



DEPARTMENT OF BIOCHEMISTRY

**BCHM 60200-001 Syllabus
Spring, 2017**

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Office hours: By appointment

COURSE OBJECTIVES

In this course, we will explore components of experimental design and research projects that help make experiments interpretable, informative, innovative and interesting. We will discuss aspects of critical thinking in relation to reading scientific papers, designing of a research study and interpreting experiments. We will cover components of grant applications, identification of and justification for research questions, strategies for designing grant (or prelim) applications, tips for writing accurately, clearly and convincingly. This course will draw from examples in primary literature plus federal, institutional, internal and external sources.

TEXTBOOK

No textbook is assigned for this course.

LECTURE TIME AND PLACE

M, 9:30 – 11:20 AM, BCHM Room 109

BLACKBOARD

The syllabus and materials for the course will be available via the Purdue University Blackboard site at: <https://blackboard.purdue.edu/webct/logonDisplay.dowebct>

ASSESSMENT

Assessment of student performance will occur through monitoring participation, group discussions, quality of presentations and performance on assignments.

The grading for this course will be as follows:

Participation	100 points
Presentation	100 points
Homework	450 points

The cutoff values for letter grades are as follows:

585 points	A
520 points	B
455 points	C
390 points	D
389 points and below	F

Late assignments or absence from or lack of participation will result in a grade of 0 being recorded unless documented justification is presented. Any request for turning in an assignment late must include official documentation (doctor's note, request from academic advisor, etc) explaining why the deadline was or will be missed.

Requests for re-grades must be submitted no later than the end of the class period after the graded assignment has been returned.

EXTRA CREDIT

There will be no opportunity for extra credit.

OBTAINING EXTRA HELP

Dr. Kirchmaier will be available to answer your questions immediately after class, or by appointment (arranged in class or 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/studentregulations/student_conduct/regulations.html

Any incidence of academic misconduct will be reported to the Office of the Dean of Students. Academic misconduct may result in disciplinary sanctions including expulsion, suspension, probated suspension, disciplinary probation, and/or educational sanctions. In addition, such misconduct will result in punitive grading such as:

- receiving a lower or failing grade on the assignment, or
- assessing a lower or failing grade for the course

Punitive grading decisions will be made after consultation with the Office of the Dean of Students. Please note reported incidences of academic misconduct go on record for reference by other instructors. Further, a record of academic misconduct is likely to influence how current/future situations are handled.

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, *Student 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"

Students can report issues of academic integrity that they observe through the Office of the Dean of Students website (www.purdue.edu/odos), or 765-494-8778 or integrity@purdue.edu.

CLASS ATTENDANCE

In accordance with University policy, you are expected to attend every scheduled class. If you have a valid reason for missing class such as a University-sponsored activity, religious observances, illness, or family emergency, the instructor or TA will assist you in obtaining information and materials you may have missed. Students who skip class without a valid excuse should not expect the instructor or TA to supply class notes or provide special help. For the official university policy, see: www.purdue.edu/odos/services/classabsence.php and http://www.purdue.edu/studentregulations/regulations_procedures/classes.html

EMERGENCY PREPAREDNESS

In the event of a major campus emergency, course requirements, deadlines and grading percentages are subject to changes that may be necessitated by a revised semester calendar or other circumstances. To get information about changes in this course consult the class Blackboard site or e-mail or phone the instructor.

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.

NON-DISCRIMINATION POLICY STATEMENT

Purdue University's non-discrimination policy will be upheld in this classroom. Purdue University is committed to maintaining a community which recognizes and values the inherent worth and dignity of every person; fosters tolerance, sensitivity, understanding, and mutual respect among its members; and encourages each individual to strive to reach his or her own potential. In pursuit of its goal of academic excellence, the University seeks to develop and nurture diversity. The University believes that diversity among its many members strengthens the institution, stimulates creativity, promotes the exchange of ideas, and enriches campus life.

Purdue University views, evaluates, and treats all persons in any University related activity or circumstance in which they may be involved, solely as individuals on the basis of their own personal abilities, qualifications, and other relevant characteristics.

In this course, each voice in the classroom has something of value to contribute. Please take care to respect the different experiences, beliefs and values expressed by students and staff involved in this course. We support Purdue's commitment to diversity, and welcome individuals of all ages, backgrounds, citizenships, disability, sex, education, ethnicities, family statuses, genders, gender identities, geographical locations, languages, military experience, political views, races, religions, sexual orientations, socioeconomic statuses, and work experiences

For more information, see http://www.purdue.edu/purdue/ea_eou_statement.html.

(Approximate) LECTURE SCHEDULE

Date	Day		Topic
1/9	M		Introduction. Designing Experiments that Are Interpretable and Informative.
1/16	M	No Class	MLK Day
1/23	M		Hypotheses. Designing Studies that Are Interpretable, Informative and Interesting.
1/30	M		Correlation, Necessity, Sufficiency. Hothead Paper: Nature 434:505-509, 2005.
2/6	M		Recognizing What You Don't Know: Interactive Analysis Paper Part 1
2/13	M		Interactive Analysis Paper Part 2
2/16	Th		Homework I Due: Presenting Problems and Issues from Interactive Analysis Paper Part 1
2/20	M		Categories of Experiments, Grant Writing Overview
2/23	Th		Homework II Due 9 AM: Deciphering NIH Abstracts
2/27	M		Identifying and Addressing Important Questions: Specific Aims and Project Summary
3/2	Th		Homework III Due 9 AM: Proposal Topic
3/6	M		Giving Credit Where Credit Is Due: Original Work, Citing Sources
3/6	M		7 min. Class Presentations of Abstracts
3/9	Th		Homework IV Due 9 AM: Draft Specific Aims
3/13	M	No Class	Spring Break
3/20	M		Research Strategy, Significance Innovation, Approach 5 min. In Class Presentations of Specific Aims
3/23	Th		Homework V Due 9 AM: Revised Specific Aims, Draft Significance and Innovation
3/27	M		Expressing Ideas Clearly & Convincingly: Reading & Writing
3/30	Th		Homework VI Due 9 AM: Revised Significance and Innovation, Draft Approach
4/3	M		Expressing Ideas Clearly & Convincingly: Reading & Writing
4/10	M		Giving Credit Where Credit Is Due: Original Work, Citing Sources, Plagiarism & Image Processing
4/10	M		Homework VII Due 9AM: Final Proposal (give to Peer Reviewers, Review Panel)
4/13	Th		Homework VIII Due 9 AM: Peer Reviewer Comments (give to Review Panel)
4/17	M		Proposal Discussion/Review Panels
4/24	M		Homework IX Due: Responses to Peer Reviews
4/24	M		Grad Student Panel on Prelims?



EMERGENCY PREPAREDNESS SYLLABUS ATTACHMENT

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.

**In both cases, you should seek additional clarifying information by all means possible...Purdue Home page, email alert, TV, radio, etc...review the Purdue Emergency Warning Notification System multi-communication layers at*

http://www.purdue.edu/ehps/emergency_preparedness/warning-system.html

EMERGENCY RESPONSE PROCEDURES:

- **_ Review the Emergency Procedures Guidelines**
https://www.purdue.edu/emergency_preparedness/flipchart/index.html
 - **_ Review the Building Emergency Plan** (available 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.

MORE INFORMATION

Reference the Emergency Preparedness web site for additional information:

http://www.purdue.edu/emergency_preparedness