DEPARTMENT OF BIOCHEMISTRY

BCHM 49000 – Undergraduate Seminar
Syllabus
Spring, 2015

INSTRUCTORS: Dr. Frederick S. Gimble
               office: BCHM 315
               TEL: 494-1653
               e-mail: fgimble@purdue.edu

Office hours: by appointment only

LECTURE TA: none

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

There is no textbook for this course. 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

This class meets once per week and there are only 14 classes. Therefore, I will only allow only one unexcused absence. Each additional unexcused absence will result in reduction of the final grade by half a 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:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 Oral Presentations</td>
<td>35%</td>
</tr>
<tr>
<td>1 Written paper</td>
<td>25%</td>
</tr>
<tr>
<td>1 Short Written Assignment</td>
<td>5%</td>
</tr>
<tr>
<td>Poster Presentation</td>
<td>20%</td>
</tr>
<tr>
<td>Class Participation</td>
<td>15%</td>
</tr>
</tbody>
</table>

The 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:

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>92-100%</td>
<td>A</td>
</tr>
<tr>
<td>90-91%</td>
<td>A-</td>
</tr>
<tr>
<td>88-89%</td>
<td>B+</td>
</tr>
<tr>
<td>82-87%</td>
<td>B</td>
</tr>
<tr>
<td>80-81%</td>
<td>B-</td>
</tr>
<tr>
<td>78-79%</td>
<td>C+</td>
</tr>
<tr>
<td>72-77%</td>
<td>C</td>
</tr>
<tr>
<td>70-71%</td>
<td>C-</td>
</tr>
<tr>
<td>60-69%</td>
<td>D</td>
</tr>
<tr>
<td>Below 60%</td>
<td>F</td>
</tr>
</tbody>
</table>

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

The instructors will be available to answer your questions immediately after class or by appointment (arranged in class or by e-mail). Alternatively, you can submit questions by e-mail.
ACADEMIC MISCONDUCT

Academic misconduct of any kind will not be tolerated in any course offered by the Department of Biochemistry. Information on Purdue’s policies with regard to academic misconduct can be found at http://www.purdue.edu/ODOS/osrr/integrity.htm.

To provide you with 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 which have been discovered at Purdue University.

- substituting on an exam for another student
- substituting in a course for another student
- paying someone else to write a paper and submitting it as one's own work
- giving or receiving answers by use of signals during an exam
- copying with or without the other person's knowledge during an exam
- 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
- obtaining an unauthorized copy of a test in advance of its scheduled administration
- using unauthorized notes during an exam
- collaborating with other students on assignments when it is not allowed
- obtaining a test from the exam site, completing and submitting it later
- altering answers on a scored test and submitting it for a regrade
- 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](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/](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.
<table>
<thead>
<tr>
<th>Class</th>
<th>Topics/Presentations</th>
<th>Readings</th>
<th>Notes</th>
</tr>
</thead>
</table>
| 1/12  | 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. | • Personal introductions by the teacher and the students  
• Discuss course objectives and format of the course  
• Review scientific method  
• How to talk about scientific topics in a way that people can understand their relevance and significance  
• Writing an email that summarizes results given out in class |
| 1/19  | NO CLASS                     |                                                                          |                                                                      |
| 1/26  | Talking about science to an audience | Syd Field Paradigm website                                               | • 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 |
|       | Email assignment due         |                                                                          |                                                                      |
| 2/2   | Visualizing science in communication |                                                                          | • What makes visualizations effective or not? Beauty? Information?  
• Will go through various examples of effective and ineffective visualizations  
• How can data or concept visualizations enhance public understanding? |
• What features of scientific writing work well for the public?  
• What does not work well? |
<p>| 2/16  | Oral presentations: Scientific talks w/ peer review |                                                                          | Student Group I |
| 2/23  | Oral presentations: Scientific talks w/ peer review |                                                                          | Student Group II |
| 3/2   | Oral presentations:          |                                                                          | Student Group III |</p>
<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/9</td>
<td>Oral presentations: Scientific talks w/ peer review&lt;br&gt;Science online&lt;br&gt;Written assignment due</td>
<td>Communicating science in the age of the internet (<a href="http://deevybee.blogspot.com/2012/07/communicating-science-in-age-of.html">http://deevybee.blogspot.com/2012/07/communicating-science-in-age-of.html</a>)&lt;br&gt;Ted talks: Gregory Petsko ([<a href="http://ed.ted.com/lessons/the-coming-neurological-epidemic-gregory-petsko">http://ed.ted.com/lessons/the-coming-neurological-epidemic-gregory-petsko</a>]<a href="http://ed.ted.com/lessons/the-coming-neurological-epidemic-gregory-petsko">1</a>&lt;br&gt;<a href="https://www.youtube.com/watch?v=1HoQRxhDEOU">https://www.youtube.com/watch?v=1HoQRxhDEOU</a>)</td>
</tr>
<tr>
<td>3/16</td>
<td>NO CLASS</td>
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</tr>
<tr>
<td>3/23</td>
<td>Poster presentation</td>
<td>Ways in which posters are similar and different from oral and written presentations&lt;br&gt;Strategies for producing a poster</td>
</tr>
<tr>
<td>3/30</td>
<td>Oral Presentations:Lay audience with peer review</td>
<td>Student Group IV</td>
</tr>
<tr>
<td>4/6</td>
<td>Oral Presentations:Lay audience with peer review&lt;br&gt;Revised paper due</td>
<td>Student Group III</td>
</tr>
<tr>
<td>4/13</td>
<td>Oral Presentations:Lay audience with peer review</td>
<td>Student Group II</td>
</tr>
<tr>
<td>4/20</td>
<td>Oral Presentations:Lay audience with peer review</td>
<td>Student Group I</td>
</tr>
<tr>
<td>4/27</td>
<td>Poster Presentation</td>
<td>Poster Presentation</td>
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