**ECO 690P**
**Public Engagement and Communication**

Professor: Ezra Markowitz
Office location: 303 Holdsworth
Office hours: TBD & by appointment
Email: emarkowitz@eco.umass.edu
Phone: 413-545-1237

## Course Info

Class meetings: Tuesdays 10a-1p
Room: Holdsworth 301 or Zoom (TBD)

## Course Description and Justification

Graduate students in the environmental, life and other sciences receive excellent scientific training but relatively little training in how to be effective in communicating their (and others') work with non-specialist audiences. At a time of increasing societal conflict over and skepticism towards science, it is critical that students are equipped with the knowledge and skills they need to effectively engage and communicate with various publics. Both the practice of science communication and the production of scientific knowledge itself are currently undergoing significant shifts, from primarily top-down, expert-driven models to more inclusive, bi-directional approaches that include co-production and shared ownership. Emerging scholars need a clear understanding and appreciation of the challenges and opportunities that these changes will bring as they start their careers. We will spend the semester learning about **diverse models of public engagement and science communication**, exploring **underlying assumptions about the relationship between scientists and the public**, and developing **new skills to improve translation and dissemination efforts**.

## Course Goals and Learning Objectives

After taking this course, students will be able to do the following:

1) **Appreciate** the importance of taking a deliberate approach to public engagement and science communication;
2) **Identify** the various roles scientists can play in supporting public engagement with science;
3) Deliberately **choose** the way(s) in which they themselves want to participate in public engagement and/or science communication activities;
4) **Develop** project ideas that include public engagement principles, objectives and best practices from the outset of the work;
5) Critically **assess** their own and others' engagement and communication efforts;
6) More effectively **communicate** their own and others' research with diverse stakeholders.

**Assignments**

*Participation, Reading Reflections and Weekly Mini-Assignments (30%)*: As a weekly seminar, in-class time is precious, so attendance and active participation in all class sessions is expected. Coming to class prepared is required. This includes making some short presentations about your own work in class, as well as having read all assigned readings with reading reflections completed by 5pm the day before class meets. If you do have to miss a class, let me know in advance if at all possible. Of course, do NOT come to class if you are sick or are under COVID quarantine due to suspected or known exposure; in those cases, please use the zoom link above to listen in to class and participate as best you can. Students will also complete a variety of mini-assignments most weeks (expected to take 30 minutes or less). Sometimes this will consist of writing short *analysis* reflections of assigned readings each week, which you will post to the discussion forums on Moodle. All reflections should end with 1-3 questions that can generate discussion in class the following day. Other mini-assignments might include conducting brief interviews with other junior or senior scientists to discuss issues that come up in class, practicing your communication skills with non-scientists you know (or with strangers) and other similar types of quick out-of-class activities.

*Professional Development (10%)*: The Office of Professional Development at UMass offers many workshops and trainings each semester. Each student is required to attend at least one (1) OPD event at some point this semester and to submit a short (500 word or less) reflection about the event prior to the end of the semester. A list of events can be found at https://www.umass.edu/graduate/professional-development

*Case Study Presentation (10%)*: Working in pairs, students will identify, research and present in class a public engagement or science communication case study at some point during the semester. The primary focus will be on identifying factors that contribute to success and/or failure of particular public engagement or science communication efforts. "Efforts" can be defined broadly, to include everything from an institutionalized program (e.g., UMass' Public Engagement Project) to a specific campaign, project or piece of communication (e.g., blog post by a scientist). Additional details will be discussed in class.

*Public Writing (20%):* Learning to write for non-academic, non-expert audiences is a critical skill for effective science communication. Such writing can take many forms, e.g., blog posts, explanatory journalism pieces, op-eds, long-form non-fiction, all of which play important roles in the larger universe of public communication of science. Although becoming a regular blogger or public writer is not necessary or even desirable for many early career scientists and professionals, being able to communicate with diverse audiences in these formats can be extremely rewarding and beneficial. For this assignment, each student will write and attempt to publish one piece of public-facing science writing. To do so, students will need to pick a topic they want to write about, choose a form of public writing that they want to pursue, and identify multiple, realistic outlets (including a "stretch" goal) to which the piece will be submitted before the end of finals week in May. Your writing will go through multiple rounds of review.

*Public Engagement/Science Communication Event OR Project Proposal (30%)*: You have two options for the 'term project.'

Option A: Working on your own or in groups of up to four (4) students, propose (step 1) and implement (step 2) a real-live (in person or virtual) public engagement or science communication "event." You have a lot of creative license with this option. For example, your group might put together a science café on a shared topic of interest (either serving as speakers yourselves or else finding good speakers to contribute), put together a series of video blogs on a topic of broad interest (and find a suitable outlet through which to post them), or partner with a local K-12 school or non-profit organization to put on an age- and audience-appropriate workshop or event. You (and your team, if working in a group) should plan to meet with me by the middle of February to discuss a tentative plan for your project. We'll decide on the appropriate scope together.

Option B: Working independently, write a 10-12 page term paper in which you explore what the implications would be if you were to incorporate public engagement goals and practices into your next big research project *from the start*. The paper should be well referenced, and it needs to demonstrate that you have truly grappled with the ramifications of "bringing the public into science" as that relates to your own work. At least 25-50% of the paper (3-6 pages) needs to be spent laying out a project proposal that has public engagement at its core but which is also simultaneously cutting-edge science in your field.

**Reading**

There is no core text for this class. Journal articles, podcasts, videos, blog posts, popular press articles and other materials will be assigned for each class period; all will be accessible via the course website.

**Grades**

I use a simple summative approach, with the assignments adding up to 100 points. Letter grades are assigned as follows: **A** (94-100), **A-** (90-93), **B+** (87-89), **B** (84-86), **B-** (80-83), **C+** (77-79), **C** (74-76), **C-** (70-73), **D+** (67-69), **D** (64-66), **F** (below 64)

**Disability statement**

The University of Massachusetts Amherst is committed to providing an equal educational opportunity for all students. If you have a documented physical, psychological, or learning disability on file with Disability Services, Learning Disabilities Support Services or Psychological Disabilities Services, you may be eligible for reasonable academic accommodations to help you succeed in this course. If you have a documented disability that requires an accommodation, please notify me within the first two weeks of the semester so that we may make appropriate arrangements.

**Academic honesty policy statement**

Since the integrity of the academic enterprise of any institution of higher education requires honesty in scholarship and research, academic honesty is required of all students at the

University of Massachusetts Amherst. Academic dishonesty is prohibited in all programs of the University. Academic dishonesty includes but is not limited to: cheating, fabrication, plagiarism, and facilitating dishonesty. Appropriate sanctions may be imposed on any student who has committed an act of academic dishonesty. Instructors should take reasonable steps to address academic misconduct. Any person who has reason to believe that a student has committed academic dishonesty should bring such information to the attention of the appropriate course instructor as soon as possible. Instances of academic dishonesty not related to a specific course should be brought to the attention of the appropriate department Head or Chair. The procedures outlined below are intended to provide an efficient and orderly process by which action may be taken if it appears that academic dishonesty has occurred and by which students may appeal such actions. Since students are expected to be familiar with this policy and the commonly accepted standards of academic integrity, ignorance of such standards is not normally sufficient evidence of lack of intent. The University requires honesty of all its members in their academic work. Honesty is necessary to the learning process, and is integral to the atmosphere of genuine inquiry and intellectual curiosity that the University seeks to foster. Academic dishonesty not only contradicts the expectations of a community whose central purpose is the pursuit of intellectual endeavor, it violates University rules and regulations, a fact of which all students must be aware. For more information about what constitutes academic dishonesty, please see the Dean of Students' website: http://www.umass.edu/dean_students/codeofconduct/acadhonesty/

**Schedule and Topics (subject to change)**

*Week 1, 1/25* What are public engagement and science communication? Scientists' roles in contemporary American society; Finding the role(s) that you are comfortable with (and not)

*Assignment:* Reading response, complete survey

*Week 2, 2/1* Introduction to the "science of science communication"; Why is science communication complex? Polarization of science in the 21st century

*Assignment:* Identify 3 possible outlets for public writing assignment; Reading response

*Week 3, 2/8* Telling your story

*Assignment:* Complete message box before class (print and bring with you)

*Week 4, 2/15* Best practices for effective SC; Principles of PE; What does public engagement look like in practice? Public speaking, 2-minute story

*Assignment:* Prepare 2-minute story "pitch" for class; Draft #1 of public writing due 2/22, upload via Moodle

*Week 5, 3/1* Why do scientists engage and communicate (or not)? Individual-, contextual- and institutional-level predictors of SC/PE

*Assignment:* Post reading response; Term project initial proposals (Option A) or outline (Option B)

*Week 6, 3/8* Running public engagement events

*Assignment*: Draft #2 public writing due 3/11

*Week 7, 3/22* Media training; communicating complexity
*Assignment:* Reading response

*Week 8, 3/29* Mis- and dis-information
*Assignment:* Post reading response; Provide public writing feedback to peers

*Week 9, 4/5* Examining public perceptions of science; implications for PE/SE practices
*Assignment*: Post reading response

*Week 10, 4/12* Collaborative models of science production and communication
*Assignment:* Draft #3 of public writing; Post reading response

*Week 11, 4/19* NO CLASS

*Week 12, 4/26* Future of SC and PE in a pandemic-, climate- and war-changed world
*Assignment:* Post reading response

*Week 13, 5/3* Final project presentations and Course wrap-up
*Assignment:* Term projects due

*Finals Week, 5/10* Last date by which to submit public writing for publication