

NRS 543: Public Engagement with Science, Spring 2017

Coastal Institute, Rm. 117a, Tuesday/Thursday 3:30-4:45pm

Dept. of Natural Resources Science

College of the Environment and Life Sciences

University of Rhode Island

<http://seacomm.weebly.com/nrs-543.html>

Dr. Caroline Gottschalk Druschke

Associate Professor

Department of Natural Resources Science

Coastal Institute Kingston, Rm. 109

Office hours: Tuesdays 2-3pm and by appt.

Email: cgd@uri.edu

Dr. Deborah Sheely

Associate Dean of Extension

College of the Environment and Life Sciences

CBLS, Rm. 413

Office hours: by appt.

Email: dsheely@uri.edu

Course Description

Welcome to Public Engagement with Science! This course focuses on theoretical and practical aspects of public engagement with scientific research, policy, and management, with an emphasis on science communication. During the semester, we'll explore University of Rhode Island's land grant mandate to share university research with the public and use university resources to explore public needs. We'll build from readings in science communication and public participation in scientific research, and we'll hear from experts in Rhode Island working on a variety of projects with public stakeholders. At the end of the class, you'll use what you've learned this semester about the theory and practice of science communication and public engagement to design, execute, and assess an activity that engages a segment of the public in your own research. In other words, this class is about both learning and doing.

Course Goals

- To understand the mission and vision of land grant and sea grant institutions
- To recognize the various forms through which public stakeholders intersect with scientific research and decision-making and the complications and consequences of each
- To identify best practices for public engagement and science communication
- To become familiar with a variety of organizations throughout Rhode Island working to engage relevant publics in scientific research and decision-making
- To create and execute a plan of action for how to engage the public in scientific research

Student Learning Outcomes

Upon successful completion of this course, each student will be able to:

- Apply relevant academic theory to analyze real-world cases
- Write both compact and extended summaries and analyses
- Plan and present a polished collaborative oral presentation
- Formulate rich questions for practicing experts in the field
- Create and execute an audience-aware public intervention in a science-related topic

Course text (available at URI Bookstore)

- Cox, R. and P. Pezzullo (2016). *Environmental Communication and the Public Sphere*. 4th edition. Thousand Oaks: Sage. ISBN 978-1483344331

Other Readings

Course readings are available for download on Dr. Druschke's Society, Ecology & Communication (SEAcomm) lab page: <http://seacomm.weebly.com/nrs-543.html>. Daily plans will be posted there each week with links to the readings for the following week. Download, read, and annotate, then bring all readings to class either digitally or in print for discussion.

Classroom Protocol

This is a graduate seminar, which means we expect students to come to class having read and completed all assigned materials and work, and being prepared to speak and engage. This course is designed to be interactive and discussion-based. Each student is expected to be an active contributor *in each course period*, sharing experiences, insights, and questions and responding respectfully to fellow students, instructors, and guest speakers.

Assignments and Grading Policy

Attendance and engagement: Students are expected to attend all course meetings, but we anticipate that students might miss up to two course meetings per semester for cases of illness, conference travel, family emergency, etc. Students should come prepared for class and be active participants. Engagement will be graded on a S/U basis each course period. We will begin requiring weekly reading response papers if students don't seem prepared for class.

Exams: Every few weeks, we will have an exam that covers the most recent course material and asks students to check in about key concepts and outstanding questions. These exams offer a chance for you to highlight what you've learned and serve as a foundation for reviewing the key terms and concepts from the course.

Engagement event analysis paper: Sometime between February and April, you will select and attend a public engagement event and write a summary and analysis paper about it, incorporating concepts from the literature discussed in class. This paper is a chance to see how an engagement event works out in the world, in order to consider how to craft your own engagement event for the final project. (See below for more detail.)

Final action and analysis paper: In lieu of a final exam, students will create and execute an action that engages some segment of the public with some aspect of scientific research or management, and then write a 10-pg. analysis and justification of the action based extensively on the course readings. (Students may work in groups on these action projects, but each student should write up her own final paper.) Examples of projects might include a citizen science data collection, a public meeting about environmental legislation, a public lecture about current research, a short video, an article in a venue like 41°N, or an educational activity for a local school. This project offers you the chance to test your newfound skills in public engagement and science communication, engaging a real audience in research that interests you in some consequential way. A number of smaller assignments throughout the semester will build towards this final action, including a graded proposal/pitch presentation. (See below for more detail.)

Grading Scale:

A 93 / A- 90 / B+ 87 / B 83 / B- 80 / C+ 77 / C 73 / C- 70 / D+ 67 / D 63 / F 59

Grading breakdown:

Attendance and engagement	5%
Exams 1, 2, 3	30%
Engagement analysis paper	20%
Pitch presentation	10%
Final action and analysis paper	35%

Key dates

Exam 1 > Tuesday, Feb. 14

Exam 2 > Tuesday, Mar. 7

Exam 3 > Thursday, Apr. 20

Engagement analysis paper > Tuesday, Feb. 16 through Tuesday, April 4

Pitch presentations > Tuesday, Mar. 21, Thursday, Mar. 23, Tuesday, Mar. 28, and Thursday, Mar. 30

Final action and analysis paper > Thursday, May 4

Accommodations for special needs

Any student with a documented disability is welcome to contact either of the instructors as early in the semester as possible so that we may arrange reasonable accommodations. As part of this process, please be in touch with Disability Services for Students Office at 330 Memorial Union, 401-874-2098.

Academic honesty

All submitted work must be your own. If you consult other sources (class readings, articles or books from the library, articles available through internet databases, or websites, etc.) these MUST be properly documented, or you will be charged with plagiarism and will receive an F for the assignment. In some cases, this may result in a failure of the course. In addition, the charge of academic dishonesty will go on your record in the Office of Student Life. If you have any doubt about what constitutes plagiarism, consult with your instructors and read the University Manual sections on Plagiarism and Cheating at <http://www.uri.edu/facsen/8.20-8.27.html>. Writer's handbooks and reputable online resources offer help on matters of plagiarism and instruct you about how to acknowledge source material. If you need any help understanding when to cite something or how to indicate your references, please ask.

The Writing Center

The Writing Center offers one-on-one sessions for all students to come talk about their writing at any stage of the writing process. If possible, call ahead for an appointment (401-874-4690), but drop-in tutorials are often available. You may make repeat appointments, requesting the same tutor each time if you wish. Visit their web site to schedule a session: <http://harrington.uri.edu/about-main/student-experience/learning-spaces/writing-center/>.

Standards of behavior

Students are responsible for being familiar with and adhering to the published "Community Standards of Behavior: University Policies and Regulations" which can be accessed in the University Student Handbook. If you must come in late, please do not disrupt the class. Please turn off all electronic devices not being used for the class. We are committed to fostering a shared community that views the various forms of diversity that we bring to the class as our greatest resources: differences of gender, sexuality, disability, age, socioeconomic status, ethnicity, race, culture, and religion. We expect students to be relentlessly kind in their criticisms and open to learning from the perspectives of others.

Engagement Event Analysis Paper
20% of course grade

Due dates:

February 16: Be prepared to discuss examples of public engagement activities

February 16 - April 4: Analysis papers due

Project description: You will select and attend a public engagement event during the semester and write a summary and analysis paper about it, incorporating concepts from the literature discussed in class. Consider attending a public lecture, a public meeting of an organization's Board of Directors, a local town council meeting, etc. The event you choose is up to you, but it should be related to public engagement with science in some way.

This paper should be four to five pages in length, double-spaced. It should properly reference course readings, similar to any professional paper. It should briefly describe the event and its context and spend the bulk of its time focused on analyzing the event, using concepts and terminology from course readings.

Your paper should be written as soon as possible after your engagement event, and submitted thereafter to Drs. Sheely and Druschke. The final date for accepting analysis papers is April 4.

The paper will be scored as follows:

- Description of the event – 25%
- Analysis of the event as an opportunity for public engagement with science, utilizing concepts and terminology from the readings to place it into context with regard to models/mechanisms of public understanding, public engagement, public participation, etc. – 50%
- Quality of writing and editing – 25%

Final Action and Analysis**35% of final grade****Due Thursday, May 4 via email to both instructors****10 pgs., double spaced (Times New Roman, 12 pt. font, 1" margins)**

In lieu of a final exam, students will create and execute an action that engages some segment of the public with some aspect of scientific research or management, and then write a 10-pg. analysis and justification of the action based extensively on the course readings.

Students may work in groups on these action projects, but each student should write up her own final paper.

Examples of projects might include a citizen science data collection, a public meeting about environmental legislation, a public lecture about current research, a short video, an article in a venue like 41°N, or an educational activity for a local school. This project offers you the chance to test your newfound skills in public engagement and science communication, engaging a real audience in research that interests you in some consequential way. A number of smaller assignments throughout the semester will build towards this final action, including a graded proposal/pitch presentation.

Each student should explain why the action taken was a rhetorically sound intervention into a particular situation and how the action responds to a particular exigence that seemed to demand action. Each student should also evaluate the success of the project using some form of assessment. This final paper should build heavily from course readings, using course readings to justify, analyze, and critique your action project, while also using your action project to speak back to particular readings. In other words, how did the course readings help to guide or correct your action project and how did your action project help to elucidate or correct any course readings? The final paper MUST engage with course readings about rhetoric and work to take a rhetorical approach to public engagement with science.

Students should submit all related project documentation along with their final papers (including photos, evaluations, lesson plans, and ephemera). This documentation does not count against the 10 pg. guideline. (In other words, write ten pages! Then add the extra stuff on top of that.)

The "A" project/paper will follow the guidelines above and be written in a clear, organized, engaging, logical way with minimal errors in grammar and syntax.

Daily plans (subject to change as needed!):

WEEK ONE (1/23-1/27)

Tuesday, January 24

Introductions and syllabus review

Homework for Thursday, January 26:

- Review syllabus
- Write down three questions
- Write down your goals for the course

Thursday, January 26

Return to syllabus, introductions to Drs. Sheely and Druschke

Homework for Tuesday, January 30:

- Druschke and McGreavy (2016), "Why rhetoric matters for ecology"
- Cox and Pezzullo (2016) ch. 1 "Studying/Practicing Environmental Communication" [GO BUY THIS BOOK!!!]
- Cox and Pezzullo, ch. 3 "Symbolic Constructions of Environment"

WEEK TWO (1/30-1/3)

Tuesday, January 31

Introduction to rhetoric and communication

Homework for Thursday, February 2:

- "The Land-Grant Tradition," Association of Public and Land Grant Institutions
- Cooperative Extension Strategic Planning
- "The Centennial of the Smith-Lever Act and Aquaculture Extension," Rice (2014)
- Rhode Island Sea Grant

Thursday, February 2

Introduction to outreach, extension, and land grants

Homework for Tuesday, February 7:

- Skrip, M. M. (2015), Crafting and Evaluating Broader Impact Activities: A Theory-based Guide for Scientists
- W.W. Kellogg (2004), Logic Model Development Guide
- Hendrickson (2006), A Backwards Approach to Inquiry

WEEK THREE (2/6-2/10)

Tuesday, February 7

Project assessment

Homework for Thursday, February 9:

- Begin prepping for Exam #1

Thursday, February 9

Review for Exam #1

Homework for Tuesday, February 12:

- Review readings on science communication, Cooperative Extension, and assessment for Tuesday's quiz

WEEK FOUR (2/13-2/17)

Tuesday, February 14

Exam #1: Environmental communication, land-grant mission, assessment

Homework for Thursday, February 16:

- Gather examples of public engagement

Thursday, February 16

Introduction to engagement analysis paper and final project, review of current models of science communication, review examples of public engagement

Homework for Tuesday, February 21:

- Read Gross (1994), "The roles of rhetoric in the public understanding of science"
- Read Rowe and Frewer (2005), "A typology of public engagement mechanisms"

WEEK FIVE (2/20-2/24)

Tuesday, February 21

Review of Gross and Rowe and Frewer

Homework for Thursday, February 23:

- Prepare a short, written statement of interest for the final project (to review during conferences)

Thursday, February 23

INDIVIDUAL CONFERENCES!! No full class period.

Homework for Tuesday, February 28:

- Read Collins and Evans (2002), "The Third Wave of Science Studies: Studies of Expertise and Experience"

WEEK SIX (2/27-3/3)

Tuesday, February 28

Follow-up about group projects, discussion of Collins and Evans

Homework for Thursday, March 3:

- Begin preparing for Exam #2

Thursday, March 2

Review for Exam #2

WEEK SEVEN (3/6-3/10)

Tuesday, March 7

Exam #2: Gross, Rowe and Frewer, Collins and Evans

Homework for Thursday, March 9:

- Read Shirk et al. (2012) "Public participation in scientific research: a framework for deliberate design"
- Read Druschke and Seltzer (2012) "Failures of engagement: lessons learned from a citizen science pilot study"
- Read Bonney, et al. (2015) "Can citizen science enhance public understanding of science?"

Thursday, March 9

Review of citizen science readings

Homework for Tuesday, March 21:

- Prepare for 15 m. pitch presentations (5-7 m. of discussion, plus feedback)

WEEK EIGHT (3/13-3/17)

SPRING BREAK! No classes.

WEEK NINE (3/20-3/24)

Tuesday, March 21

PITCH PRESENTATIONS

Homework for Thursday, March 23:

- Continue prepping for pitch presentations

Thursday, March 23

PITCH PRESENTATIONS

Homework for Tuesday, March 28:

- Continue prepping for pitch presentations

WEEK TEN (3/27-3/31)

Tuesday, March 28

PITCH PRESENTATIONS

Homework for Thursday, March 30:

- Continue prepping for pitch presentations

Thursday, March 30

PITCH PRESENTATIONS

Homework for Tuesday, April 4:

- Read Cox and Pezzullo (2016) ch. 12 "Public participation in environmental decisions"

WEEK ELEVEN (4/3-4/7)

Tuesday, April 4

Public participation discussion; **last day to submit engagement analysis papers**

Homework for Thursday, April 6:

- Read Cox & Pezzullo, ch. 10, "Environmental Justice and Climate Justice Movements"

Thursday, April 6

- Environmental justice discussion

Homework for Tuesday, April 11:

- Read about the Brown University Superfund Research Program.
- Prepare three discussion questions for our speaker.

WEEK TWELVE (4/10-4/14)

Tuesday, April 11

Guest speaker: Dr. Marcella Thompson, Co-Leader of the Community Engagement Core of the Brown University Superfund Research Program

Homework for Thursday, April 13:

- Read Cox and Pezzullo (2016) ch. 13 "Managing conflict: collaboration and environmental disputes"

Thursday, April 13

Conflict and collaboration discussion

Homework for Tuesday, April 18:

- Prepare for review for Exam #3

WEEK THIRTEEN (4/17-4/21)

Tuesday, April 18

Review for Exam #3

Homework for Thursday, April 21:

- Review for Exam #3

Thursday, April 20

Exam #3: Citizen science, public engagement, and environmental justice

Homework for Tuesday, April 25:

- Prepare a 5 minute maximum presentation about your final project. Update the class: how did it go? what worked? what didn't?

WEEK FOURTEEN (4/24-4/28)

Tuesday, April 25

STUDENT PRESENTATIONS

Thursday, April 27

STUDENT PRESENTATIONS AND COURSE EVALS

WEEK FIFTEEN (5/1-5/5)

Thursday, May 4

FINAL PAPERS DUE VIA EMAIL