



DEPARTMENT OF BIOCHEMISTRY

**BCHM 49000 – Undergraduate
Seminar Syllabus
Fall, 2016**

INSTRUCTORS: Dr. Sandra Rossie
office: BCHM 315A
TEL: 494-3112
e-mail: rossie@purdue.edu

Office hours: by appointment

COURSE OBJECTIVES

This is a one credit course and is part of the capstone research experience required for completion of the Biochemistry B.S. degree. The primary focus of this course is on scientific communication. Students will learn and practice effective means to communicate scientific information in both written and oral forms, focusing on their own research experience in BCHM 49800. A secondary focus will be on proper conduct of scientific research, including ethical and practical issues.

LEARNING OUTCOMES

BCHM 49000 students will be skilled laboratory scientists. They will perform a wide variety of biochemical and molecular techniques.

BCHM 49000 students will understand the scientific method. They will be able to develop hypotheses, design experiments, and analyze results to create new knowledge.

BCHM 49000 students will communicate scientific knowledge, experiments and conclusions effectively as speakers and writers.

BCHM 49000 students will appreciate the ethical issues facing professionals in the life sciences.

BCHM 49000 students will understand the contributions of our discipline to society, including improvements to medicine, agriculture, the economy and the environment.

TEXTBOOK

Students should read "Slide:ology: The Art and Science of Creating Great Presentations" and Chapter 2 of "Resonate: Present visual stories that transform audiences" both by Nancy Duarte. They are both available online through the Purdue libraries at no cost.

TIME AND PLACE

Monday 4:30-5:20 pm, BCHM 102

ATTENDANCE POLICY

Class participation is expected and attendance is required. Only one unexcused absence will be permitted. Each additional unexcused absence will result in reduction of the final grade by one letter grade. If you know that you will not be able to attend a class, please let me know in advance.

BLACKBOARD

The course syllabus and any additional course information will be available via the Purdue University Blackboard Learn site.

ASSESSMENT

There are no exams for this course

Grading for the course will be as follows:

2 Oral Presentations	35%
1 Written paper	25%
1 Short Written Assignment	5%
Poster Presentation	20%
Class Participation	15%

Class Participation grade includes the following components: contribution to class discussions, asking questions following your colleagues' oral presentations, providing constructive critiques of your colleagues' presentations and writing assignments.

The cutoff values for letter grades are as follows:

92-100%	A
90-91%	A-
88-89%	B+
82-87%	B
80-81%	B-
78-79%	C+
72-77%	C
70-71%	C-
60-69%	D
Below 60%	F

Missing an assignment will result in a grade of 0 being recorded unless documented justification is presented. Any request to be excused from a class presentation assignment must include official documentation (doctor's note, request from academic advisor, etc) explaining why the class was or will be missed.

If you have any disagreements with the way any of your assignments have been graded, please make an appointment to see the instructor.

Requests for re-grades must be submitted no later than the end of the second class period after the grade is received.

OBTAINING EXTRA HELP

I will be available to answer questions immediately after class or by appointment (arranged in class or by e-mail). Alternatively, you can submit questions by e-mail. I will attempt to answer all emails by the end of the following workday, but if you do not receive a response, please feel free to send me a reminder email. Please include "BCHM 490 question" in the subject line for all emails.

ACADEMIC MISCONDUCT: READ CAREFULLY

Academic misconduct of any kind will not be tolerated. Information on Purdue's policies with regard to academic misconduct can be found at <http://www.purdue.edu/ODOS/osrr/integrity.htm>.

To provide an unambiguous definition of academic misconduct, the following text has been excerpted from "Academic Integrity: A Guide for Students", written by Stephen Akers, Ph.D., Executive Associate Dean of Students (1995, Revised 1999, 2003), and published by the Office of the Dean of Students in cooperation with Purdue Student Government, Schleman Hall of Student Services, Room 207, 475 Stadium Mall Drive West Lafayette, IN 47907-2050.

"Purdue prohibits "dishonesty in connection with any University activity. Cheating, plagiarism, or knowingly furnishing false information to the University are examples of dishonesty." [Part 5, Section III-B-2-a, [University Regulations](#)] Furthermore, the University Senate has stipulated that "the commitment of acts of cheating, lying, and deceit in any of their diverse forms (such as the use of substitutes for taking examinations, the use of illegal cribs, plagiarism, and copying during examinations) is dishonest and must not be tolerated. Moreover, knowingly to aid and abet, directly or indirectly, other parties in committing dishonest acts is in itself dishonest." [University Senate Document 72-18, December 15, 1972]

More specifically, the following are a few examples of academic dishonesty that have been discovered at Purdue University that are relevant to this class:

- substituting in a course for another student
- paying someone else to write a paper and submitting it as one's own work
- doing class assignments for someone else
- plagiarizing published material, class assignments, or lab reports
- turning in a paper that has been purchased from a commercial research firm or obtained from the internet
- padding items of a bibliography
- collaborating with other students on assignments when it is not allowed
- accessing and altering grade records
- stealing class assignments from other students and submitting them as one's own
- fabricating data
- destroying or stealing the work of other students

Plagiarism is a special kind of academic dishonesty in which one person steals another person's ideas or words and falsely presents them as the plagiarist's own product. This is most likely to occur in the following ways:

- using the exact language of someone else without the use of quotation marks and without giving proper credit to the author
- presenting the sequence of ideas or arranging the material of someone else even though such is expressed in one's own words, without giving appropriate acknowledgment
- submitting a document written by someone else but representing it as one's own

EMERGENCY PREPAREDNESS

EMERGENCY NOTIFICATION PROCEDURES are based on a simple concept – if you hear a fire alarm inside, proceed outside. If you hear a siren outside, proceed inside.

- **Indoor Fire Alarms** mean to stop class or research and immediately evacuate the building.
 - Proceed to your Emergency Assembly Area away from building doors. **Remain outside** until police, fire, or other emergency response personnel provide additional guidance or tell you it is safe to leave.
- **All Hazards Outdoor Emergency Warning Sirens** mean to immediately seek shelter (Shelter in Place) in a safe location within the closest building.
 - “Shelter in place” means seeking immediate shelter inside a building or University residence. This course of action may need to be taken during a tornado, a civil disturbance including a shooting or release of hazardous materials in the outside air. Once safely inside, find out more details about the emergency*. **Remain in place** until police, fire, or other emergency response personnel provide additional guidance or tell you it is safe to leave.

EMERGENCY RESPONSE PROCEDURES:

- Review the **Emergency Procedures Guidelines**
https://www.purdue.edu/emergency_preparedness/flipchart/index.html
- Review the **Building Emergency Plan** (available on the Emergency Preparedness website or from the building deputy) for:
 - evacuation routes, exit points, and emergency assembly area
 - when and how to evacuate the building.
 - shelter in place procedures and locations
 - additional building specific procedures and requirements.

EMERGENCY PREPAREDNESS AWARENESS VIDEOS

- "Shots Fired on Campus: When Lightning Strikes," is a 20-minute active shooter awareness video that illustrates what to look for and how to prepare and react to this type of incident. See:
<http://www.purdue.edu/securePurdue/news/2010/emergency-preparedness-shots-fired-on-campus-video.cfm> (Link is also located on the EP website)

MORE INFORMATION

Reference the Emergency Preparedness web site for additional information:

https://www.purdue.edu/ehps/emergency_preparedness/

ON-LINE COURSE EVALUATIONS

During the last two weeks of the semester, you will be provided an opportunity to evaluate this course and your instructor(s). To this end, Purdue has transitioned to online course evaluations. On Monday of the fifteenth week of classes, you will receive an official email from evaluation administrators with a link to the online evaluation site. You will have two weeks to complete this evaluation. Your participation in this evaluation is an integral part of this course. Your feedback is vital to improving education at Purdue University. I strongly urge you to participate in the evaluation system.

LECTURE SCHEDULE

Class	Topics/Presentations	Readings	
8/22	Introduction: Why Communicate Science	"Slide:ology: The Art and Science of Creating Great Presentations" and Chapter 2 of "Resonate: Present visual stories that transform audiences" both by Nancy Duarte. They are both freely available online through the Purdue libraries.	<ul style="list-style-type: none"> • Introductions by teacher and students • Discuss course objectives and format • Review scientific method • How to talk about scientific topics in a way that people can understand their relevance and significance • WRITING ASSIGNMENT 1
8/29	Communicating science to an audience WRITING ASSIGNMENT 1 DUE	Syd Field Paradigm website	<ul style="list-style-type: none"> • How to talk about scientific topics in a way that people can understand their relevance and significance • Communicating science effectively without dumbing it down • Discussing useful tools such as analogy, metaphors, narrative and providing context. • The Syd Field paradigm for creating effective stories
9/5	NO CLASS	LABOR DAY	
9/12	Visualizing science in communication		<ul style="list-style-type: none"> • What makes visualizations effective? • Will go through various examples of effective and ineffective visualizations • How can data or concept visualizations enhance public understanding?
9/19	Writing science for the public	"The Science of Scientific Writing" G. Gopen, J. Swan, American Scientist, (Nov/Dec) 1990 Willingham, Daniel T. "Trust me, I'm a Scientist" Sci. Am May 5, 2011	<ul style="list-style-type: none"> • WRITING ASSIGNMENT 2 writing for popular media • What features of scientific writing work well for the public? • What does not work well?
9/26	Oral presentations: Scientific talks w/ peer review		Student Group I
10/3	Oral presentations: Scientific talks w/ peer review		Student Group II
10/10	NO CLASS	OCTOBER BREAK	

10/17	Oral presentations: Scientific talks w/ peer review <i>WRITING ASSIGNMENT 2 DUE</i>		Student Group III
10/24	In class review of papers		
10/31	Science online	Communicating science in the age of the internet (http://deevybee.blogspot.com/2012/07/communicating-science-in-age-of.html) Ted talks: Gregory Petsko (http://ed.ted.com/lessons/the-coming-neurological-epidemic-gregory-petsko https://www.youtube.com/watch?v=1HoQRxhDEOU)	In class we will discuss some of the relatively new and utterly distinctive forms of science communication that have emerged on the web. Why has science come to have such a prominent place in the new social networks, and what impact are these having on the larger world of science communication?
11/7	Poster presentation		Ways in which posters are similar and different from oral and written presentations Strategies for producing a poster
11/14	Oral Presentations:Lay audience with peer review <i>WRITING ASSIGNMENT 2 REVISION DUE</i>		Student Group I
11/21	Oral Presentations:Lay audience with peer review		Student Group II
11/28	Oral Presentations:Lay audience with peer review		Student Group III
12/5	<i>POSTER PRESENTATION</i>		Poster Presentation