

Instructor

Kristin Strock

Office: 112 Kaufman

Phone: (717) 254-8008

Email: Strockk@dickinson.edu

Office hours: Thursday 1:00 – 3:00, Wednesday 9:00 – 11:00, or by appointment.

Overview:

Tackling rapid environmental and social change, driven by an interwoven system of human activities and natural processes, requires practitioners with critical thinking and problem-solving skills appropriate to the challenges ahead. As local peoples, decision-makers and scientists often perceive changes and impacts differently, they can fail to communicate efficiently to adequately respond to these changes. In this senior seminar, students will utilize the many interdisciplinary approaches they've explored during their time at Dickinson to engage in innovative, real-world, environmental problem solving. We will discuss a range of topics, many of which are chosen by students. Recent articles in the literature and peer presentations will set the stage for group discussions and hands-on activities. Activities will foster the development of skills necessary for collaborative interdisciplinary research, normative case studies to explore the ethical and moral dilemmas inherent in environment-society solutions building, and lastly, dialogical skills that will allow environmental studies and science students to engage in constructive conversations when those at the table have conflicting values and worldviews. Students will put these skills into practice while engaging with various stakeholders to complete a capstone project of their choosing. This course is the required capstone experience for environmental studies and science students.

Course goals:

- Students will explore what kind of interdisciplinary environmental professionals they hope to become upon graduation and gain experience putting their skills into practice through group discussions, case studies, class activities, and lastly, a capstone project.
- Students will develop new knowledge and skills for communicating across difference and gain experience using dialogue skills to help address socio-environmental problems in a community of their choosing.
- Students will design real-world solutions to resilience and sustainability challenges using problem-solving skills gained through cooperative learning experiences.
- Students will engage with stakeholders and apply systems thinking to unpack sustainability challenges.
- Students will evaluate and discuss primary literature and deepen their ability to communicate scientific information and to express their views both written and orally.

Instructional materials:

There will not be a textbook for this course. Readings will be drawn from books, peer-reviewed journal articles, and web-based literature. All readings will be posted on Moodle. It is your responsibility to check Moodle regularly for course updates. As you prepare your student-led class discussions, additional outside resources should be consulted.

Grading:

This course will take an approach to grading that may be unfamiliar. You will have primary responsibility for evaluating your work. This makes sense in a senior seminar for several reasons. First, after you graduate, you are unlikely to receive grades for your most significant efforts (yes, even if you go to graduate school!). This is therefore a key time to develop skills in self-reflection and self-evaluation that will serve you in the future. Second, you are becoming advanced scholars in environmental studies and science, and therefore have considerable knowledge and experience upon which to draw. Lastly, educational research¹ suggests that traditional letter grades can erode intrinsic motivation, a particularly important ingredient in a senior seminar. My hope is that this approach will allow you to focus on the quality of your work and your growth as an environmental scholar and practitioner.

So, how will you earn a grade? To pass the course you need to complete all assignments. Your letter grade will be based on self-reflections you complete at the midterm and final assessing your work and suggesting what you feel is a fair grade. I reserve the right to adjust these grades in either direction if I feel the proposed grade does not accurately reflect the quality of the work. While I will not assign letter grades or points, I will provide constructive and detailed suggestions on submitted work, and you will also receive feedback from your peers.

Required coursework (must be completed to pass the course)

Assignment	Details
<i>Participation and Professionalism</i>	Attend class meetings (exceptions for illness) Engage actively
<i>Pre-Class Assignments/Readings</i>	Complete at least 9 out of 11 pre-class reading assignments
<i>Career Development</i>	Resume and cover letter
<i>Student-led Interactive Class</i>	Lead a class session (~1 hour) on a topic of your choosing and facilitate a dialogue among your peers.
<i>Capstone Project</i>	Project pitch (5 minutes) + work plan Annotated bibliography Draft project Final project
<i>Self-evaluations/reflections</i>	Mid-semester End-of-semester *This will guide your midterm and final grades

¹ Schinske, J. and Tanner, K. 2014. Teaching more by grading less (or differently). CBE – Life Sciences Education 13: 159-166.

Pre-Class Assignments:

It is expected that you will complete all reading and accompanying assignments in preparation for class discussion. Each week you will write a short discussion paper reacting to a reading,

combination of readings, or other prompt. The written response should offer a critical analysis, not a summary of the readings or your personal opinion about the topic. The best “reaction” will identify how different readings (and the ideas they represent) relate to each other or other topics we’ve discussed. In addition, you can reflect on how well each reading accomplishes its objectives.

When preparing your reaction paper, you should first understand each reading individually, including the central problem/topic the author is addressing, the assumptions the author makes, and the evidence used to support the author’s central climate/argument/point. Then move on to considering the strengths/weaknesses of the readings, the counterarguments to the author’s claims, and the “so what” of this particular topic/argument. Lastly, consider the readings in comparison to one another: how do they relate, do the authors agree/disagree, how does each author present the issue/ideas, does one argument strengthen/weaken others, and how does integrating the claims of two or more readings advance our understanding? These short (1 page single-spaced (not including bibliography)) writing assignments will be due at the beginning of each class.

Student-led Interactive Class:

In pairs, students will lead one half of a weekly class session (~1.5 hours) during the semester on a topic of their choosing. Topics should be drawn from a current environmental challenge and the complex socio-environmental system in which it occurs. Each group must assign readings to the class and guide the class in a structured dialogue around the topic. The specific format of the class session is up to the student leaders of that session. I will provide examples of different approaches to the class early in the semester that include case studies and structured reflective dialogue.

When selecting you partner for this activity, you will be required to select a classmate that has a complementary skill set. For example, a B.S. major may want to partner with a B.A. major so they can explore both the social and ecological aspects of a particular topic. This will allow us to put our discussion of interdisciplinary team science into practice.

The following is a list of components you must complete as you prepare your interactive class session.

Prepare and send to me 1 week before your class session:

- Pre-session document, which asks you to consider:
 - A concise set of learning goals for the session and how each partner adds unique perspectives/skills to an investigation of your topic
 - A summary of the dialogue skills you plan to incorporate into your session (including structure, discussion questions, facilitation techniques, etc.)
 - Two aspects of our classroom compact that may be particularly important when discussing your topic and why
 - A mindfulness activity to start the class meeting
 - A “connect before content” moment to engage our group before dialogue
- Preparation materials for your peers:
 - Pdf files of your assigned reading(s)

- A prompt describing the pre-class assignment for the class

Prepare and send to me 1 week after your class session:

- Reflection document that asks you to consider what you can take away from the experience leading a dialogue with you peers

Final Project:

You will each choose a well-defined topic on which to focus this semester. I encourage you to choose a topic that you are personally invested in. There are several exciting opportunities to contribute to environmental efforts on campus and in the surrounding community. I will help to facilitate your participation with local stakeholders that are a good fit to your interests. You are also welcome to seek out your own connections/topics based on your many years of experience here at Dickinson!

The shape of the project is flexible but may take two basic forms:

- Research paper (10 pages, double-spaced, not including bibliography): This will be a good choice when the main goal of your project is to synthesize/present evidence and an argument in response to a research question, and the main audience is environmental scholars.
- Combination project: This will be a good choice when there is some outcome that is not a traditional research paper, and/or that is intended for a non-scholarly audience. For example, you may be interested in creating a storymap, podcast, lesson plan, web content, community report, policy memo, etc. In this case your final project will have two components:
 - Project outcome (content + format depend on goals)
 - Literature reflection paper (5 pages, double-spaced, not including bibliography) – this shorter paper is meant to give you an opportunity to engage research to inform your project outcome. For example, if you are writing a policy memo related to climate change, the paper could synthesize research underlying the memo and/or on what constitutes effective climate communication with policy-makers.

The approach you choose and the shape of your final project should be informed by the nature of your own talents in combination with your analysis of the underlying environmental topic. Students are welcome to collaborate in small groups to tackle different parts of a shared problem, but each member of the group must have a well-defined role and will complete their own individual product or outcome.

Participation:

Participating in class discussions, contributing equally to group projects, and presenting your work both formally and informally to the class are vital parts of this course. I value quality over quantity in terms of participation.

Attendance:

Because we meet only 15 times during the semester, every meeting is important. I expect you to be present (both literally and figuratively), punctual, prepared, and to respect yourself, your peers, and me. That said, it is especially important that you *do not attend class if you are sick!* If illness or another event prevents you from attending class, please contact me before class if at all possible. We will discuss alternative ways for you to participate despite the absence. It is your

responsibility to contact your peers and/or me to ensure that you don't miss important information or materials.

Academic misconduct:

As stated in the [Dickinson College Community Standards](#), students are expected to understand and uphold the community standards and the procedures for academic conduct. Plagiarism (to use without proper citation or acknowledgment the words, ideas, or work of another) and cheating are violations of this standard.

Accommodating Students with Disabilities:

Dickinson values diverse types of learners and is committed to ensuring that each student is afforded equitable access to participate in all learning experiences. If you have (or think you may have) a learning difference or a disability – including a mental health, medical, or physical impairment – that would hinder your access to learning or demonstrating knowledge in this class, please contact Access and Disability Services (ADS). They will confidentially explain the accommodation request process and the type of documentation that Dean and Director Marni Jones will need to determine your eligibility for reasonable accommodations. To learn more about available supports, go to www.dickinson.edu/ADS, email access@dickinson.edu, call (717) 245-1734, or go to the ADS office in Room 005 of Old West, Lower Level (aka "the OWLL").

If you've already been granted accommodations at Dickinson, please follow the guidance at www.dickinson.edu/AccessPlan for disclosing the accommodations for which you are eligible and scheduling a meeting with me as soon as possible so that we can discuss your accommodations and finalize your Access Plan. If test proctoring will be needed from ADS, remember that we will need to complete your Access Plan in time to give them at least one week's advance notice.

The Norman M. Eberly Multilingual Writing Center:

The MWC consists of both English and foreign language writing tutoring services. The English writing tutors work with native and nonnative speakers of English, and the foreign language writing tutors work with writers of Arabic, Chinese, French, German, Hebrew, Italian, Japanese, Portuguese, Russian, and Spanish. Writers of all levels and abilities need feedback in order to develop their ideas and grow as writers. Dickinson's trained peer writing tutors can help you generate ideas, begin drafting, revise a rough draft, figure out your professor's preferred documentation style, understand and respond to professor feedback, and edit your writing – among other things.

For Fall 2021, you have the option to meet with tutors online or face-to-face in the MWC, which is located on the first floor of Waidner-Spahr Library. For online appointments, tutors will send you a Zoom link prior to your scheduled time. Please show up promptly for both online and face-to-face appointments as there will be a ten-minute grace period after which the tutor may no longer be available.

To schedule an appointment for an online or face-to-face appointment, use our scheduler at <https://dickinson.mywconline.com/>.

Dickinson's Quantitative Reasoning Center supports students in science, social science, and humanities courses with a QR emphasis. Although the following is not an exhaustive list, tutors will assist students with basic quantitative skills, including arithmetic, algebra, geometry, graphing, writing about numbers, conceptualizing statistics, data management, and data visualization. They can also help students understand quantitative concepts, compute statistics (by hand and on a graphing calculator), reason through problems, and analyze data sets.

For the fall 2020 semester, the [QR Center](#) will offer remote tutoring for ENST 335 in addition to general quantitative support. We strongly recommend making an appointment.

[Click here](#) to make an appointment on WCONLINE. Then, access the drop-down menu under "limit to" at the top of the scheduler and select ENST 335. This will restrict the tutor list and schedule to only those tutors approved for this course. When you make your appointment, please also paste or upload your assignment and any work that you have done.

Before your appointment begins, you will go to the appointment on the scheduler, open it up, and click "Start or Join Online Consultation." The remainder of the online tutoring session will take place via WCONLINE or Zoom, depending on the tutor and tutee's preferences. More instructions on how to use the online tutoring platforms can be found on the QR Center webpage.

Classroom Recording:

This class, including lectures, classroom discussions and laboratory sessions, may be audio recorded as an accommodation granted by the Office of Disability Services (ODS). If this is the case, the course instructor will inform all members of the class. The course instructor may, for pedagogical and/or assessment purposes, require that you be audio or video recorded during specific course activities. If such activities are a part of this course, this syllabus will indicate the purposes for recording, when recording will occur, how recordings will be used and how long they will be retained. In addition, the instructor will clearly announce to all participants when the recording is starting and when it ends. Audio or video recording of any lecture, classroom discussion, or laboratory session in this course other than for the above purposes is strictly prohibited and may be a violation of Pennsylvania's Wiretapping and Electronic Surveillance law (18 Pa. C.S. Section 5701 et seq).

Acknowledgements:

This syllabus benefited from input and examples shared by colleagues in the Environmental Studies Department.

Tentative Schedule of Topics:

(This is a guide for this course, please be flexible as topics will likely change to reflect student interest, contributions, and class discussion.)

*Although not listed under assignments, there are readings and a reflection essay prompt on Moodle each week

Week 1: Course introduction and planning

Create community compact

Introduction to interdisciplinary collaboration: Brainstorm environmental challenges and opportunities for capstone projects

Week 2: Introduction to Reflective Structured Dialogue & Social-Ecological Systems

Thinking

Dialogue vs. Debate

Questions of Understanding vs. Persuasion

Understanding vs. Endorsement

Apply dialogue skills to social-ecological case study

Week 3: Best Practices for Interdisciplinary Problem Solving

Dialogue and team science to tackle the question:

How do we approach global-scale change – a cause to fight or a process to embrace?

Assignment: Capstone title, description, and list of stakeholders due

Week 4: Case Study Part I: Ethical considerations in environmental problem solving

An introduction to philosophical and ethical considerations in environmental decision making

Week 5: Capstone Project Pitch (5 minutes)

Assignment: Individual student capstone project pitch presented in class to peers – see Moodle for details

Week 6: Case Study Part II: Science communication – is there a “right” and a “wrong” way

What values should inform when, where, and how scientists inform environmental decision making and how they interact with stakeholders?

Assignment: Capstone force field analysis and work plan due for peer review

Week 7: Case Study Part III Practicing in the real world: A visit with Dickinson alum and environmental science practitioner, Sydney Diamond

Assignment: Capstone Annotated Bibliographies due

Week 8: Fall Pause – no class

Assignment: Mid-term self-evaluation due

Week 9: Preparing for practice – emphasizing interdisciplinary skills in your job materials

Workshopping your resume, cover letter, and mock job interview with staff from the Career Center

*Assignment: Bring job materials for in-class discussion and review *see Moodle for details*

**Week 10: Student-led Class:
1:45-3:00**

3:15 – 4:30

**Week 11: Student-led Class:
1:45-3:00**

3:15 – 4:30

**Week 12: Student-led Class:
1:45-3:00**

3:15 – 4:30

**Week 13: Student-led Class:
1:45-3:00**

3:15 – 4:30

Week 14: Capstone project drafts due, peer evaluations and individual meetings

Week 15: Course debrief, reflection and evaluations

Final exam time: Final Capstone Projects Due and Final Self-Evaluation