



BIOL 823 Environmental Biology

Summer 2021 3 credit hours

10 May to 2 July

Instructor	<p>Dr. Pricila Iranah</p> <p>Pronouns: she/her/hers</p> <p>Bruner Hall R315</p> <p>2401 11th Ave, Kearney, NE 68849</p> <p>Email: iranahp@unk.edu</p> <p>Office phone: 308 865 8912</p> <p>In-person office hours: By appointment</p> <p>Virtual office hours: W 9am to noon [Check Canvas for Zoom link]</p>
Course description (short)	<p>Environmental biology focuses on the interface of human activity and the natural biological world. The impacts of humans on biogeochemical cycles, ecosystems, and individual species are examined. The role of governmental policies and politics is a part of this discipline and is reviewed. Recent scientific research and reports are used to predict what the future challenges are to humans and organisms in the face of the rapid changes brought about by human activity.</p>
Communication	<p>Preferred method: Coming to office hours is the best way to meet with me and ask questions! Equally good way: Logging in to virtual office hours!</p> <p>Second best way: Email. I respond to email within 24-48 hours on business days. Less likely to respond promptly during the weekend.</p> <p>Important: (1) Please write "BIOL 823" in the subject line, followed by what your email is about. (2) Email me from your <i>Loper</i> account or Canvas only. Third party email address may be filtered out and never get to me.</p>

Course objectives	<p>By the end of the course you should be able to:</p> <ul style="list-style-type: none"> • Use and demonstrate critical thinking in written and spoken analysis of current environmental issues • Understand and discuss the relationship between the individual, society, economy, culture and environmental issues and identify ways to minimize impact on the environment • Understand and describe the basic principles of matter and energy flows • Understand and describe the geological, meteorological and biogeochemical cycles of Earth • Understand and describe fundamental ecosystem and ecological principles • List the major sources of pollution and describe the effects on ecosystems and human populations • Understand climate as a system and understand human contributions to climate change • Understand and describe the goals of biodiversity conservation and nature preservation programs. • Understand and describe renewable vs. non-renewable energies, and natural resources including effects on climate change • Understand and apply the principles of sustainable development to current issues and everyday life
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Course materials	<p>Environment, Enhanced eText</p> <p>Authors: David M. Hassenzahl; Mary Catherine Hager; Nancy Y. Gift; Linda R. Berg; Peter H. Raven</p> <p>Publisher: Wiley. 10th Ed. 2018.</p> <p>eText ISBN: 9781119393412, 1119393418</p> <p>Available from \$ 23.10 USD as an etextbook on Vitalsource.com</p> <p>Selection of peer-reviewed papers and reports shared by the instructor.</p>
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Copyright	<p>Materials in this course—unless otherwise indicated—are protected by United States copyright law [Title 17, U.S. Code]. Materials are presented in an educational context for personal use and study and should not be shared, distributed, or sold in print—or digitally—outside the course without permission.</p> <p>As a student your ability to post or link to copyrighted material is also governed by United States copyright law. The law allows for students to post or link to copyrighted materials within the course environment when the materials are pertinent to course work. Instructors—or other staff of the institution—reserve the right to delete or disable your post or link if in their judgment it would involve violation of copyright law.</p>
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Grading	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px 10px 2px 10px;">Assignment 1 – Citation & Referencing</td> <td style="text-align: right; padding: 2px 10px 2px 10px;">20</td> </tr> <tr> <td style="padding: 2px 10px 2px 10px;">Assignment 2 – Case Study analysis</td> <td style="text-align: right; padding: 2px 10px 2px 10px;">30</td> </tr> <tr> <td style="padding: 2px 10px 2px 10px;">Assignment 3 – Sci Comm</td> <td style="text-align: right; padding: 2px 10px 2px 10px;">20</td> </tr> <tr> <td style="padding: 2px 10px 2px 10px;">4 online group discussions</td> <td style="text-align: right; padding: 2px 10px 2px 10px;">60</td> </tr> <tr> <td style="padding: 2px 10px 2px 10px;">Quiz 1 (MCQ, T/F)</td> <td style="text-align: right; padding: 2px 10px 2px 10px;">30</td> </tr> <tr> <td style="padding: 2px 10px 2px 10px;">Quiz 2 (MCQ, T/F)</td> <td style="text-align: right; padding: 2px 10px 2px 10px;">30</td> </tr> <tr> <td style="padding: 2px 10px 2px 10px;">Quiz 3 (MCQ, T/F)</td> <td style="text-align: right; padding: 2px 10px 2px 10px;">30</td> </tr> <tr> <td style="padding: 2px 10px 2px 10px;">Final Exam (20 MCQ, 5 T/F, 5 of 6 short answer, 2 of 3 long answer)</td> <td style="text-align: right; padding: 2px 10px 2px 10px;">120</td> </tr> <tr> <td style="text-align: right; padding: 2px 10px 2px 10px;">Total Points possible</td> <td style="text-align: right; padding: 2px 10px 2px 10px;">340</td> </tr> </table>	Assignment 1 – Citation & Referencing	20	Assignment 2 – Case Study analysis	30	Assignment 3 – Sci Comm	20	4 online group discussions	60	Quiz 1 (MCQ, T/F)	30	Quiz 2 (MCQ, T/F)	30	Quiz 3 (MCQ, T/F)	30	Final Exam (20 MCQ, 5 T/F, 5 of 6 short answer, 2 of 3 long answer)	120	Total Points possible	340
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Student responsibilities	<p>It is your responsibility to:</p> <p><i>Read the syllabus and understand course policies.</i> If there is anything in the syllabus you do not understand, ask about it.</p> <p><i>Keep track of dates for homework and exams.</i> Do not rely on the professor to remind you of upcoming deadlines. You may want to get a good calendar and put the due dates from all your classes on it.</p> <p><i>Follow directions.</i> You need to follow any directions the professor gives, whether they are given verbally or in writing. If you do not, it will affect your grade. If your homework is required to be turned in a certain way, or solutions must be written in a particular form, or take-home exam is due at a certain time, then you have to follow these directions. Keep in mind that ignorance of the directions ---either by being absent, not listening, or not reading--- is not an excuse. Not following directions is a sure way to lose points and puts you at risk for failing a course.</p> <p><i>Keep track of your grades.</i> It is your responsibility to keep track of what scores you receive on homework, quizzes, exams, etc. Do not treat your instructor like a secretary: It is not their job to look up your scores for you whenever you ask, or to do basic calculations for you that you could do yourself.</p> <p><i>Go to office hours.</i> If you are having difficulty in the course, you should go to office hours (in person or online) and ask questions.</p> <p><i>Do the assignments in a timely manner.</i> Whether it is assigned reading, homework problems to turn in, or exercises to do for practice, you need to do the assignments and you need to do them in a timely manner. It is your job to practice using the concepts introduced in class and keep up with the material so you do not fall behind.</p> <p><i>Ask questions about the material.</i> Thinking is driven by questions, not answers. Ask for clarification on anything you do not understand, but also learn to ask "good" questions. A good question inspires you to answer it and then ask more questions. The first step in critical thinking is asking good questions.</p>
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Identify misunderstanding or gaps in your knowledge. It is your job to assess your own performance and determine whether or not you are learning the material adequately.

Be polite and respectful of the professor and of other students.

Accept responsibility for your grades and the consequences of your actions.

Check LoperMail and Canvas regularly. Your LoperMail and Canvas are the only places where schedule changes, assignment instructions and any information relevant to the class will be posted.

Academic
integrity

Any student found in violation of the standards of academic integrity may be subject to both academic and disciplinary sanctions. Academic dishonesty includes, but is not limited to, the following:

Cheating: Copying or attempting to copy from an academic test or examination of another student; using or attempting to use unauthorized materials, information, notes, study aids or other devices for an academic test, examination or exercise; engaging or attempting to engage the assistance of another individual in misrepresenting the academic performance of a student; or communicating information in an unauthorized manner to another person for an academic test, examination or exercise.

Fabrication and falsification: Falsifying or fabricating any information or citation in any academic exercise, work, speech, test or examination. Falsification is the alteration of information, while fabrication is the invention or counterfeiting of information.

Plagiarism: Presenting the work of another as one's own (i.e., without proper acknowledgment of the source) and submitting examinations, theses, reports, speeches, drawings, laboratory notes or other academic work in whole or in part as one's own when such work has been prepared by another person or copied from another person.

Complicity in academic dishonesty: Helping or attempting to help another student to commit an act of academic dishonesty.

Misrepresentation to avoid academic work: Misrepresentation by fabricating an otherwise justifiable excuse such as illness, injury, accident, etc., in order to avoid or delay timely submission of academic work or to avoid or delay the taking of a test or examination.

Sexual
misconduct

Title IX makes it clear that violence, harassment, and discrimination based on sex and gender are Civil Rights offenses subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, etc. If you or someone you know has been harassed or assaulted, you can find the appropriate resources, both on and off campus. 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

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

As a faculty member, I am required by our institution to report incidents of sexual misconduct and thus cannot guarantee confidentiality. I must provide the Title IX Coordinator with relevant details such as the names of those involved in the incident, if I know them.

UNK's Title IX Coordinator is:

Mary Chinnock Petroski

Office of Equity and Compliance

Warner Hall, Suite 2113

(308) 865-8655 ; petroskimj@unk.edu

Resources: <http://www.unk.edu/about/compliance/title-ix-resources/resources.php>

Civility and
respect

A civil and respectful environment still has to acknowledge we come to our interactions with biases we have learned throughout our lives. Part of what we will do in this class is unpack those biases and try to replace them with more constructive views of the world. In addition, having a civil and respectful environment does not mean we do not have conflict. Rather, conflict is helpful and often needed for real change to take place, but purposefully trying to anger or offend others is not acceptable. Please keep the items below about expected discussion behaviors, and the elements of being a competent communicator, at the forefront at all times, and this will allow all of us to handle conflict effectively.

At least 50% of the communication process entails listening. It is expected that each of you will be a respectful listener to whomever is speaking. Listening is an active process. Sleeping or "zoning out" are not acceptable "listening" behaviors. Our attention spans are getting shorter and shorter. However, the good news is that attention can be a learned behavior and you can train yourself to pay attention for long periods of time.

When answering questions or sharing ideas with the class, you are expected to:

- Take others into account when formulating responses.
- Share views in a respectful manner to others.
- Discuss and relate ideas, extend ideas of others--do not talk just to hear yourself talk.
- Clarify ideas by seeking opinions from other people.
- Make comments related to topic or activity.
- Avoid divisive statements.
- Avoid interrupting others.
- Avoid blaming others.
- Use clarifying messages to check the accuracy of perceptions.

Students with Disabilities or those who are Pregnant

Students with disabilities or those who are pregnant are encouraged to contact me for a confidential discussion of their individual needs for academic accommodation. It is the policy of the University of Nebraska at Kearney to provide flexible and individualized reasonable accommodation to students with documented disabilities or those who are pregnant. To receive accommodation services for a disability, students must be registered with UNK Disabilities Services Coordinator, David Brandt, in the Academic Success Office, 163 Memorial Student Affairs Building, 308-865-8214 or by email unkdso@unk.edu.

For those needing accommodation due to pregnancy, you need to visit with Student Health. Information for students and faculty regarding pregnancy rights:

<http://www.nwlc.org/resource/pregnant-and-parenting-students-rights-faqs-college-and-graduate-students>

Pandemic protocol	<p>There have been some questions about what happens if a student is diagnosed with COVID-19, and how that will impact the rest of the class section. Generally, students who are sitting six feet or more from the sick student and wearing masks should be able to continue in-person attendance. The contact tracers will reach out to them to ask some questions and talk about monitoring protocols. Please understand that any information shared with you about a student's health must be held in strict confidence.</p>
Canvas How-to	<p>Please visit the following webpage for information and tips on how to maximize your experience and use of Canvas as a learning tool: https://community.canvaslms.com/docs/DOC-10701-canvas-student-guide-table-of-contents</p>
Zoom How-to	<p>https://unk.zoom.us/ https://support.zoom.us/hc/en-us/articles/201362033-Getting-Started-on-Windows-and-Mac</p>
Referencing software	<p>Any of these free software, with their word and browser plugins, will make your life and that of your instructor much easier. Pick one, download and learn how to use it.</p> <p>ZOTERO https://www.zotero.org/ How to use Zotero video: https://www.youtube.com/watch?v=BQL_7C-YqBk</p> <p>MENDELEY https://www.mendeley.com/ How to use Mendeley video: https://www.youtube.com/watch?v=pxgwBZMGq8k</p>
Writing and Formatting	<p>Errors to avoid: https://undergrad.stanford.edu/tutoring-support/hume-center/resources/student-resources/grammar-resources-writers/top-twenty-errors-undergraduate-writing</p>

<https://writingcenter.tamu.edu/Students/Writing-Speaking-Guides/Alphabetical-List-of-Guides/Grammar-Mechanics/Common-Grammar-Errors>

Reach out to people at the Writing Center on campus; they are there to help make sure your work is error-free, polished and professional. See http://www.unk.edu/offices/learning_commons/writing-center.php

Formatting for written assignments that need to be uploaded:

File naming: *Lastname-Assignment-mmddyy.doc/docx*

Font Times New Roman throughout

Font size 12 throughout (even for page numbers)

Citation and referencing style: APA 6th format

Page numbers on bottom right hand corner

Page margins 1 inch on all sides

Line spacing 1.5

Alignment: Left

Headings and subheadings: bold only

Leave a blank space between paragraphs

Avoid the following:

1. Cover page
2. Widows - single lines of text at the top of a page
3. Orphans - first lines of paragraphs at the bottom of a page
4. Tombstones - headings or subheadings alone at the bottom of a page
5. Split lists – lists that are divided between two pages (if possible)

The reference list comes at the end of the assignment, and should start on a new page labelled 'References'.

Taking care of
yourself

Student Health and Counseling info:

<https://catalog.unk.edu/graduate/general-information/student-health-counseling/>

If you have questions about services you have access to, contact Kim Graham, the Student Health Office Assistant, by email grahamks@unk.edu or by phone on (308) 865-8218.

Tips for looking after yourself while studying:

Sleep - Getting the right amount of sleep (between 7 to 9 hours a day) is very important for studying.

Healthy eating – Ensuring you are having a balanced diet, drinking lots of water (coffee, sugary drinks don't count!) as well as eating plenty of fruits and vegetables is key to keep your mind and body healthy.

<https://www.tasteofhome.com/collection/easy-meal-prep-ideas/>

Smoothies are not a fix-all food solution, and here's why:

<https://nutritionstudies.org/are-smoothies-good-or-bad/>, but you can add a scoop of protein powder (regular or plant based) to increase energy content.

Take a break - Make sure you are taking regular breaks to give your body a stretch and grab some fresh air or a snack. In high school, I learnt to organize my days in 2 hour slots with 15-20min breaks in between. Use the timer app on your phones to stick to your time slots, it will help you stay on track.

Exercise – This can't be said enough. Do some exercise to get those endorphins flowing. Research has shown that even exercising for just 15 minutes a day can reduce stress and help you be more productive. Rope skipping, jumping jacks, HIIT workouts...whatever works for you!

Keep a journal - Keeping a journal can be a creative way to deal with thoughts that are spinning in your head. Write down your thoughts, doodles, draw, lists, to-dos, anything that can help declutter your mind.

Your journal is yours; not for anyone else to see. You do not have to hold yourself to any standard in it.

Make sure you plan – Productivity increases when you set daily routines and rituals. Paper calendars, phone apps, diary..find a way that works for you.

Create a study space – Contrary to what you might think, your bed and couch are not ideal study/work spaces. Create yourself a designated area away from distractions, and where you can maintain good posture (seated or standing). More info:

<https://www.utep.edu/extendeduniversity/utepconnect/blog/april-2017/7-ways-to-organize-your-study-space-for-success.html>

Build and use your network – You are not alone! Other enrolled in this class likely face the same challenges you do. Reach out to them, make friends, build a study group and check in with each other to hold yourselves accountable. You can run your ideas and thoughts past your friends and family to see if they can help you. You can also always talk to me!

Relaxation – Dedicate time in your weekly calendar/to-do list for relaxing and doing something you enjoy (hobby). It will ensure you come back refreshed and motivated.

Learning Commons	UNK provides assistance to help you improve your academic performance. The Learning Commons, located on the 2nd floor of the Calvin T. Ryan Library, centralizes several academic services in one convenient place: Language Learning Support Study Groups & Test Reviews Subject Tutoring Success Coaching Supplemental Instruction Writing Center
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These are all offered in a casual, collaborative environment. Services are facilitated by fellow UNK students who know your professors and build your academic confidence. Go early and go often: students who visit the LC throughout the semester are more likely to do well than those who do not. For more information about schedules and services, contact the Learning Commons at 865-8905 or visit them online at www.unk.edu/lc.

Statement on
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>Links to an external site..

While students are required to provide their full legal name at the time of admission, they are able to indicate how they would like to be addressed within the campus community regardless of their legal name. Therefore, as long as the use of an individual's "preferred/chosen name" is not for the purposes of misrepresentation or falsification, it will be accommodated for campus use and documents except where the use of the individual's legal name is required for university business or legal

need. The legal name will still be required and used for all official, external communication.

Students can designate a preferred/chosen name within MyBLUE. No legal documentation is required to make a change to the first and/or middle name used as a preferred/chosen name. Changes to the last name for all individuals will only be done with proper documentation.

Veterans 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 308-865-8520 or unkveterans@unk.edu.

BIOL 823 Environmental Biology - Schedule

<i>WEEK of</i>	<i>TOPIC</i>	<i>Required Reading/Viewing</i>	<i>Work Due</i>
10 May	Mod 1 - Earth as a System	Chapters 3 and 4 from the eText Introduction to Systems Thinking Bassi et al 2021 paper	Assignment 1 due on 14 May Discussion 1: 10 to 15 May
	Mod 2 – The Natural World (I)	Chapters 5 and 6 from the eText Biosphere 2 articles	
17 May	Mod 3 – The Natural World (II)	Chapters 16 and 17 from the eText Mbizah-How community-led conservation can save wildlife Ted talk ILK in Conservation article	Quiz 1 (Mods 1,2,3,4) 21 May
	Mod 4 - Water	Chapters 13 and 21 from the eText Fielding, K.S., Dolnicar, S., Schultz, T. (2019) Public acceptance of recycled water, International Journal of Water Resources Development, 35:4, 551-586, DOI: 10.1080/07900627.2017.1419125	
24 May	Mod 5 – Humans	Chapters 7 and 8 from the eText Khan Academy video on Environmental Justice	Discussion 2: 24 to 29 May
	Mod 6 – Agriculture	Chapter 18 from the eText The State of Food Security and Nutrition in the world - 2020	
31 May	Mod 7 - Urbanization	Chapter 9 from the eText USGBC: Green Building https://www.usgbc.org/articles/what-green-building	Quiz 2 (Mods 5,6,7,8) 4 June
	Mod 8 - Energy	Chapters 10 and 11 from the eText	

		ETIP – Advanced Bioenergy article	
7 June	Mod 9 – Pollution	Chapters 19, 21 and 23 from the eText Brusseau 2019 article	Assignment 2 due on 11 June Discussion 3: 7 to 12 June
14 June	Mod 10 - Climate Change	Chapter 20 from the eText Naomi Klein: Capitalism and Climate video	
21 June	Mod 11 - Sustainability	Chapter 24 from the eText The SDGs: https://www.un.org/sustainabledevelopment/sustainable-development-goals/	Quiz 3 (Mods 9,10,11) 18 June Discussion 4: 22 to 27 June
28 June	Review		Final Exam 2 July Assignment 3 due on 3 July