

Biology 830P- Readings in Animal Evolution Fall 2022

Instructor: Dr. Nicholas Hobbs

Office: 220 Bruner Hall

Office Hours: 10:00am – 11:00am Tuesdays, Thursdays, 1:30 – 2:30pm Wednesdays, or by appointment.

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NOTE: Email is my preferred method of contact if you inquire about a personal issue. Please give me 24 hours to respond to all emails. General questions about the course can be posted on the Frequently Asked Questions Discussion Board in Canvas.

COURSE MATERIALS

- Required: Some Assembly Required: Decoding Four Billion Years of Life, from Ancient Fossils to DNA. Neil Shubin (ISBN 978-1101972687)
- Respondus Lockdown Browser REQUIRED/MANDATORY for all quizzes! Please use the following link to download the Respondus Lockdown Browser:
<https://download.respondus.com/lockdown/download.php?id=477439341%20>.
More information is on Canvas. This will NOT work on a Chromebook or Linux computer.
- E-mail: All students MUST use their UNK email account so that I can reach them. All emails to Dr. Hobbs should be sent from your email account and **not** through Canvas.
- Computer/laptop with Adobe Acrobat and Microsoft Word

COURSE DESCRIPTION

This course discusses readings associated with the major changes that have occurred throughout the course of animal evolution. Topics to be covered include: 1) history of studying animal evolution and 2) mechanisms that bring about change in an animal's genome.

COURSE OBJECTIVES:

1. Students will be able to identify the major mechanisms that lead to change in form and/or function of various animal structures.
2. Students will develop a deeper understanding of how animals have evolved over time.
3. Students will be able to describe the different techniques and tools used to study development and evolution.
4. Students will be able to evaluate scientific research papers.

GRADING SCHEME:	Points	Due Date
Introduction Post	10	Sunday, August 28 th by 11:55 pm CST
Group Discussions (8 @ 15 pts each)	120	Every other week*
Quizzes (8 @ 10 pts each)	80	Every other week from Monday 8:00 am CST to Sunday 11:55 pm
Final Paper	100	Wednesday, December 7 th by 11:55 pm
Total Points	310	

***Time to be determined by end of first week of class**

GRADE ASSIGNMENT: Grades will be assigned using the standard grading scale for the Department 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%). FYI, I do not round up grades. Therefore, if you have an 82.6%, you have earned a letter grade of a B-, not a B. Also, 1% = 6.6 points not 1 point. Grade assignments are final unless there is a calculation error.

LECTURE QUIZZES

Throughout the semester, you will be given eight quizzes worth 10 points each. Quizzes will make up 80 points of your grade. The purpose of these quizzes is to make sure that you are keeping up with the readings for each discussion.

SYNCHRONOUS GROUP DISCUSSIONS: Synchronous group discussions will occur every other week via Zoom. The time for the meeting will be determined by the end of the first week of class. Discussions will be recorded so that I will be able to review and grade your performance later. Factors that will determine the grade you earn include but are not limited to: how active you are in the discussion (do you participate without dominating the discussion), if you make connections between the chapter and supplemental readings used for discussion, and understanding of content and ability to ask/answer questions related to it. These discussions will be worth 15 points each, for a total of 120 points.

FINAL PAPER: For the final paper, you are to pick an organ/structure not specifically discussed in the book or the primary literature we are reading (lung, limb for example) and 1) discuss how it has changed over the course of time or varies between different groups of animals, 2) relate these changes to the topics discussed throughout the semester, and 3) design a brief experiment examining the change in function of the organ/structure. You must support these changes using peer-reviewed primary research articles (review articles are acceptable, but make sure they are not your only source). Be creative with your experiment! Make sure to discuss the organisms or cells you use and justify why they are important for your experiment. Also be sure to include basic methodology and expected results for your experiment. This paper is due by December 14, 11:55pm CT.

COURSE OUTLINE:

Week	Beginning	Some Assembly Required Reading	Supplemental Readings	Assessment
1	Aug 22	Chapter 1: Five Words	Shubin et al., 2006 Cass et al., 2013 Prum & Brush, 2014	Introduction Post Quiz 1
2	Aug 29			Group Discussion 1
3	Sep 5	Chapter 2: Embryonic Ideas	Gans & Northcutt, 1983 Richardson et al., 1998 Holland et al., 2008	Quiz 2
4	Sep 12			Group Discussion 2
5	Sep 19	Chapter 3: Maestro in the Genome	DNA Structure Readings Anderson et al., 2012 Kvon et al., 2016	Quiz 3
6	Sep 26			Group Discussion 3
7	Oct 3	Chapter 4: Beautiful Monsters	Lewis, 1978 Wellik, 2007 Nakamura et al., 2016	Quiz 4
8	Oct 10			Group Discussion 4
9	Oct 17			Fall Break
10	Oct 24	Chapter 5: Copycats	McClintock, 1950 Holland, 2015 Fiddes et al., 2018	Quiz 5
11	Oct 31			Group Discussion 5
12	Nov 7	Chapter 6: Our Inner Battlefield	Wagner & Lynch, 2008 Dupressoir et al., 2009 Lynch et al., 2011	Quiz 6
13	Nov 14			Group Discussion 6
14	Nov 21	Chapter 7: Loaded Dice	Deban et al., 2007 Frobisch & Shubin, 2011	Quiz 7 Thanksgiving Break

15	Nov 28			Group Discussion 7
16	Dec 5	Chapter 8: Mergers and Acquisitions	Doudna & Charpentier, 2014 O'Malley, 2015 Brunet and King, 2017	Quiz 8
17	Dec 12			Group Discussion 8 Final Paper

ACADEMIC INTEGRITY: UNK's policy is the maintenance of academic honesty and integrity is a vital concern of the University community. This policy is stated in the Graduate Catalog or at <http://catalog.unk.edu/graduate/academics/academic-regulations/expectations-in-the-classroom/academic-integrity-policy/>. Any student found in violation of this policy will be subjected to both academic and disciplinary sanctions. Violation of this policy includes Plagiarism, Cheating, Fabrication and Falsification, and Other Acts of Academic Dishonesty.

You are encouraged to make use of the online tools and resources provided at www.plagiarism.org/ to help you identify the various types of plagiarism, learn how to effectively paraphrase, as well as adequately cite your sources.

Attendance Policy

Your instructor may have indicated on their syllabus an attendance policy specific to their class. If so, that is the policy with which you must comply. If no other policy is stated, the University-wide attendance policy will apply. You can find the [Student Attendance Policy Statement online](#).

Academic Honesty Policy

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. To ensure all students understand the expectations, UNK has adopted [Academic Integrity Policy](#).

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 she or he 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
- **Title IX Coordinator** 308-865-8655

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

Problems/Questions

If you have questions then ask or come and see me or contact me via e-mail or phone. If you are having problems with the course come and see me before it is too late (not the week before your position paper is due or when the course is over).