



DEPARTMENT OF BIOCHEMISTRY

BCHM 60400 Syllabus Spring Semester, 2021

INSTRUCTOR: Dr. Scott Briggs (First-year chair)
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Office hours: Appointment via zoom

COREQUISITES

BCHM 60100 and BCHM 60500 or consent of instructor

COURSE OBJECTIVES

BCHM 60400 encompasses outcomes from research rotations, presentations and workshops that enhance the scientific coursework. Students 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. Students enrolled in this course will demonstrate deep understanding of their research projects and scientific communication skills through 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.

LEARNING OUTCOMES

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.

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

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

TEXTBOOK

BCHM 60400 students are expected to read and understand the background information of their research rotation project via textbooks or primary literature.

BRIGHTSPACE

The syllabus and graduate rotation rubric be available via the Purdue University Brightspace site at: <https://purdue.brightspace.com>

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 supervisors.**
 - Rotation supervisors will provide feedback to the first-year chair through the rotation evaluations.
 - 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 supervisors.
- **BCHM 60400 students will present a 10-minute oral presentation of their rotation project at the conclusion of each 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 presentations.
 - Oral presentations 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 in consultation with the first-year graduate chair. BCHM 60400 should interview faculty members in the first week of the semester to identify laboratories where they might pursue MS or PhD research. Students should provide the first-year chair with the names of five potential rotation supervisors, preferably rank-ordered. The first-year chair will assign students to rotation supervisors in consultation with the faculty.

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.

ASSESSMENT

The assigned grade for BCHM 60400 will reflect the priorities and expectations of the supervising faculty members. Expectations are based on the graduate rotation rubric. The first-year chair will assign grades from the rubric of rotation 3 from their assigned rotation lab.

General expectation of grades:

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 assignment.

SAFETY TRAINING

All student must understand and follow the standard operating procedure (SOP) of the lab and wear PPE according to the lab SOP.

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).

ATTENDANCE

Attendance Policy during COVID-19: Students should stay home and contact the Protect Purdue Health Center (496-INFO) if they feel ill, have any symptoms associated with COVID-19, or suspect they have been exposed to the virus. In the current context of COVID-19, in-person attendance will not be a factor in the final grades, but the student still needs to inform the instructor of any conflict that can be anticipated and will affect the submission of an assignment or the ability to take an exam. Only the instructor can excuse a student from a course requirement or responsibility. When conflicts can be anticipated, such as for many University-sponsored activities and religious observations, the student should inform the instructor of the situation as far in advance as possible. For unanticipated or emergency conflict, when advance notification to an instructor is not possible, the student should contact the instructor as soon as possible by email, through Brightspace, or by phone. When the student is unable to make direct contact with the instructor and is unable to leave word with the instructor's department because of circumstances beyond the student's control, and in cases of bereavement, quarantine, or isolation, the student or the student's representative should contact the Office of the Dean of Students via email or phone at 765-494-1747. Our course Brightspace includes a link on Attendance and Grief Absence policies under the University Policies menu.

ACADEMIC GUIDANCE IN THE EVENT A STUDENT IS QUARANTINED/ISOLATED

If you become quarantined or isolated at any point in time during the semester, in addition to support from the Protect Purdue Health Center, you will also have access to an Academic Case Manager who can provide you academic support during this time. Your Academic Case Manager can be reached at acmq@purdue.edu and will provide you with general guidelines/resources around communicating with your instructors, be available for academic support, and offer suggestions for how to be successful when learning remotely. Importantly, if you find yourself too sick to progress in the course, notify your academic case manager and notify me via email or Brightspace. We will make arrangements based on your particular situation. The Office of the Dean of Students (odos@purdue.edu) is also available to support you should this situation occur.

PROTECT PURDUE PLAN

The Protect Purdue Plan, which includes the Protect Purdue Pledge, is campus policy and as such all members of the Purdue community must comply with the required health and safety guidelines. Required behaviors in this class include: staying home and contacting the Protect Purdue Health Center (496-INFO) if you feel ill or know you have been exposed to the virus, wearing a mask in classrooms and campus buildings, at all times (e.g., no eating/drinking in the classroom), disinfecting desk/workspace prior to and after use, maintaining proper social distancing with peers and instructors (including when entering/exiting classrooms), refraining from moving furniture, avoiding shared use of personal items, maintaining robust hygiene (e.g., handwashing, disposal of tissues) prior to, during and after class, and following all safety directions from the instructor.

Students who are not engaging in these behaviors (e.g., wearing a mask) will be offered the opportunity to comply. If non-compliance continues, possible results include instructors asking the student to leave class and instructors dismissing the whole class. Students who do not comply with the required health behaviors are violating the University Code of Conduct and will be reported to the Dean of Students Office with sanctions ranging from educational requirements to dismissal from the university.

Any student who has substantial reason to believe that another person in a campus room (e.g., classroom) is threatening the safety of others by not complying (e.g., not wearing a mask) may leave the room without consequence. The student is encouraged to report the behavior to and discuss next steps with their instructor. Students also have the option of reporting the behavior to the Office of the Student Rights and Responsibilities. See also Purdue University Bill of Student Rights.

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"

Academic integrity is one of the highest values that Purdue University holds. Individuals are encouraged to alert university officials to potential breaches of this value by either emailing integrity@purdue.edu or by calling 765-494-8778. While information may be submitted anonymously, the more information that is submitted provides the greatest opportunity for the university to investigate the concern.

Purdue's Honor Pledge was developed by students to advance a supportive environment that promotes academic integrity and excellence. It is intended that this pledge inspires Boilermakers of all generations to stay "on track" to themselves and their University. "As a boilermaker pursuing academic excellence, I pledge to be honest and true in all that I do. Accountable together - we are Purdue."

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 beyond the instructor's control. Relevant changes to this course will be posted onto the course website or can be obtained by contacting the instructors or TAs via email or phone. You are expected to read your @purdue.edu email on a frequent basis.

NON-DISCRIMINATION POLICY

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.

MENTAL HEALTH

Purdue University is committed to advancing the mental health and well-being of its students. If you or someone you know is feeling overwhelmed, depressed, and/or in need of support, services are available. For help, such individuals should contact Counseling and Psychological Services (CAPS) at (765) 494-6995 or <http://www.purdue.edu/caps/> after hours, on weekends and holidays, or by going to the CAPS office on the second floor of the Purdue University Student Health Center (PUSH) during business hours.

ACCESSIBILITY AND ACCOMODATIONS

Purdue University strives to make learning experiences as accessible as possible. If you anticipate or experience physical or academic barriers based on disability, you are welcome to let me know so that we can discuss options. You are also encouraged to contact the Disability Resource Center at: drc@purdue.edu or by phone: 765-494-1247.

DISCLAIMER

This syllabus is subject to change and vary from lab to lab.