

STEM Outreach and Recruitment Team (SORT)

MCB 397C, Spring 2018

Credits: 1

Class meeting times and location: Tuesdays, 2:00 PM-2:50 PM, LSS #240

Instructor Information Lisa Rezende, Ph.D. Assistant Professor of Practice Department of Molecular and Cellular Biology University of Arizona	Contact Information Email: lrezende@email.arizona.edu Phone: (520) 621-9729 Skype: lfrezende1 Office Hours: Wednesday 1 PM – 2 PM or by appointment
--	--

Communicating with the Instructor

I post all general course announcements to the D2L news section. Any direct electronic correspondence from me will come from my university email account (lrezende@email.arizona.edu). I will make every effort to answer all emails within 24 hours. If you have not heard from me after 24 hours, **please send another email or leave a message on my voicemail.**

Course Description

The purpose of the STEM Recruitment & Outreach Team (SORT) is to engage undergraduate students majoring in the life sciences in educational outreach by generating an interest in and promoting an understanding of the biological science topics among elementary school students, middle school students, high school students, fellow undergraduates, and the general public. In the area of recruitment (primarily the role of MCB Ambassadors) is to serve as representatives of the MCB department, and to assist current and potential future MCB students through related recruitment and outreach activities. This course will provide training in public speaking, outreach, and recruitment for participants.

Course Goals/ Learning Objectives

In this course, you will:

- Practice effective public speaking.
- Serve as an advocate for post-secondary education and education in science, technology, engineering, and math ("STEM")
- Explain biological topics (e.g., concepts in biology, UA faculty research, etc.) in layman's terms.
- Conduct scientific demonstrations and/or presentations knowledgeably and effectively.

Class Activities and Grading

In this course, points will be earned based on the following activities:

- **Class attendance (one point per week for 15 weeks).** Be prepared for in-class discussions by doing the assigned reading in advance.
- **Outreach/recruitment activities throughout the semester (1 point per hour of activity, planning, preparation, and/or clean up time; 15 total hours expected).** These activities include conducting a science demonstration or volunteering at public events (like Science Nights, etc.) or a K-12 classroom, giving a lab tour to fellow undergraduates, serving as a "resident scientist" in a K-12 classroom, tutoring underserved students in science/math, etc. A list of activities is maintained on the course's

D2L calendar. Students are expected to check the D2L site frequently for outreach activities and are expected to submit an outreach reflection after each activity is completed.

- **Elevator Pitch (5 points)** Student will deliver a 2 minute elevator pitch
- **Resume or CV (5 points)** Students will write a current resume or CV.
- **The planning and presentation of a science demonstration or “Ted Talk” (10 points).** Students will identify, plan, and conduct a demonstration, talk, or social media campaign in class to gain practice in giving presentations.
- **A final film project with social media campaign (10 points).** Students will be required to create a 2-3 minute video on one of the following science outreach topics:
 - An interview with an MCB faculty member
 - A tour of a lab
 - Highlighting a science-related resource (such as the MCB advising office or another major advisor)
 - An educational film on how to conduct a science demonstration (for other educators)
 - An informative film that covers an MCB outreach event (Vision To Your Future, Festival of Books, etc.) or program from a “you should get involved in this!” standpoint.

Students’ final grades are based on 75 total points:

Assignment	Available Points
Class Attendance	15
Outreach/Recruitment Activities	15
Elevator Pitch	5
Resume	5
Science Demonstration/Talk	10
Final Film Project	10
Film Social Media	10
Final Course Reflection	5
TOTAL:	75

The grades available for this course (MCB 397C) are

Point Total	Grade
67-75 points	A
66-58 points	B
57-49 points	C
48-40 points	D
39 points or below	E

Incompletes (I) will only be give in the specific case of a student who is passing the course and has missed a portion of the assigned work because of documented illness or other extreme cause.

Attendance and Participation

MCB397c is a 100% engagement course where are expected to attend class ready to discuss the week’s reading and participate in the related activities. As such weekly attendance and participation are required.

Exceptions will be made conflicts due to University-authorized commitments (pre-approved by the UA Dean of Students), or holidays observed by organized religion with which you are affiliated provided the instructor is contacted *before* the discussion is missed, proper documentation is provided, and a make-up assignment is completed within one week of the absence. At the instructor's discretion, some form of accommodation may be made in the event of extraordinary circumstances such as serious illness, accident, or family emergency.

Readings

All readings are available on D2L

- Kwok, R (2013). "[Communication: Two minutes to impress.](#)" *Nature*, 494: 137-8.
- Anderson, C (2013). "[How to Give a Killer Presentation.](#)" *Harvard Business Review*.
- University of Arizona Student Engagement and Development [Resume Resources](#) (2018).
- MD Pluth, SW Boettecher, GV Nazin, AL Greenaway, MD Hartle (2015). "[Collaboration and Near-Peer Mentoring as a Platform for Sustainable Science Education Outreach.](#)" *Journal of Chemical Education*, 92 (4): 625.
- Evans, K, (2017) "[How to talk to kids- or anyone without a PhD-about science,](#)" *Cell Press Crosstalk*, June 2, 2017.
- Coley, JD, and Tanner, KD (2012). "[Common Origins of Divers Misconceptions: Cognitive Principles and the Development of Biological Thinking,](#)" *CBE-Life Science Education*, 11: 209-215.
- US Department of Education, National Center for Education Statistics (2012). [Higher Education: Gaps in Access and Persistence Study, Executive Summary](#), Pages v-xvi:
- Executive Office of the President (2014). "[Increasing College Opportunity for Low-Income Students,](#)" Executive Summary, pages 1-9.
- J DeWitt, J Osborne, L Archer, J Dillon, B Willis, B Wong (2013). "[Young Children's Aspirations in Science: The unequivocal, the uncertain and the unthinkable.](#)" *International Journal of Science Education*, 35(6): 1037-1063.
- AAAS Center for Public Engagement with Science and Technology (2017), "[Communication Fundamentals](#)"
- Graveline, D, "[Graceful ways with Q&A,](#)" (2009).
- B Orino (2016). "[The Value of Role Models and Superheroes in the STEM.](#)" Brookings Institution.
- Farr, C. (2017), "[Why We Need Scientists on Social Media Now More Than Ever,](#)" *Fast Company*, March 2, 2017.

Tentative Class Schedule

Week	Date	In Class Activity	Homework
1	1/16	The importance of science outreach.	<ul style="list-style-type: none"> • Read Kwok (2013) and Anderson (2013)
2	1/23	The elevator speech (all about you): What is it and why is it important? <ul style="list-style-type: none"> • Discuss Kwok and Anderson 	<ul style="list-style-type: none"> • Prepare your 2-minute elevator speech to give in class on • Review UA Student Engagement and Career Development

3	1/30	The elevator speech <ul style="list-style-type: none"> • Give your elevator speech! • Discuss Kwok (2013) and Anderson (2013) • Discuss resume/CV 	<ul style="list-style-type: none"> • Read Pluth (2015) • Rough draft resume/CV (if you do not have one)
4	2/6	A basic science demo: <ul style="list-style-type: none"> • Share resume/CV draft • Why do a demonstration? • Discuss your final video. • Discuss Pluth (2016) 	<ul style="list-style-type: none"> • Final draft resume/CV
5	2/13	A basic science demo: <ul style="list-style-type: none"> • How do the DNA extraction demo Guest: Dr. Nadja Anderson • Turn in resume/CV 	<ul style="list-style-type: none"> • Read Evans (2017)
6	2/20	A basic science demo: <ul style="list-style-type: none"> • DNA extraction (Part three: explaining what's going on). • Discuss Evans (2017) 	<ul style="list-style-type: none"> • Read Coley and Tanner
7	2/27	Science and young people: <ul style="list-style-type: none"> • Misconceptions in biology • Your final video: a topic of interest. • Discuss Colley and Tanner 	<ul style="list-style-type: none"> • Read US Department of Education (2012) and Executive Office of the President (2014). • Fill out proposal for video
	3/6	Spring Break!	If you are in town, please join us for the Tucson Festival of Books Science City!
8	3/13	Science and young people: <ul style="list-style-type: none"> • Discuss US Department of Education (2012) • Turn in video proposal • Discuss demonstration project 	<ul style="list-style-type: none"> • Identify a 5- to 10-minute science demo, you would like to show the class. • Read Dewitt et al. (2013)
9	3/20	Science and young people: <ul style="list-style-type: none"> • Discuss DeWitt, J et al. (2013). Discuss your final video. • Turn in demonstration topic 	<ul style="list-style-type: none"> • Read Communication Fundamentals (2017) and Graceful ways with Q & A (2009)
10	3/27	The importance of science communication <ul style="list-style-type: none"> • Video idea due • Discuss Communication Fundamentals (2017) and Graceful ways with Q&A 	<ul style="list-style-type: none"> • Read B Orino (2016) and C Wilcox (2012).

12	4/3	Being a role model <ul style="list-style-type: none"> • Discuss Orino and Wilcox • Optional practice 	<ul style="list-style-type: none"> • Practice demo
13	4/10	Your own science demo (presentations, part two) <ul style="list-style-type: none"> • In class presentations to invited audience 	<ul style="list-style-type: none"> • Read Farr, C (2017)
14	4/17	Science on social media: Effective science communication through social media (#Scicomm) <ul style="list-style-type: none"> • Discuss Farr, C 2017 	<ul style="list-style-type: none"> • Find one good and one bad example of science on social media
15	4/24	Science on Social Media <ul style="list-style-type: none"> • Discuss examples of science social media 	<ul style="list-style-type: none"> • Complete video
16	5/1	Reflecting on outreach experience <ul style="list-style-type: none"> • Complete reflection in class • Watch video presentations 	

Disability Resources: If you anticipate issues related to the format or requirements of the course, please contact me. I would like us to discuss ways to ensure your full participation in the course. If you determine that formal, disability-related accommodations are necessary, it is very important that you be registered with Disability Resources (520-621-3268; <http://drc.arizona.edu>) and notify me of your eligibility for reasonable accommodations. I can then work with you and the DRC staff to coordinate your accommodations.

Academic Integrity: Violations of scholastic ethics are considered serious offenses by the University of Arizona and by your instructor. All work done for this class must be your own. You may collaborate with your colleagues on class activities and projects, but your performance on all graded work should be your own unless you are turning in a group project.

The University of Arizona Dean of Student's office has a site providing useful tips for avoiding plagiarism <http://deanofstudents.arizona.edu/helpfullinksforstudents>. Any form of cheating or plagiarism will be dealt with severely and may result in a grade of "E" for the course. For more information on the University of Arizona's academic integrity policies, please see: <http://studpubs.web.arizona.edu/policies/cacaint.htm>

Plagiarism Prevention Software Statement

All papers submitted to the dropbox will be analyzed by Turnitin, a plagiarism-detection software. Courses that use Turnitin have been asked to include the following statement:

"If you decide to take and continue in this course, you agree to submit your papers online, when so instructed, to a plagiarism-prevention program called TurnItIn.com. When you set up your account with TurnItIn.com for this class, make sure you understand and consent to all the terms that the program provides you at that point. You should note that TurnItIn.com – always without your name and any personal information – will retain your paper as part of their database so that students who plagiarize from it can be detected. Because of this program, the vast majority of you who do your work and cite your sources of information properly will not have to compete with students who commit undetected plagiarism. Anyone who has questions or problems with TurnItIn.com may talk privately about these with the instructor."

Prohibited Behavior: *Threatening behavior is prohibited.* “Threatening behavior” is defined as any statement, communication, conduct or gesture, including those in written form, directed toward any member of the University community that causes a reasonable apprehension of physical or emotional harm to a person or property. A student can be guilty of threatening behavior even if the person who is the object of the threat does not observe or receive it, so long as a reasonable person would interpret the maker’s statement, communication, conduct or gesture as a serious expression of intent to physically harm or emotionally damage. In the event of threatening behavior by one of the students in the course, official policies and procedures will be followed as described at <http://policy.web.arizona.edu/~policy/threaten.shtml>.

UA Nondiscrimination and Anti-harassment Policy: The University is committed to creating and maintaining an environment free of discrimination; see <http://policy.arizona.edu/human-resources/nondiscrimination-and-anti-harassment-policy>

Additional Resources:

UA Academic policies and procedures are available at <http://catalog.arizona.edu/policies>

Student Assistance and Advocacy information is available at <http://deanofstudents.arizona.edu/student-assistance/students/student-assistance>

Confidentiality of Student Records: Information on the confidentiality of student records can be found here: <http://www.registrar.arizona.edu/personal-information/family-educational-rights-and-privacy-act-1974-ferpa?topic=ferpa>

Changes to this syllabus: The information contained in this syllabus, other than the grade and participation policies, may be subject to change with reasonable advance notice, as deemed appropriate by the instructor.