

## COURSE SYLLABUS

# BIOL 820: Introduction to Graduate Studies

Department of Biology, University of Nebraska at Kearney

**Term:** Fall 2022

**Course Credits:** 3

**Course Delivery:** Online - Asynchronous

## Instructor

Dr. Gregory J. Pec, UNK Department of Biology, [pecg@unk.edu](mailto:pecg@unk.edu), office: 308.865.8410

**Zoom office hours:** By appointment.

Email should be used judiciously to address questions pertaining to course administration/scheduling or urgent matters. I respond to messages as quickly as I can, generally within 24-48 hours. Direct issues related to the course content should be posted to the Canvas forum described below.

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## Course Description

An introduction to graduate study and requirements at UNK with emphasis on research methods and biological techniques for the professional teacher and biologist. Students will gain an appreciation for the scientific method by formulating scientific questions including null and alternative hypotheses, design experimental methods addressing the hypotheses and propose appropriate statistical tests for evaluation of results. Students will practice the art of locating and understanding scientific literature. In addition, students will engage in scientific writing, which will include the submission of a research proposal. Per the [UNK Graduate Course Catalog](#).

## Course Learning Objectives

At the completion of the course, students will be able to: (1) understand the requirements for the degree program (thesis and non-thesis) and complete plausible plans for completion of the degree requirements; (2) effectively apply appropriate formatting, style, and language in professional electronic communications; (3) develop scientific questions and develop testable hypotheses to answer a specific aspect of a scientific question; (4) effectively search for scientific literature using open-source databases and UNK Library resources; (5) design methods to test a scientific hypothesis with an understanding of the interdependence of data collection and statistical methods; (6) effectively read scientific literature; (7) appreciate the role of the IACUC and IRB in research projects; (8) complete a generic application for funding and have familiarity with common funding sources; (9) write a well-developed scientific review paper on a chosen topic; and (10) use proper citation methods and understand the importance of academic honesty.

## Important University Dates

- First day of the session: August 22, 2022
- University Breaks/Holidays: September 5, 2022, October 17-18, November 23-27
- Last day to withdraw: November 11, 2022
- Last day of the session: December 15, 2022
- See the [UNK Academic Calendar](#) for other important University dates

## Recommended Texts and Materials

**Recommended Text:** Hoffman, Angelika H. Writing in the Biological Sciences. Third Edition. 2019. ISBN: 9780190852191.

Whitlock, M.C., Schluter, D. The Analysis of Biological Data. Second Edition (2015). ISBN: 9781936221486 or Third Edition (2020). ISBN:9781319226237. \*\*\*Textbook for BIOL827\*\*\*

Readings are assigned from the textbook to complement the lectures and discussions.

## Required Technology

- As an online course, access to an up-to-date computer and Canvas several times a week is required (checking in daily is encouraged).
- An updated PDF reader will also be needed to read course materials.
- You may need to use software, such as Microsoft Word, Excel, or PowerPoint or another equivalent.
  - [Microsoft365](#) software is available to UNK students for free download.
- Ability to use search engines (for example, [Google Scholar](#) or [the Calvin Library search engine](#)) to locate scholarly works is expected of graduate students. If you are not already comfortable with this, I encourage you to reach out to me or the [Natural Sciences Librarian](#) at Calvin Library for assistance.
- For issues with Canvas or other technologies associated with your university account, please contact the [University technology help desk](#).

## Course Organization

### Canvas

For this class we will use an online course management system called Canvas. Course information, updates, and related information, etc. will be posted here. I have also created a forum in Canvas for asking/answering questions about course information.

### Participation

The more students are engaged in a course, the more they tend to get out of it. I encourage you to spend at least a little time each day with course material or activities though I recognize this is not always possible.

## Communication

Please check course announcements in Canvas frequently. This is the primary way I will communicate. Please feel free to reach out to me at any time via Canvas messages, email, or office phone. I will respond as quickly as possible, usually within 24-48 hours. Emails sent after 3 pm (CST) on Fridays will be answered by the following Monday. If sending an email or leaving a voicemail, please be sure to include BIOL 881 in the subject (email) or message (voicemail) so I can prioritize responding to it.

## Course Structure and Assessment

All work is due by 11:59 PM Central Time on the date listed in Canvas and on the course schedule, unless otherwise indicated. If there is a discrepancy between the course schedule and Canvas, the date in the course schedule takes precedence. This course consists of recorded information sessions, reading assignments, and online discussion boards. All materials for each week will be posted on Canvas. This is not a self-paced course. You will be expected to keep up with the pace of the course, and the course structure is designed to help with this. If this is your first distance class, you will find that these classes can be fast paced. Understandably, everyone in this class has several commitments other than this class. Nonetheless, as a student who has registered for this class, it is your full responsibility to ensure that you can meet the requirements and commit the needed time for this course. If you start to fall behind, it may be difficult to catch up. Please do not hesitate to contact me.

**Information Sessions:** Audio/video information sessions, accompanying presentations, and supplementary resources will be posted on Tuesdays to Canvas.

### Assignments:

**Discussion Boards (D):** Discussion boards will begin on Tuesdays and run through to Monday of the following week. Students will be expected to respond to the discussion question(s) and to other students' comments. This will allow us to talk about the information sessions and answer any questions that students might have. There will be a total of 4 weeks of discussion, each week being worth 10 points (40 points total). Participation marks will be based on the following criteria:

- (1) For the initial post, you will reply to the question(s) posted by Friday (5 points).
- (2) The second part of the assignment is to respond to another of your classmates' postings by expanding on what they have written. These responses are due by the following Monday (5 points).

Further details will be provided for each discussion board assignment. In addition to this weekly mechanism for student participation, please become familiar with all other such policies on attendance found in the [University Graduate catalog](#).

**Mini-Assignments (mA):** There will be 6 small assignments done throughout the semester to reinforce introduced concepts and provide an opportunity to practice skills. Instructions will be posted on Canvas.

**Assignments (A):** There will be 5 assignments done throughout the semester that are more detailed and rigorous than mini-assignments. Instructions will be posted on Canvas.

**Exams (E):** Exams will be time-limited, single attempt, "closed book" (no reference to notes or books). There will be two parts to each exam. Part A will be 50 multiple choice questions, worth

75 pts (timed at 1 hour) and Part B will be 5 short answer questions worth 25pts (timed at 1 hour). Instructions will be posted on Canvas.

## Basis for final grade

Assessment	Points
Discussions (4 @ 10 points)	40
Mini-assignments (6 @ 5 points each)	30
Assignments	
A1: Project Ideas	10
A2: Annotated Bibliography	20
A3: Draft and peer-review	20
A4: Mini-Proposal	60
A5: Lightning Talk	20
A6: Review Paper	70
Exams (2 @ 100 points each)	200
<b>Total</b>	<b>470</b>

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%).

## Course Policies

I take my role as your instructor very seriously; I care about how well you do in this course and that you have a challenging and rewarding experience. It is my commitment to you to respond individually to the work you submit in this class and to return your work promptly.

### Grading Policy

Scores for each assignment will be posted on the course Canvas page. If you think there was a grading error or do not understand the feedback you receive on graded work, please contact me as soon as possible. If you would like me to regrade your work, requests should be made within three days after the graded work has been returned to you. Regrade requests may result in a lower grade.

### Late Work Policy

As a student enrolled in this course, one of your responsibilities is to submit course work on time. Course work will not be accepted late unless prior arrangements have been made due to *documented* professional or extenuating personal circumstances (e.g., family emergency, participation in university-sanctioned activities, religious observation, etc.). Please contact me as soon as possible to discuss alternative arrangements. Late submissions will be docked 10% per day up to 3 days late. If more than 3 days late, the submission will not be accepted and a grade of 0 (zero) will be recorded for that assignment. Please contact me as soon as possible.

### Professionalism and Academic Integrity Policy

Students are expected to uphold [UNK Values](#) by being engaged in the course, conducting yourself with integrity, and treating others with respect and inclusivity. Critical questions and

discussion to advance knowledge and understanding are strongly encouraged but must be done in a respectful way. Students who habitually disturb the class and have been warned may suffer a reduction in their final class grade.

Academic integrity is a term that encapsulates honesty, trust, fairness, respect, and responsibility among students and faculty. You are expected to follow the [University of Nebraska Student Code of Conduct](#). In particular,

“Students are expected to approach and complete their academic work with integrity. They are expected to do their own work, to be honest in the statements they make, to refrain from harming others, to refrain from improperly helping others, and to follow the rules. Students must read instructions and syllabi carefully so that they know what their instructors expect in terms of academic integrity.

Students who are unsure whether or not particular conduct is appropriate should ask their instructors or university administrators. Failing to act with integrity is a violation of the Code.” (Student Code of Conduct, Section IIA)

You may be asked to affirm the statement as true on submitted work: ***"By submitting this test or assignment, I unequivocally state that all work is entirely my own and does not violate UNK's Academic Integrity policy."***

**Plagiarism:** It is of utmost importance in this course to understand and avoid plagiarism. Writing discussion posts and a paper critique are a core feature of this course. TurnItIn may be used for assignments submitted in Canvas. For more information and tips, please visit the TurnItIn's webpage "[Preventing Plagiarism when Writing](#)" or reach out to me for guidance. If you plagiarize in your submitted work you could fail the assignment or fail the course. Each instance of plagiarism, classroom cheating, and other types of academic dishonesty will be addressed in accordance with the [UNK Academic Integrity policy](#).

## **Students with Disabilities or Who are Pregnant**

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 [unkdso@unk.edu](mailto:unkdso@unk.edu)

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 Cindy Ference in Student Health, 308-865-8219. For more information regarding pregnancy rights: <http://www.nwlc.org/resource/pregnant-and-parenting-students-rights-faqs-college-and-graduate-students>

If you have an accommodation plan, please see the instructor as soon as possible, so any necessary arrangements can be made for your learning. **No accommodations can be provided until a Reasonable Accommodation Plan is in place. Please remember, plans are not retroactive and cannot be used for assignments prior to the date of the instructor's signature.** To the greatest extent possible, University Representatives, shall observe confidentiality with respect to any request for accommodation.

## **Veteran Services**

UNK works diligently to support UNK's military community by providing military and veteran students and families with resources and services to help them succeed. Veterans Services assists with the GI Bill process and acts as a liaison between the student and the Veterans

Administration. If you need assistance or would like more information, please contact Lori Weed Skarka at 308-865-8677 or [unkveterans@unk.edu](mailto:unkveterans@unk.edu)

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

### **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>

**Distribution of course materials:** Audio or video recording, digital or otherwise, of lectures, seminars or any other teaching environment by students is allowed only with the prior written consent of the instructors or as a part of an approved accommodation plan. Student or instructor content, digital or otherwise, created and/or used within the context of the course is to be used solely for personal study, and is not to be used or distributed for any other purpose without prior written consent from the content author(s). Any further use or dissemination of this material may be in violation of Federal copyright law and University sanctions including failure in the course.

**Disclaimer:** Any typographical errors in this Course Outline are subject to change and will be announced on the course Canvas page.

## Tentative Fall 2022 Course Schedule

All work due by 11:59PM CT unless otherwise indicated. Required content not listed here may be provided in Canvas.

<b>Week</b>	<b>Topic</b>	<b>Recommended Reading</b>	<b>Assessment</b>
1	Introduction Why graduate school?	Syllabus	D1 mA1
2	Fields in biology UNK biology faculty MS degree requirements	UNK Biology website Graduate Catalog	mA2 mA3
3	What is Science? Experimental design and the scientific method What is a Journal Club? Parts of a scientific paper	Ch.1&10  Ch.7&10	D2
4	Library skills How to properly cite scientific literature Best practices for presenting data (Poster/Oral)	Ch.4  Ch.13&14	D3
5	Research proposals and how to write them Research and regulations	Ch.9&15	D4 mA4
6	Exam week		E1
7	Introduction to experimental design Introduction to statistical analyses	Ch.5 Part1 (Whitlock & Shluter)	mA5 A1
8	Fall Break		
9	Peer review of proposals and manuscripts	Ch.10&11 Ch.8	mA6 A2
10	Writing a resume/CV and cover letter Interview skills Mini-research proposal prep Review paper prep Optional meetings		
11	Peer review of proposals cont. Review paper prep Optional meetings		A3
12	Mini-research proposal revisions Review paper prep Optional meetings		
13	Mini-research proposals & lightning talks Review paper prep Optional meetings		A4 A5
14	Thanksgiving Break		
15	Review papers		A6
16	Exam Week		E2

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