

BIOL 802 Organic Evolution – Fall 2023

Instructor Information:

Dr. Dawn Simon

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Office: Bruner Hall of Sciences, Room 201C

Office Hours: MWF 9-10 a.m. & other arrangements/times by appointment.

During the week, I check email messages at least twice a day (once in the morning and once in late afternoon) and will usually respond within 24 (weekday) hours. (For example, if you email me on a Friday afternoon, I will typically respond by Monday afternoon.) In special circumstances, responses may be delayed up to 72 hours.

Course Description:

This course is an overview of the basic concepts in evolutionary biology with a focus on pattern and process through the use of examples. Molecular and organismal data will be examined.

Course Objectives:

In this course, students will be able to:

1. Recognize the pattern of biological evolution.
2. Differentiate between evolutionary mechanisms (natural selection, random genetic drift, mutation, and migration).
3. Appreciate different approaches (e.g., organismal, molecular) to studying evolutionary biology.
4. Develop critical thinking skills by identifying assumptions of alternative hypotheses and evaluating evidence.
5. Demonstrate the ability to form a coherent evidence-based argument and communicate this in writing.
6. Locate and appropriately use examples from the primary literature.

Required Materials:

Evolutionary Analysis (2014, 5th edition); Jon C. Herron & Scott Freeman; Benjamin Cummings

ISBN-10: 0321616677

ISBN-13: 978-0321616678

Computer Requirements:

You are required to have frequent access to a computer with internet connectivity. Lectures will require internet access for viewing and I expect you to check the Canvas site several times per week (and preferably every day). Please refer to the eCampus website to make sure you meet the minimum hardware/software and internet connection speed required by all UNK eCampus students. The written portion of exams must be completed using Respondus Lockdown Browser.

Technical Support:

[LoperTECH Service Desk](#)

Phone: 308-865-8363

Email: support@nebraska.edu

If you are having problems or technical issues with Canvas, please contact ITS.

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Mode of Instruction:

This course is entirely online and comprised of lectures, readings, and assignments. Most weeks you are required to watch 1-2 lectures, complete the assigned readings, participate in discussions (via discussion board posts) and complete a quiz.

Grades:

The course grade is based on quizzes (12 quizzes, 10 pts each = 120 pts), discussion board posts (13 discussion boards, 10 pts each = 130 pts), and exams (2 exams, 100 pts each = 200 pts). Minor modifications to assigned points may occur and will be announced. Letter grades, using the plus/minus system, will be assigned using the standard grading scale for the Dept. of Biology, as follows: A (93-100%), A- (90-92%), B+ (88-89%), B (83-87%), B- (80-82%), C+ (78-79%), C (73-77%), C- (70-72%), D+ (68-69%), D (63-67%), D- (60-62%), and F (below 60%). Your final grade will be rounded up (e.g., if you finish with an 82.5% your grade will be a B).

Lectures:

Lectures are designed to provide in-depth presentation of the studied concepts. They will be posted on Canvas by 6:00 p.m. CST each Monday. The length of these is variable depending on the specific topic.

Weekly Assignments:

Most weeks, along with viewing (and working on) the lecture(s), you will need to complete reading assignments, participate to graded discussion boards and complete a quiz.

Readings

The schedule at the end of this document specifies assigned readings from the textbook. Weekly reading assignments will also be announced on Canvas, but I advise you to be proactive and complete them before viewing the lecture and entering the discussion board. Note: Lectures will cover only a subset of the assigned book chapter. However, I strongly advise you to read the assigned book chapter in its entirety.

Discussion board posts

Discussions are a significant portion of this course. Each week, I will post a question on a new Discussion Board at the same time as the week's lecture. With the exception of personal introductions (see below), discussions will be done in smaller groups of 6-7 students (randomized periodically), allowing for more in-depth exchanges and decreased reading loads. Discussion boards will be open from Monday 6:00 p.m. to Sunday 11:59pm CST. You will be required to respond to the question, as well as following up with your classmates' answers. You may interact with posts at any point, but to be considered for grading, interactions must be complete by the deadline. A grading rubric is available on Canvas. Please consult this rubric, it is especially important for you to note the required frequency of posting and reference requirements.

The more thoughtful your comments, the better the quality of discussion will be for the entire group. Comments should be at least a few sentences and demonstrate that you are aware of the discussion that has been taking place. Responses to classmates must add to the overall discussion and may consist of comments, questions, or new ideas that have been generated after reading the student's answer (e.g., if you have a question, what piece of evidence prompted the question?). While you can answer (e.g.) "I agree" to someone else's statement (it

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is useful and fair to encourage good comments), such an answer will typically not be counted as a “valuable” contribution in the week’s discussion. When needed, your comments/statements should be supported with information, file attachments or web sites, and should be relevant to the current topic of discussion. References are encouraged but shouldn’t be over-utilized (be specific!). Overall, conciseness and clarity are necessary (i.e. page long postings might not be appropriate), both to keep the reading load for the class to a reasonable level and to state your reasoning as precisely and as efficiently as possible.

Finally, I expect you to be polite, professional and constructive, for each discussion to be as useful and enjoyable as possible.

See schedule on the last page for deadlines. Except under extraordinary (and justified) circumstances, late posts will not be accepted.

Quizzes:

Every week, after watching the lecture, you will also be required to complete one short quiz, to assess your level of understanding of the week’s material. These will usually consist of 5-10 multiple choice questions (10 pts total). The quizzes will be timed (15 – 30 minutes), but open resource.

Exams:

There will be two exams (week 7 and 16; see schedule below). There will be two sections, a written portion (50 pts) and a multiple choice portion (50 pts). Both sections will be timed and Lockdown browser will be used. However, you may use your textbook. They will be made available by Friday at 6 pm (the week prior) and due at the end of the week (Sunday at 11:59 pm CST). Except under extraordinary (and justified) circumstances, late submissions will not be accepted.

Finals Week Policy

The final exam will be administered in the time period scheduled during finals week in accordance with University policy ([Final Exam Schedule](#)). More information about UNK’s Finals Week Policy, including when it is appropriate to ask for special accommodations to move a course’s final exam, can be found here: [Finals Week Policy](#).

Academic Integrity:

Academic honesty is essential to the existence and integrity of an institution of higher education. The responsibility for maintaining that integrity is shared by all members of the academic community. To further serve this end, the University of Nebraska at Kearney has a policy relating to academic integrity.

[Graduate Academic Integrity Policy](#)

You will be expected to be familiar with and abide by all such policies. Plagiarism will not be tolerated. You must cite all sources and rephrase content in your own words. You assume full responsibility for the content and integrity of the work you submit. All written assignments (and some discussion board posts) will be scanned through plagiarism-detecting software. Students who plagiarize any part of their assignments or exams may receive at minimum a zero on that assignment, with more serious repercussions possible (e.g., failure of course, expulsion from UNK). Any materials provided to you in this course are the intellectual property of either myself

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or the textbook publisher. It is a violation of copyright law to share these materials without permission, either online or in person.

Appropriate References:

For the purposes of this course, an appropriate reference is defined as a peer-reviewed journal article or book chapter, assigned reading material (including your textbook) and lecture material. Note that in most cases, lecture material will be derived from a clearly cited peer-reviewed publication or your textbook; in these cases the original source should be cited. Please see additional material available on Canvas for more guidelines.

Students with Disabilities:

It is the policy of the University of Nebraska at Kearney to provide flexible and individualized reasonable accommodation to students with documented disabilities. To receive accommodation services for a disability, students must be registered with the UNK Disabilities Services for Students (DSS) office, 175 Memorial Student Affairs Building, 308-865-8214 or by email unkdso@unk.edu

UNK Statement of Diversity & Inclusion:

UNK stands in solidarity and unity with our students of color, our Latinx and international students, our LGBTQIA+ students and students from other marginalized groups in opposition to racism and prejudice in any form, wherever it may exist. It is the job of institutions of higher education, indeed their duty, to provide a haven for the safe and meaningful exchange of ideas and to support peaceful disagreement and discussion. In our classes, we strive to maintain a positive learning environment based upon open communication and mutual respect. UNK does not discriminate on the basis of race, color, national origin, age, religion, sex, gender, sexual orientation, disability or political affiliation. Respect for the diversity of our backgrounds and varied life experiences is essential to learning from our similarities as well as our differences. The following link provides resources and other information regarding D&I: <https://www.unk.edu/about/equity-access-diversity.php>

Students Who are Pregnant:

It is the policy of the University of Nebraska at Kearney to provide flexible and individualized reasonable accommodation to students who are pregnant. To receive accommodation services due to pregnancy, students must contact the Student Health office at 308.865.8218. The following links provide information for students and faculty regarding pregnancy rights. <https://thepregnantscholar.org/title-ix-basics/>
<https://nwlc.org/resource/faq-pregnant-and-parenting-college-graduate-students-rights/>

Reporting Student Sexual Harassment, Sexual Violence or Sexual Assault:

Reporting allegations of rape, domestic violence, dating violence, sexual assault, sexual harassment, and stalking enables the University to promptly provide support to the impacted student(s), and to take appropriate action to prevent a recurrence of such sexual misconduct and protect the campus community. Confidentiality will be respected to the greatest degree possible. Any student who believes they may be the victim of sexual misconduct is encouraged to report to one or more of the following resources:

- **Local Domestic Violence, Sexual Assault Advocacy Agency** 308-237-2599
- **Campus Police (or Security)** 308-865-8911

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- **Title IX Coordinator** 308-865-8655

Retaliation against the student making the report, whether by students or University employees, will not be tolerated.

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Course Schedule & Assignments

Lectures will be posted on Mondays at 6:00 pm CST. Both quizzes (Q) and discussion boards (D) open on Mondays at 6:00 pm CST and are due on the following Sunday at 11:59 pm CST. Exams will be available the preceding Friday and due at the end of the week on Sunday at 11:59 pm CST.

Week	Date	Topic (assigned reading)	Quiz	Discussion
1	8/21 – 8/25	Pattern of Evolution (ch. 2)	Q1	D1
2	8/28 – 9/1	Evolution by Natural Selection (ch. 3)	Q2	D2
3	9/5 – 9/8	Evolutionary Trees (ch.4)	Q3	D3
4	9/11 – 9/15	Variation (ch.5)	Q4	D4
5	9/18 – 9/22	Selection and Mutation (ch. 6)	Q5	D5
6	9/25 – 9/29	Migration, Drift, and Nonrandom Mating (ch.7)	Q6	D6
7	10/2 – 10/6	EXAM 1		
8	10/9 – 10/13	Molecular Evolution (ch. 7, p.255-272)	Q7	D7
9	10/16 – 10/20	FALL BREAK		
10	10/23 – 10/27	Linkage and Sex (ch. 8)	Q8	D8
11	10/30 – 11/3	Adaptation (ch. 10)	Q9	D9
12	11/6 – 11/10	Sexual Selection (ch. 11)	Q10	D10
13	11/13 – 11/17	Sociality (ch. 12)	Q11	D11
14	11/20 – 11/24	Speciation (ch. 16)	Q12	D12
15	11/27 – 12/1	Human Evolution (ch. 20)	Q13	
16	12/4 – 12/8	EXAM 2		