**NRM 5303 - Special Topics: Environmental Change**
**Spring 2025**

**Instructor:** Dr. Kelbi Delaune
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     Office hours: Tu/W/Th 10:00 am-12:00 pm, or app.

**Class meeting time and space:**
This is an online, asynchronous course that will be available through Blackboard.

**Course Description:**
This discussion-based course explores the challenges and opportunities of addressing arid land freshwater ecosystems within global environmental change. Rather than focusing solely on scientific skill development, this course takes a systems-based and philosophical approach to understanding these issues. We will examine how we define, measure, and approach solutions to these complex environmental problems by analyzing their historical, cultural, ecological, and policy dimensions.

Through a global lens, students will engage with real-world examples, philosophical frameworks, and interdisciplinary methods to understand better the interconnectedness of human actions and the current rate of environmental change.

**Course Objectives:**
1. Provide an in-depth understanding of the major drivers of global environmental change, particularly in arid land freshwater ecosystems, and how these interact.
2. Evaluate the human impacts on these ecosystems using interdisciplinary perspectives.
3. Explore and propose innovative solutions for mitigating and adapting to environmental challenges in the 21st century.
4. Develop advanced research and presentation skills through case studies and student-led discussions.
5. Synthesize diverse viewpoints and apply them to real-world environmental challenges.

**Marketable Skill**
1. Students will demonstrate knowledge of key NRM topics.
2. Students will demonstrate skills in scientific writing and analysis.
3. Students will be able to apply knowledge to projects that include biostatistics, research methods, and scientific writing and analysis

**Course Materials:**
All selected reading and supplementary resources will be provided on the course platform in addition to the electronic resources provided by the library.

**Libraries:**
The Bryan Wildenthal Memorial Library and Archives of the Big Bend in Alpine offers FREE resources and services to the SRSU community. Access and borrow books, articles, and more by visiting the library's website, library.sulross.edu. Off-campus access requires logging in with your LoboID and password. Librarians are a tremendous resource for your coursework and can be reached in person, by email (srsulibrary@sulross.edu), or by phone (432-837-8123).

**Grading:**
The class is structured into weekly periods beginning on Monday and ending on Sunday (11:59 pm) for the weekly discussions and additional course assessments. Grading will be based on the percentage of points earned out of the total.

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| Participation and Engagement | 300 |
| Critical Reading Responses (4) | 200 |
| Case Study | 200 |
| Final Reflection | 300 |
| **TOTAL** | **1000** |

Scale: 90-100% = A; 80-89% = B; 70-79% = C; 60-69% = D.

**Course Structure:**
The course will be delivered online, using a mix of synchronous and asynchronous components through Blackboard to facilitate engagement and flexibility. It is designed to be student-led, emphasizing fostering deep thinking, exploration of personal academic interests, and rich discussions. You will actively shape the dialogue and contribute your unique perspectives, ensuring a dynamic and engaging learning experience. Weekly reading and activities and occasional recorded materials will provide the background and context for the course. Resources will be updated on the course site as discussions evolve to meet your needs. As this is a discussion and project-based course, your curiosity and engagement are not just encouraged, but necessary for your growth.

**Course Assessments:**
- **Participation and Engagement:**
  Participation makes up 40% (400 points) of the graded material in this course. This includes contributions to weekly discussions, activities, and any additional course activities that develop. Discussions will be student-led; however, I will provide the week's prompts and supplemental materials and join in.
- **Critical Reading Responses:**
  Critical reading responses account for 20% (4@ 50 points each = 200 points) of your final grade. These are short essays (open to other formats) assigned throughout the course, aimed at developing critical thinking and cultivating our in-class discussions.
- **Case Study:**
  The case study will account for 20% (200 points) of your final grade. Students will select a historical or contemporary issue, ecosystem, etc. (either individually or as a class) to

develop a case study for. This project involves researching the case's ecological, social, cultural, and policy dimensions, analyzing its significance, and presenting findings through a written report, visual presentation, and/or any other appropriate format.

- **Final Reflection:**
  The final project for the course will account for 30% (300 points) of your final grade. Students can select or propose the format for this assignment (developing a policy brief, storyboard outreach plan, podcast). The final project will be evaluated based on its originality, depth of analysis, and ability to communicate complex ideas effectively to the intended audience. Students will present their projects during Week 15, sharing insights and reflecting on their learning journey throughout the course. More details about the Final Reflection project will be provided in Week 10.

**Tentative Course Schedule:**

| Term Week | Date | Topic | Activities | Due Dates |
|---|---|---|---|---|
| 1 | Jan 15 | Syllabus & Course Structure | Welcome Discussion | |
| 2 | Jan 20 | Introduction to Global Environmental Change | Discussion 1 Critical Reading Assigned (1) | Critical Reading Assigned (1) |
| 3 | Jan 27 | Defining Measuring Global Change | Discussion 2 | |
| 4 | Feb 3 | Historical Perspectives on Arid Freshwater Systems | Discussion 3 | Critical Reading Due (1) |
| 5 | Feb10 | The Role of Biodiversity in Arid Freshwater Ecosystems | Discussion 4, Case Study | |
| 6 | Feb 17 | Policy Dimensions of Freshwater Resource Management | Discussion 5 | Critical Reading Assigned (2) |
| 7 | Feb 24 | Indigenous Knowledge and Cultural Perspectives | Discussion 6 | |
| 8 | Mar 3 | Midterm Reflection: Synthesizing Knowledge | Discussion 7 | Critical Reading Due (2) |
| 9 | Mar10 | Contemporary Stressors on Arid Freshwater Systems | Discussion 8 | Critical Reading Assigned (3) |
| 10 | Mar 17 | Spring Break | | |
| 11 | Mar 24 | Tools for Monitoring and Modeling Change in Arid Ecosystems | Discussion 9 | |
| 12 | Mar 31 | Philosophical and Ethical Dimensions of Water Management | Discussion 10 | Critical Reading Due (3) |

| 13 | Apr 7 | Interdisciplinary Approaches in Addressing Global Change | Discussion 11 | |
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| 14 | Apr 14 | Interconnected Systems: Water, Food, and Energy Nexus | Discussion 12 | Critical Reading Assigned (4) (Due by Course End) |
| 15 | Apr 21 | Current Trends and Future Perspectives | Discussion 13 | Case Study Due. *Tentative |
| 16 | Apr 28 | Final Reflection Project Workday | Discussion 14 | |
| 17 | May 5 | Finals Week- Optional Synchronous Session | | Final Reflection Due 5/8 |

*Subject to change based on course progression and student interest.

**ADA Statement SRSU Accessibility Services:**
Sul Ross State University (SRSU) is committed to equal access in compliance with the Americans with Disabilities Act of 1973. It is SRSU's policy to provide reasonable accommodations to students with documented disabilities. It is the student's responsibility to initiate a request each semester for each class. Students seeking accessibility/accommodations services must contact Mrs. Mary Schwartze Grisham, LPC, SRSU's Accessibility Services Director, or Ronnie Harris, LPC, Counselor, at 432-837-8203 or email mschwartze@sulross.edu or ronnie.harris@sulross.edu. Our office is located on the first floor of Ferguson Hall, room 112, and our mailing address is P.O. Box C122, Sul Ross State University, Alpine. Texas, 79832.

**Academic Integrity:**
Students in this class are expected to demonstrate scholarly behavior and academic honesty in the use of intellectual property. Students should submit work that is their own and avoid the temptation to engage in behaviors that violate academic integrity, such as turning in work as original that was used in whole or part for another course and/or professor; turning in another person's work as one's own; copying from professional works or internet sites without citation; collaborating on a course assignment, examination, or quiz when collaboration is forbidden. Students should also avoid using open AI sources unless permission is expressly given for an assignment or course. Violations of academic integrity can result in failing assignments, failing a class, and/or more serious university consequences. These behaviors also erode the value of college degrees and higher education overall.

**Student Responsibilities Statement:**
All full-time and part-time students are responsible for familiarizing themselves with the Student Handbook and the Undergraduate & Graduate Catalog and for abiding by the University rules and regulations. Additionally, students are responsible for checking their Sul Ross email as an official form of communication from the university. Every student is expected to obey all federal, state, and local laws and is expected to familiarize him/herself with the requirements of such laws.

**SRSU Distance Education Statement:**

Students enrolled in distance education courses have equal access to the university's academic support services, such as library resources, online databases, and instructional technology support. For more information about accessing these resources, visit the SRSU website. Students should correspond using Sul Ross email accounts and submit online assignments through Blackboard, which requires a secure login. Students enrolled in distance education courses at Sul Ross are expected to adhere to all policies pertaining to academic honesty and appropriate student conduct, as described in the student handbook. Students in web-based courses must maintain appropriate equipment and software according to the course's needs and requirements, as outlined on the SRSU website. Directions for filing a student complaint are in the student handbook.

**Classroom Climate of Respect:**
Importantly, this class will foster free expression, critical investigation, and the open discussion of ideas. This means that all of us must help create and sustain an atmosphere of tolerance, civility, and respect for the viewpoints of others. Similarly, we must all learn how to probe, oppose, and disagree without resorting to tactics of intimidation, harassment, or personal attack. No one is entitled to harass, belittle, or discriminate against another based on race, religion, ethnicity, age, gender, national origin, or sexual preference. Still, we will not be silenced by the difficulty of fruitfully discussing politically sensitive issues.

**Supportive Statement:**
 I aim to create a learning environment for my students that supports various perspectives and experiences. I understand that the recent pandemic, economic disparity, health concerns, or even unexpected life events may impact the conditions necessary for you to succeed. My commitment is to be there for you and help you meet the learning objectives of this course. I do this to demonstrate my commitment to you and to the mission of Sul Ross State University to create a supportive environment and care for the whole student as part of the Sul Ross Familia. If you feel like your performance in the class is being impacted by your experiences outside of class, please do not hesitate to come and talk with me. I want to be a resource for you.

| Topic | Resources and Course Reading |
|---|---|
| Global Change Drivers | Vitousek 1994; XinYing et al. 2024 |
| Invasive Species | Sayer et al. 2025 |
| Desert freshwater systems | López-López E (2021) |
| Global water crisis | emLab UCSB |
| Desert Fish and Global Change | Davis et al. 2013 |
| Endangered aquatic ecosystems | Williams et al. 1995 |
| Desert Springs | Davis et al. 2017 |
| Human Dimensions | Vorosmarty 2010 |

**Selected Papers for Weekly Course Discussions:**
**\***Provided in Blackboard

**(**subject to change based on student and course needs)