



**BCHM 60400  
BCHM 69500  
Syllabus Spring 2017**

**Introduction to Graduate Research in Biochemistry II**

**INSTRUCTOR**

First year graduate student chair

**PRE- and COREQUISITES**

BCHM 60200 (co-requisite) and BCHM 60500 (pre-requisite) or consent of instructor

**COURSE OBJECTIVES**

*BCHM 60400 is intended to provide the opportunity for in-depth, independent, graduate research in one laboratory. The students enrolled in this course will learn how to devise hypotheses, design experiments that test their hypotheses, record their data in laboratory notebooks, critically analyze the results of their analyses, and present their findings to others in written form. Students enrolled in this course will demonstrate deep understanding of their research projects and scientific communication skills through written and oral presentations. Students enrolled in this course will be exposed to a wide variety of research areas through participation in laboratory group meetings, peer presentations, and the Biochemistry seminar series.*

**DEPARTMENTAL LEARNING OUTCOMES ADDRESSED BY THIS COURSE**

BCHM 60400 students will understand the scientific method. They will be able to develop hypotheses, design experiments, and critically analyze results to create new knowledge.

BCHM 60400 students will communicate scientific knowledge, experiments and conclusions effectively as speakers and writers.

BCHM 60400 students will use scientific instrumentation to evaluate the activity or function of biological macromolecules.

BCHM 60400 students will demonstrate knowledge of analytical and preparative methods that can be applied to biochemistry.

BCHM 60400 students will demonstrate knowledge of accepted safe laboratory practices.

BCHM 60400 students will demonstrate laboratory experience working with a diverse group of individuals as part of a research team.

BCHM 60400 students will demonstrate the ability to organize and document laboratory procedures and results.

BCHM 60400 students will describe research projects in an oral presentation that can be readily understood by a general scientific audience.

## BCHM 60400 Syllabus

BCHM 60400 students will appreciate the ethical issues facing professionals in the life sciences.

### TEXTBOOK

There is no assigned textbook for this course. Background information will be largely derived from reviews and the primary scientific literature provided by the rotation supervisor. In addition, students are expected to independently research background literature relevant to their rotation projects.

### LABORATORY TIME AND PLACE

To be arranged with rotation supervisors.

### COURSE REQUIREMENTS

- BCHM 60400 students are expected to spend a minimum of 20 hours per week in the laboratories of their assigned rotation supervisor.
  - Rotation supervisor will provide feedback to the first year chair through the rotation evaluation.
  - Specific hours in the lab should be worked out between the rotation supervisors, lab members and the student.
  - Advance notice of change of schedule should be given to the rotation supervisor and where applicable, the graduate student, post-doctoral research associate, technician, or research associate who directly supervises the student as a matter of common courtesy.
  - BCHM 60400 students are expected to participate in the laboratory meetings of their rotation supervisor.
- BCHM 60400 students will present a 10 minute oral presentation of their rotation project at the conclusion of the rotation.
  - BCHM 60400 students should demonstrate a clear understanding of their project and the importance of the described research.
  - BCHM 60400 students should be able to answer audience questions on their presentation.
  - Content of the presentation should be similar to that of the written assignment.
  - The oral presentation will be evaluated by a panel of faculty members in consultation with the first year graduate chair.
- BCHM 60400 students are expected to attend Friday student/postdoc talks.
- BCHM 60400 students are expected to attend Tuesday Biochemistry seminars.
- 

### IDENTIFICATION OF SUPERVISING FACULTY MEMBERS

Students will identify rotation supervisors for the third and optional fourth rotation in consultation with the first year graduate chair. Students should provide the first year chair with the names of three potential rotation supervisors, preferably rank-ordered. The first year chair will assign students to rotation supervisors in consultation with the faculty. The first year chair will also assist students with selection of their permanent laboratory.

### SPECIAL NEEDS

If you will require special accommodations in BCHM 60400 because of diagnosed disabilities, you are expected to notify the course instructor prior to initiating project so that appropriate arrangements may be made.

### GRADING

The assigned grade for BCHM 60400 will necessarily reflect the priorities and

## BCHM 60400 Syllabus

expectations of the supervising faculty members. Expectations used for assigning grades are provided below.

A: Student assumes responsibility for directing project. Demonstrates clear understanding of hypothesis tested and of experimental approaches used to test hypothesis. Student keeps an accurate record of experiments neatly written in a laboratory notebook. Student has no issues with attendance, rotation presentations or written assignments.

B: Student has modest understanding of hypothesis tested and of experimental approaches used to test hypothesis. Student keeps an accurate record of experiments neatly written in a laboratory notebook. Student has no issues with attendance, rotation presentations or written assignments.

C: Student has modest understanding of hypothesis tested and of experimental approaches used to test hypothesis. Student is not reliable regarding hours in lab or is not reliable in maintaining an accurate lab notebook or has failed to perform acceptably on the written assignments and rotation presentations.

D: Student has poor understanding of research project. Student is not reliable regarding hours in lab or is not reliable in maintaining an accurate lab notebook or has failed to perform acceptably on the written assignments and oral presentations.

F: Student fails to grasp basic concepts driving research project. Student has substantial issues regarding hours in lab or in maintaining an accurate lab notebook or has failed to perform acceptably on the written assignments.

## ACADEMIC MISCONDUCT

Academic misconduct of any kind will not be tolerated in BCHM 60400. Information on Purdue's policies can be found at <https://www.purdue.edu/odos/academic-integrity/>

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

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.

## NON-DISCRIMINATION POLICY STATEMENT

Purdue University's non-discrimination policy will be upheld in this course. 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.

For more information, see

[http://www.purdue.edu/policies/pages/human\\_resources/nondisc\\_pol.html](http://www.purdue.edu/policies/pages/human_resources/nondisc_pol.html)

## SAFETY TRAINING

If students have not already done so, they must complete safety training before they can enroll in BCHM 60400. Review the University's Chemical Hygiene Plan manual and complete the Online Personal Protective Equipment Training:

<https://www.purdue.edu/rem/home/booklets/chp2014.pdf> -- web version of Chemical Hygiene Plan manual

- Print out the form under Appendix A and sign after reading the manual.

<http://www.chem.purdue.edu/chemsafety/Training/PPETrain/ppetonline.htm> -- Online Personal Protective Equipment Training

Students are required to go to this website and read items 2, 3, 5, 8, 10 & 13. The student must click the terms (e.g. "chem/bio gloves") and read the training (and repeat for each item listed above). Once the student has read the item, s/he should check the box. After they have read each one, they must fill out the bottom section of the form, identifying the course instructor as supervisor with first and last name. They should then press "submit", and print the certification that shows up and sign it. This form must be provided to the course instructor who must sign it. The student must deliver the two completed certificates to the BCHM Main Office (120).