Appledore Island, Isle of Shoals, Kittery, Maine
t: 603.964.9011 • shoals.lab@unh.edu • shoalsmarinelaboratory.org

Shoals Marine Laboratory
Introduction to applied science communication: digital platforms and public engagement
(BIOSM 3500/MEFB 505)
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Course Syllabus and Schedule

Faculty: Mark A. Sarvary, *Ph.D.* (mas245@cornell.edu)
Kathleen M. Gifford, *M.S.* (kmg277@cornell.edu)

Course Description:
Set sail on a voyage of science communication skill building in a beautiful and inspirational setting. Against a backdrop of rocky shores, intertidal environments, and unique terrestrial habitats you'll be immersed in the introduction and application of digital and public engagement platforms to communicate your experience and the research being conducted on the Island. You will also learn about and prepare for public engagement events and or planning for personal interactions that can range from explaining your research interests to your family, applying for grants, to communicating policy concerns to an elected official.

In this course you will "learn the ropes" as we provide you with a solid foundation of the communication tools available to you both online and offline. Then we will work on a well-developed communication strategy so that you can hoist your sails and navigate the public waters with confidence.

Hop on board and get your Captain's License in science communication. Sharing scientific discoveries with the public is no longer solely the job of professional communicators, rather a skill that all scholars should have.

In this course students develop the capacity to solve increasingly challenging problems with greater independence. Students fill their science communication "tool box," learning how to engage a non-scientist audience. They will be introduced to video production, podcasts, Wikipedia editing, public science events, social media platforms, blogging and press release writing. After gaining basic skills with these communication platforms and tools, students will apply their skills to a topic of their own research interest on the island. Students will actively participate in a local public science event (Rock talks) and learn how to start a science cafe on their own. Students will receive feedback from their peers and their instructors, and by the end of this course they will become more effective science communicators. Skills gained in this course in this unique environment can be applied to any research field, and are essential for every scientist.

Credit hours: 3 (Cornell credits) and 4 (UNH credits)

Learning Goals and Objectives:

By the end of this course…

1. Students will demonstrate how to engage the public in a scientific dialogue using a science communication strategy plan.
2. Students will learn how to translate scientific journal articles into easily consumable content for the public.
3. Students will gain hands-on experience with digital communication platforms and learn how to prepare information suitable for those platforms
4. Students will understand and apply the components of science literacy.
5. Students will improve their critical thinking skills as they analyze and evaluate potential media information sources. By doing so, students will gain a deeper appreciation for how information is produced and consumed.
6. Students will develop skills necessary for today's education and tomorrow's employment.

Course Materials:

1. Selected readings will be distributed before and during the class. These readings will include book chapters, peer-reviewed scientific papers and secondary information, such as blog posts, journal articles, videos and press releases.
2. You are expected to regularly peruse science news sites. Read what your colleagues post and be prepared to discuss in class. Including scanning and responding to the class hashtag.
3. Most information will be collected by students who visit research projects on the island, and consume and produce information.
4. While some recording tools will be available, all students should have a smartphone or standalone device capable of recording quality audio and video. Students are encouraged to bring their own tablets, laptops, cameras and microphones to the island.

Assignments & Grading:

To gain applied science communication skills, you will complete hands-on assignments throughout the course. You need to attend Rock talk presentations to observe how scientists engage with the audience. To complete the social media assignment, you need to use social media tools to communicate about your science café experience, other science events and research on the island. Make sure to use #ShoalsSciStory in your posts. You will choose from a broad range of communication platforms to engage with the public. You will complete a variety of written assignments, translating scientific information for the public. By the end of the course you will be able to create a science communication strategy plan, and implement it for your own research project, using the tools in your SciComm toolbox.

Digital assignments (35%): Students will learn about the modern digital platforms used in science communication. Students will give a short presentation on the platform of their choice and use a variety of digital and social media platforms. A radio podcast and video will also be produced by each student.

Scientific writing (35%) : Students will learn how to write for non-scientists and translate scientific information for a lay audience. A press release, a blog post and a Wikipedia article will be written and a final science communication plan will be produced.

Participation and public engagement (30%) : Learning how to engage the public is an important skill for every scientist. Rock talks are science café style presentations about research on the island. Students will learn how to train scientists to become effective public speakers and will produce interactive TED talks. Success at Shoals requires a positive attitude and a willingness to accept changes in the schedule with grace. Island living demands respect for your fellow classmates, and residents on Appledore. Students are expected to actively participate in all facets of this course, and to display good citizenship while at Shoals. A 20% of your grade will be based on the faculty's subjective evaluation of your personal involvement in course activities.

Component	Percent of Grade
Presentation on digital communication platform	5
Press Release, blog post and Wikipedia	15
Video project	15
Radio podcast	15
Rock talk (science café) assignment	10
Social media assignment	10
Science communication strategy plan	10
Attendance and participation	20
Total:	***100%***

Expectations and Conduct:
Students are responsible for fully understanding all of the information presented in this syllabus. If there are any questions regarding this information, it is the student's responsibility to bring it to the instructor's attention. In addition, students are responsible for attending all activities associated with this course and completing all assignments. Students are responsible for asking questions anytime they need clarification (remember, there is no such thing as a bad question).

Every student is responsible for their own behavior – specifically in being respectful and collegial to other students and with instructors. Students are responsible for fully understanding and adhering all of the information presented in the *Appledore Island Handbook* (https://www.shoalsmarinelaboratory.org/about-appledore).

1. *Personal Technology.* Use of digital devices will be essential in this class. Bring your laptop, tablet, smartphone or any other device that can record or edit audio and video.
2. *Computer Facilities.* The lab has a few desktop computers in the Laighton Library; please treat this shared facility with respect. Printers are available, but please limit printing to your FINAL document (if required).
3. *Transmission of Course Materials*. Students are not authorized to replicate, reproduce, copy or transmit lectures and course materials presented, or derivative materials including class notes, for sale or free distribution to others without written consent of the instructors who are the original source of the materials.
4. *Academic Integrity***.** Any work submitted must be your own. Uncredited use of another person's words, data or images is considered plagiarism, a serious violation of the Code, whether the material comes from another student, a web site, or a published paper. Students must adhere to Cornell's and UNH's Policies for Academic Integrity, Honesty, and Plagiarism:

    i. Cornell's policy: http://cuinfo.cornell.edu/aic.cfm
    ii. UNH's policy: https://www.unh.edu/student-life/academic-honesty-policy
5. *Disabilities & ADA Accommodation*: As Appledore Island is a remote location and any special arrangements need time and planning in order to be enacted, Shoals Marine Laboratory appreciates early notification for accommodation requests. Students with disabilities requesting accommodations must contact the appropriate disabilities services office:
    i. Cornell and high school students: https://sds.cornell.edu/forms
    ii. UNH and all other college students: https://www.unh.edu/studentaccessibility/students-0
6. *Mental Health:* Shoals Marine Laboratory cares about you and your well-being. If you experience unusual personal or academic stress during the course or need to talk with someone about a personal problem, seek support from your instructors as soon as possible. In addition, any SML staff is available for consultation 24/7 and are committed to making students feel safe, comfortable, welcome, and included at all times on Appledore Island. Find staff in the office on the second floor of Hamilton Hall between 8am-7pm or knock on the door of Bartels House after hours.

Course journey:

Get on board:
- Understand the scientific process
- Discuss the importance of science communication
- Get familiar with successful science communication strategies

Learn the ropes:
- Storytelling and interviewing skills
- Public engagement
- How to assess your audience and scientific evidence
- Social media and digital platforms in communication
- Video production and radio podcasts
- Communicate scientific information: how to write press release, blog post, Wikipedia entries

Hoist the sails and catch the wind:
- Make a science café presentation (interactive TED talk) about research on the island
- Create a video and a radio podcast about research on the island
- Edit the Wikipedia pages related to Shoals and marine research

Get your captain's license in Science communication
- Create your science communication strategy

Daily Schedule:

Note: Daily Schedule is subject to change based on weather, boat availability, tides, instructor's discretion, etc.

Day	Topic	In class activity	Assignment/Readings
Week 1.			
1 (M, June 11)	*Get on board!* Course Introduction; Why is science communication important?	**Afternoon:** Arrive to the island. **Evening:** Course requirements, introductions. What do you want to get out of the class? Discussion: Why is science communication important?	
2 (T, June 12)	*Get on board!* Pre-course questions. Communication theory. Storytelling and messaging Engaging the public with scientific storytelling	**Morning:** Pre-assessment questionnaire. What is the scientific process? How to talk about science to the public? The skills of scientific storytelling. Successful SciComm strategies. **Afternoon:** *Discovery walk:* Find a topic on the island to communicate about. **Evening:** Attend Rock talk. Engage with the presenter and the audience.	Read: https://aeon.co/essays/once-upon-a-time-how-stories-change-hearts-and-brains
3 (W, June 13)	*Get on board!* The importance of evidence and how to locate it. Media literacy: Evaluating evidence.	**Morning:** Discussing last night's Rock talk. Learn how to conduct an interview. Information and scientific literacy training. Search engines. Primary and secondary information. **Afternoon:** *Discovery walk:* Collect information on the island. Conduct interviews. **Evening:** Collect and evaluate background information about your interview.	.
4 (R, June 14)	*Learn the ropes!* From lab to public I.: Radio podcast; YouTube video	**Morning:** Learn about how radio podcasts & videos can tell a story concisely, while keeping it entertaining. **Afternoon:** *Discovery walk:* Record video projects and radio podcasts on the island. **Evening:** Video and podcast editing with the help of the instructors.	
5 (F, June 15)	*Learn the ropes!* From lab to public II.: the decision-making process of using social media in science communication	**Morning:** Strategies to use social media to communicate science. Learn to manage social media. Choose a platform from the conversation prism to present on. Prepare your presentation. **Afternoon:** *Discovery walk:* Explore the islands**.** Continue island project topic research. **Evening:** Work on your social media presentation.	Pew Research Center readings. Conversation prism exploration.
6 (S, June 16)	*Learn the ropes!* From lab to public III.: Writing for the public. Turn a journal article into a press release and blog post. Pitch it to a journalist.	**Morning:** Social media platform presentations. Learn how to write a press release and a blog post. How to get your research picked up by news outlets. **Afternoon:** *Discovery walk:* Explore research on the island. Record video, make podcasts, collect information. **Evening:** Write press release, blog post. Complete Wikipedia tutorial.	Social media posts. Short presentation on a social media platform.

7 (Su, June 17)	*Learn the ropes!* From lab to public IV.: Writing for the public. Editing Wikipedia	**Morning:** Discussing the importance of Wikipedia as a social media platform in science communication. **Afternoon:** *Discovery walk:* Collecting information on the island for Wikipedia entries. **Evening:** Completing Wikipedia project.	Finish Wikipedia tutorial by the morning. Social media posts.
Week 2.			
8 (M, June 18)	*Hoist the sails!* From lab to public V.: Complete your writing assignments.	**Morning:** Work on your press release, blog post, Wikipedia article. **Afternoon:** *Discovery walk:* Continue working on video and audio projects. **Evening:** Complete blog post, press release, Wikipedia project.	Complete writing assignments by the end of the day.
9 (T, June 19)	*Hoist the sails!* Public engagement. Who is your audience?	**Morning / Afternoon:** How can you communicate your project to the public? Work on a Science Café style presentation (interactive TED talk). How can you assess your audience? **Evening:** Attend Rock talk. Engage with the presenter and the audience.	Social media posts.
10 (W, June 20)	*Hoist the sails!* Public engagement. How can you improve it?	**Morning:** Peer-review of written assignments. **Afternoon:** *Discover walk:* Collect information for your own science café presentation. **Evening:** Complete an interactive TED talk style science café presentation of a research topic on the island.	Social media posts.
11 (R, June 21)	*Hoist the sails!* Video and radio podcast	**Morning:** Finish collecting video and radio recordings. **Afternoon / Evening:** Video and radio podcast editing.	Social media posts.
12 (F, June 22)	*Catch the wind!* Public engagement and digital platforms.	**Morning:** Tell us the story! Science café with your coffee. **Afternoon:** Peer review and editing. Re-purpose content for other platforms. **Evening:** Video and podcast editing.	Social media posts. Science café (interactive TED talk) presentations.
13 (S, June 23)	*Catch the wind!* Science Communication needs a strategy: putting it all together for your OWN research project.	**Morning:** Tell us the story! Entertainment with your coffee. Watch videos and listen to podcasts. **Afternoon:** Work on the science communication strategy outline with the help of the instructors. **Evening:** Present your SciComm strategy pitch: how will you market your own science?	Video (3 minutes) and radio podcast (5 minutes). SciComm strategy presentation (3 minutes)
14(Su, June 24)	*Aye, aye Captain!* Did you learn how to tell your story effectively? Reflection on the science communication experience.	**Morning:** Peer-review and instructor feedback on the SciComm strategies. **Afternoon:** Roundtable discussion about successful science communication strategies. How will you use the knowledge you gained in this course? **Evening:** Post-course evaluations.	
15 (M, June 25)	Class review and good bye	**Morning:** official course evaluation, saying good bye. Leaving island.	Final social media posts.