

# BIOL 497F – Science Outreach and Communication – Fall 2015

## Instructors:

Chris Thawley, 508 Mueller, [cjt171@psu.edu](mailto:cjt171@psu.edu), 867-2252

Allison Lewis, 214 Mueller, [aml352@psu.edu](mailto:aml352@psu.edu), 863-2038

Zach Fuller, 365 N Frear, [zlf105@psu.edu](mailto:zlf105@psu.edu), 863-1650

**Office Hours:** By appointment

**Class Time:** Thursdays, 4:15-5:30

**Location:** 010 LSB/317 Mueller

**Course Materials:** Readings will be provided through ANGEL or as handouts in class. No textbook is required.

**Course Description:** As a practical course, Biol 497F will give you the skills and experience to communicate your science effectively and design outreach activities based around your own research interests. You will develop the skills to communicate scientific knowledge to audiences of different ages and backgrounds, craft lesson plans to maximize the impact of your outreach, coordinate with community and academic partners, incorporate outreach objectives into grants, and reach broader audiences through the press and social media. As research is increasingly a collaborative effort, so is outreach; most coursework will center on small teams working together. This course will provide you with the opportunity to integrate your research knowledge with novel skillsets to create original outreach programs and grow your confidence and experience in presenting your science to diverse audiences.

## Course Goals/Objectives:

1. Students will gain experience developing outreach and educational curricula
  - Students will design lesson plans to communicate key scientific concepts to a target audience
  - Students will learn to select and tailor language and activities for audiences of differing ages and backgrounds
2. Students will be able to communicate scientific content to different audiences through a range of media.
  - Students will learn to promote their research and outreach via traditional media routes.
  - Students will understand how to leverage an online presence on professional networks and social media to communicate scientific ideas to multiple audiences.
3. Students will become comfortable presenting their own research to multiple audiences
  - Students will conduct outreach activities in the local community and reflect on and revise these activities
  - Students will learn to incorporate their outreach experience into grant proposals and in other professional outlets.

**Expectations:**

Here is what you can **expect** from us:

- 1) We will be prepared for class and respond to emails within 24 hours (48 hours on the weekends).
- 2) We will give you honest and constructive feedback on your work.
- 3) We will be available to meet with you and assist you when the need arises.

Here is what we **ask of** you:

- 1) That you attend all class meetings and activities on time and professionally.
- 2) That you come to class well prepared and enthusiastic to participate.
- 3) That you ask questions and work collaboratively.

**Attendance:** Students are expected to attend all classes and be on time. If you know you will be missing class, email us at least 48 hours in advance of the expected absence. Excused absences include missing class for: university activities (with an official note from the organization), illness, family emergency, and religious observance. Contacting us in advance will allow us to potentially set up alternative ways for you to cover relevant material in a missed class section. However, as many of our classes focus on experiential and collaborative learning, this type of class cannot be made up effectively through reading and study. As such, **ONLY ONE** unexcused absence is allowed throughout the semester; additional unexcused absences will result in 10% penalties to the final grade.

**Outreach activities:** As creating and conducting your own outreach activities is the crux of this class, you **MUST** conduct both required outreach activities in order to receive a passing grade for the class. Scheduling of the 1<sup>st</sup> activity will be done by the instructors, but you will be responsible for scheduling your 2<sup>nd</sup> activity.

**Grading:** Grades will be based on writing assignments preparing for and reflecting on your outreach activities and delivery of collaborative, independently developed outreach activities. Details about assignments will be posted on ANGEL as early as possible but no later than the date they are assigned. Many assignments in this class involve collaborative efforts, especially your outreach activities, and, as such, involve group grading. We encourage you to embrace the collaborative aspect of these assignments, remembering that most scientific endeavors involve a high degree of collaboration. Assignments that are turned in late will be penalized 10% during the first 48 hours after the original due date. After 48 hours, late assignments will not be accepted.

**Assignments and Grade Weights:**

Lesson plan (15%)

Proposal Presentation (15%)

Pilot Outreach Activity (25%)

2<sup>nd</sup> Outreach Activity (25%)

Writing assignments (20%)

- In Class Brainstorm
- Activity Reaction/Revisions
- Op-ed Piece
- Final Reflection Essay

**Letter grades** will be assigned as follows: A: 93-100 points; A-: 90-92.9 points; B+: 87-89.9; B: 83--86.9; B-: 80-82.9; C+: 77-79.9; C: 70-76.9; D: 60-69.9; F: below 59.9.

**Academic Integrity:** At this point in your careers, you know it is in violation of Penn State policies and basic ethical standards to cheat, plagiarize, or otherwise engage in academic dishonesty. We will follow policies put forth by the Eberly College of Science and the University. More details can be found at: <http://www.science.psu.edu/academic/Integrity/Policy.htm>

**Training and Background Checks:** As we will be teaching and interacting with students who are minors, Penn State requires that participants in this class undergo both the University Mandated Reporter Training (online) and a background check prior to conducting any outreach activities. We will cover these requirements during the first week of class to ensure completion prior to activities.

**Support:** The Eberly College of Science Code of Mutual Respect and Cooperation embodies the values that we hope faculty, staff, and students possess and will endorse to make this course a place where every individual feels respected and valued, as well as challenged and rewarded (<http://science.psu.edu/climate/code-of-mutual-respect-and-cooperation/Code-of-Mutual-Respect%20final.pdf>). If you feel there has been a violation of this code, have questions about the course, or simply need help, there are many resources available to you:

1. We have an “open door” policy and encourage you to drop by our offices or set up an appointment if you need assistance.
2. Penn State welcomes students with disabilities into the University’s educational programs. If you have a disability-related need for reasonable academic adjustments in this course, contact the Office for Disability Services in 116 Boucke Building (863-1807) or online <http://equity.psu.edu/ods/>
3. Counseling and Psychological Services <http://studentaffairs.psu.edu/counseling/>
4. Penn State Learning Center (writing services, tutoring, study space, etc.) <http://pennstatelearning.psu.edu/>

**Class and Assignment Schedule:**

Week (Date)	Topic and Readings	Assignments	Assignments Due
1 (8/27)	NO CLASS	Complete Mandated Reporter Training	Week 2
2 (9/3)	Introduction to Science Outreach – Examples and Overview		
3 (9/10)	Teaching Different Age Groups <i>M. Zeman</i>		
4 (9/17)	Developing Lessons/Lesson Planning for Outreach – <i>L. Hood (SITE)</i>	Lesson Plan	Week 6
5 (9/24)	Group Formation/Planning Session	In Class Brainstorm Proposal Presentations	End of Class Week 7
6 (10/1)	Community Involvement in Science Roundtable <i>J. Williams, J. Pollock, P. Sporon Bøving</i>		
7 (10/8)	Proposal Presentations	Op-ed	Week 8

<b>Week (Date)</b>	<b>Topic and Readings</b>	<b>Assignments</b>	<b>Assignments Due</b>
8 (10/15) Mueller 317	SciComm Panel/Prep for Outreach	Set up 2nd Outreach opportunity	Week 14
9 (10/22)	Traditional Media and Op-eds <i>B. Kennedy, Science Comm Office</i>	Rewrite Op-ed	Week 10
10 (10/29)	Pilot Outreach Activity #1		
11 (11/5) 4:30-5:30 Mueller 317	Incorporating Outreach into Grants <i>D. Thornhill (NSF), M. Medina, D. Hughes</i>		
12 (11/12)	NO CLASS - Exploration U (11/10)	Activity reflection	Week 13
13 (11/19)	Revise/Prep for 2 <sup>nd</sup> Outreach		
14 (12/3)	NO CLASS - 2 <sup>nd</sup> Outreach Activity	Final Reflection Essay	Week 15
15 (12/10)	Continuing Outreach – Reflections and Future Plans		

**Contacting Instructors:** Because this course is co-taught by three instructors, please cc all three on any general email correspondence for the class, as this will allow for quicker and coordinated responses by us.

\*This syllabus/schedule may change as the course progresses, or as the instructors see fit (We will do so with advance notice)