original scientific literature (at least 4 original scientific papers plus additional materials). The final presentation files will be shown in class.

This is your opportunity to focus on what *you* are really interested in. Start researching your topic early (from the beginning of the semester). Feel free to show a draft of to the instructor, the TA, or any classmates at any point. Double-check that the file runs on a PC with sound before you submit the final version. Video presentations will be graded as follows:

- Topic 1 (interesting and appropriate to the class: MUST be pre-approved by instructor)
 - Structure 2 (clear structure, main message/question is stated early, conclusions/summary stated at the end)
 - Timing 1 (finished within 3 minutes of starting)
 - Content 3 (depth & detail; identify question-hypotheses-predictions-result-conclusion for at least one study)
 - Presentation 2 (good visuals, relate to audience, explain clearly)
 - References 1 (at least 10 references, of which at least 3 are original scientific papers)
- /overall 10 points

Honor's contract

Honors College students can take this course with an additional honors contract. Such a contract will include additional reading as discussed between student and instructor, as well as a more carefully researched and deeper presentation. Honors contract information is available at <http://www.honors.arizona.edu/future-students/honors-credit-across-campus>.

Recommended books (not required)

Krebs, J.R. and Davies, N.B. An introduction to behavioural ecology. 1993 (3rd ed.), Blackwell Science

Wilson, E. O. Sociobiology. 1975 (new edition 2000), Harvard Univ. Press.

Class schedule

Note that the class schedule is subject to change during the semester; such changes will be announced in class. The up-to-date version can always be found at <https://docs.google.com/document/d/1GlamkHl7TdysgRZ08TIbrEgFdRrvucIGl9jj3w9LGNe/edit?usp=sharing>

Also note that readings are required as listed on the schedule regardless of whether the reading / homework is announced in class, so please check the schedule regularly.

General issues

Professional Communication

If you have any questions for the instructors or the TA, feel free to ask them before or after the class period, or email the instructor at dornhaus@email.arizona.edu. I will attempt to answer as soon as I can, however you should never assume an email will be answered in less than 3 days.

If you send any emails to the instructor or TA, make sure to mention the name of the class (ECOL280) in the subject line. Also, start your email by addressing the recipient, and end it with a greeting. A professional way to address persons with a PhD is, for example, “Dear Dr Dornhaus”; always end the email with your full name. Yes, that’s also good form for replies in email chains. Re-read your email to check for spelling and grammar errors. Not adhering to these rules will mean that the addressee will get the impression that you are unused to professional communication, and this will probably result in them focusing on your communication style instead of your actual message; this is very detrimental in emails to future employers or mentors, so you should start practicing good habits now.

Classroom Behavior Policy

To foster a positive learning environment, students and instructors have a shared responsibility. We want a safe, welcoming, and inclusive environment where all of us feel comfortable with each other and where we can challenge ourselves to succeed. To that end, our focus is on the tasks at hand and not on extraneous activities (e.g., texting, chatting, reading a newspaper, making phone calls, web surfing, etc.).

For this class, use of a laptop is allowed, e.g. for taking notes or checking online resources relevant to class discussion. However, I expect the laptop to be used almost exclusively for the current class-relevant task. If I notice that your laptop is distracting to other students I will ask you to shut it down. Laptops are not to be used while completing in-class quizzes.

This course supports elective gender pronoun use and self-identification; rosters indicating such choices will be updated throughout the semester, upon student request. As the course includes group work and in-class discussion, it is vitally important for us to create an educational environment of inclusion and mutual respect.

Absence Policies

The UA’s policy concerning Class Attendance, Participation, and Administrative Drops is available at <http://catalog.arizona.edu/policy/class-attendance-participation-and-administrative-drop>.

The UA policy regarding absences for any sincerely held religious belief, observance or practice will be accommodated where reasonable: <http://policy.arizona.edu/human-resources/religious-accommodation-policy>.

Absences preapproved by the UA Dean of Students (or dean’s designee) will be honored. See <http://policy.arizona.edu/employmenthuman-resources/attendance>.

Participating in the course and attending lectures and other course events are vital to the learning process. As such, attendance is required at all lectures and discussion section meetings. Students who miss class due to illness or emergency are required to bring documentation from their health-

care provider or other relevant, professional third parties. Failure to submit third-party documentation will result in unexcused absences.

If you are absent for any other reason, this may have negative effects on your grade both directly and indirectly: you will likely miss the class quiz points, and you will miss the instruction provided in class as well as your opportunity to actively engage with the material. If you miss an exam, you will typically not re-take it; if there was a legitimate reason to miss it and you let the instructor know ahead of the beginning of the exam, your grade point total will be adjusted as if there had been no exam. If you are sick, send the instructor an email immediately (before you miss class or an exam).

Requests for incomplete (I) or withdrawal (W) must be made in accordance with University policies, which are available at <http://catalog.arizona.edu/policy/grades-and-grading-system#incomplete> and <http://catalog.arizona.edu/policy/grades-and-grading-system#Withdrawal> respectively.

UA Nondiscrimination and Anti-harassment Policy

The University is committed to creating and maintaining an environment free of discrimination; see <http://policy.arizona.edu/human-resources/nondiscrimination-and-anti-harassment-policy>

Our classroom is a place where everyone is encouraged to express well-formed opinions and their reasons for those opinions. We also want to create a tolerant and open environment where such opinions can be expressed without resorting to bullying or discrimination of others.

Accessibility and Accommodations

Our goal in this classroom is that learning experiences be as accessible as possible. If you anticipate or experience physical or academic barriers based on disability, please let me know immediately so that we can discuss options. You are also welcome to contact the Disability Resource Center (520-621-3268) to establish reasonable accommodations. For additional information on the Disability Resource Center and reasonable accommodations, please visit <http://drc.arizona.edu>. Please plan to meet with me by appointment or during office hours to discuss accommodations and how my course requirements and activities may impact your ability to fully participate.

Please be aware that the accessible table and chairs in this room should remain available for students who find that standard classroom seating is not usable.

Code of Academic Integrity

Students are encouraged to share intellectual views and discuss freely the principles and applications of course materials. The use of the internet or published works to help you solve problems in the assignments completed at home is also encouraged. Otherwise, graded work/exercises must be the product of independent effort. Students are expected to adhere to the UA Code of Academic Integrity as described in the UA General Catalog.

See <http://deanofstudents.arizona.edu/academic-integrity/students/academic-integrity>.

The University Libraries have some excellent tips for avoiding plagiarism, available at <http://www.library.arizona.edu/help/tutorials/plagiarism/index.html>.

Selling class notes and/or other course materials to other students or to a third party for resale is not permitted without the instructor's express written consent. Violations to this and other course rules are subject to the Code of Academic Integrity and may result in course sanctions. Additionally, students who use D2L or UA e-mail to sell or buy these copyrighted materials are subject to Code of Conduct Violations for misuse of student e-mail addresses. This conduct may also constitute copyright infringement.

Threatening Behavior Policy

The UA Threatening Behavior by Students Policy prohibits threats of physical harm to any member of the University community, including to oneself. See

<http://policy.arizona.edu/education-and-student-affairs/threatening-behavior-students>.

Additional Resources for Students

UA Academic policies and procedures are available at <http://catalog.arizona.edu/policies>.
Student Assistance and Advocacy information is available at <http://deanofstudents.arizona.edu/student-assistance/students/student-assistance>.

Confidentiality of Student Records

<http://www.registrar.arizona.edu/ferpa/default.htm>

Subject to change

Please note that the information contained in the course syllabus, other than the grade and absence policies, may be subject to change with advance notice, as deemed appropriate by the instructor. This is particularly true of the details in the course schedule. The most up-to-date version of the class schedule (including assignment due dates) can always be found on D2L.