



DEPARTMENT OF BIOCHEMISTRY

**BCHM 601**  
**Critical Thinking and Communication in Biochemistry I**  
**Syllabus**  
**Fall, 2025**  
**2 cr. hr.**

**INSTRUCTOR:** Dr. Joe Ogas  
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TEL: 496-3969  
e-mail: [ogas@purdue.edu](mailto:ogas@purdue.edu)

Office hours: immediately after class or by appointment

**INSTRUCTIONAL**

**ASSISTANT:** Ms. Traci Edmonds, Senior Graduate Program Administrator  
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Office hours: by appointment

**LECTURE TIME AND PLACE**

Tuesdays and Thursdays, 11:30-12:20am in BCHM102. It is expected that the students will arrive on time, attend all classes, participate in class, and be ready to discuss any assigned material.

All lectures will be recorded and will be available for students who miss a class or who would like to review a lecture. They can be downloaded at <http://www.itap.purdue.edu/learning/tools/boilercast/>

**INSTRUCTIONAL MODALITY**

- Face-to-Face

**COURSE OBJECTIVES**

This course will provide students with a basic understanding of the practice of science, critical thinking, and scientific communication with a specific focus on biochemistry. This course will be grounded in previous and current research experiences and will emphasize current primary literature, with the goal of using published scientific manuscripts as precedent for hypothesis generation and experimental design. Students will learn how to properly design experiments and how to read and interpret scientific literature through class presentations, discussions, and take-home assignments. Additionally, students will improve both oral and written communication skills through classroom presentations and written summaries or reviews. Using the white board to communicate fundamental concepts and models will be emphasized.

## LEARNING OUTCOMES

Understanding of essential graduate skills for independent research  
Working familiarity with the practice of science  
Intermediate to advanced understanding of experimental design  
Enhancement of oral and written communication skills  
Mastery of reading and interpreting scientific literature in biochemistry  
Development of critical thinking and creativity in scientific research

## LEARNING RESOURCES, TECHNOLOGY AND TESTS

- **Textbook**  
There is no required textbook for this course. Much of the material from this course will be published scientific literature. Papers are accessible free of charge and electronically through the Purdue Library. This course will also use web and database links as appropriate. Additional information and assignments will also be provided through Brightspace.
- **Tutoring support**  
The [Academic Success Center](#), located in Wiley Hall, Room C215, provides a variety of proactive, practical and approachable academic support services for undergraduate students.  
Visit [Ask a Librarian](#) to connect with helpful resources and services provided by the Purdue Libraries and School of Information Studies for course assignments and projects.
- **Brightspace learning management system**  
Access the course via Purdue's Brightspace learning management system. Begin with the Start Here tab, which offers further insight to the course and how you can be successful in it. It is strongly suggested that you explore and become familiar not only with the site navigation, but also with content and resources available for this course. See the Student Services widget on the campus homepage for resources such as Technology Help, Academic Help, Campus Resources, and Protect Purdue.  
The syllabus for the course, lecture notes, and grading keys for quizzes and exams will be available via the Purdue University Brightspace site at: <https://purdue.brightspace.com>

## ASSESSMENT

There are no written exams in the course. Instead, there will be three required presentations that will each contribute to the grade assigned in this course. The first presentation will be given during week 8 of class and will be 1-on-1 with the instructor. The intent of this presentation is that it will primarily be formative rather than evaluative, and the emphasis will be on promoting success in subsequent presentations in class. The second presentation will be an in-class group presentation during the final week(s) of class. The third presentation will be a solo presentation to the instructor and one other faculty member during finals week. Guidance on the content of presentations and evaluation rubrics will be provided well before each set of presentations. In general, these rubrics will align with the learning outcomes of the course with an emphasis on critical thinking and the scientific method.

**The final date to withdraw from the course with a W for Fall 2025 is Tuesday, November 25. Each student will have up-to-date graded feedback before Mon., Nov. 24 and again before Mon., Dec. 8.**

Missing a presentation or assignment will result in a grade of incomplete being recorded unless documented justification for the absence is presented. Any request to be excused from a presentation must include official documentation (doctor's note, request from

academic advisor, etc) explaining why the presentation was or will be missed. Makeup presentations will be scheduled in consultation with the instructor.

### **Homework/Literature Review/Presentations**

A goal of this class is becoming adept at reading and critically analyzing primary literature. Homework assignments will prominently feature reading and analyzing papers, identifying relevant papers on topics of interest, and/or preparing to give presentations (either by white board or PowerPoint).

Students will have several opportunities to present in class, either in small groups or to the whole class. Presentations to the whole class will sometimes be randomly assigned on the day of class. Some presentations will consist of individual students describing a figure from an assigned paper and detailing the results and/or presenting assigned homework. Given the collaborative participatory nature of this course, students should complete every reading before class to ensure that they are prepared if selected to present and/or have homework assignments completed before class.

### **EXTRA CREDIT**

There will be no opportunity for extra credit.

### **OBTAINING EXTRA HELP**

Dr. Ogas will be available to answer your questions immediately after class or by appointment (arranged by e-mail).

### **CLASS ATTENDANCE**

This course follows the [University Academic Regulations regarding class attendance](#), which state that students are expected to be present for every meeting of the classes in which they are enrolled. Attendance will be taken at the beginning of each class and lateness will be noted. When conflicts or absences can be anticipated, such as for many University-sponsored activities and religious observations, you should inform me of the situation as far in advance as possible. For unanticipated or emergency absences when advance notification is not possible, contact me as soon as possible by email or phone. For absences that do not fall under excused absence regulations (see below), this course follows the following procedures:

1. Do not come to class if you are feeling ill, but DO email me at [ogas@purdue.edu](mailto:ogas@purdue.edu), with the subject line: BCHM 601 absence. I do not need details about your symptoms. Just let me know you are feeling ill and cannot come to class. If it is an emergency situation, please follow the University regulations on emergent medical care (see below).
2. Unless it falls under the University excused absence regulations (see below), any work due should be submitted on time via our course Brightspace.
3. If that day's class involves assessed work such as a test or presentation, you and I will plan if and how you can make up the work, following the assignment guidelines. This plan must be done before the next class period, so again, email me immediately when you know that you will miss class.
4. The most important consideration in any absence is how it will affect your achievement of the assignment objectives and the course learning outcomes.

For cases that fall under **excused absence regulations**, you or your representative should contact or go to the [Office of the Dean of Students \(ODOS\) website](#) to complete appropriate forms for instructor notification. Under academic regulations, excused absences may be granted by ODOS for cases of grief/bereavement, military service, jury duty, parenting leave, or emergent medical care. The processes are detailed, so plan ahead.

## PROTECT PURDUE

Any student who has substantial reason to believe that another person is threatening the safety of others by not complying with Protect Purdue protocols is encouraged to report the behavior to and discuss the 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](#) and the Violent Behavior Policy under University Resources in Brightspace.

## 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](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**

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](mailto:integrity@purdue.edu) or by calling 765-494-8778. While information may be submitted anonymously, the more information is submitted the greater the opportunity for the university to investigate the concern. More details are available on our course Brightspace under University Policies and Statements.

### **GUIDANCE ON ACCEPTABLE USE OF AI IN THIS COURSE**

Students will often be given the option of using artificial intelligence (AI) language models, such as ChatGPT, in this course. This option will be explicitly declared for each assignment. Sharing of successful applications of AI is strongly encouraged. We will also explore use of AI as a learning tool in class.

### **NOTICE OF COPYRIGHT PROTECTION OF COURSE MATERIALS**

See the University Policies and Statements section of Brightspace for guidance on Use of Copyrighted Materials. Effective learning environments provide opportunities for students to reflect, explore new ideas, post opinions openly, and have the freedom to change those opinions over time. Students and instructors are the authors of the works they create in the learning environment. As authors, they own the copyright in their works subject only to the university's right to use those works for educational purposes. Students may not copy, reproduce, or post to any other outlet (e.g., YouTube, Facebook, or other open media sources or websites) any work in which they are not the sole or joint author or have not obtained the permission of the author(s).

## 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.

A link to Purdue's Information on [Emergency Preparation and Planning](#) is located on our Brightspace under "University Policies and Statements." This website covers topics such as Severe Weather Guidance, Emergency Plans, and a place to sign up for the Emergency Warning Notification System. I encourage you to download and review the *Emergency Preparedness for Classrooms document* ([PDF](#)) or ([Word](#)).

The first day of class, I will review the **Emergency Preparedness plan for our specific classroom**, following Purdue's required [Emergency Preparedness Briefing](#). Please make note of items like:

- The location to where we will proceed after evacuating the building if we hear a fire alarm.
- The location of our Shelter in Place in the event of a tornado warning.
- The location of our Shelter in Place in the event of an active threat such as a shooting.

## 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

Purdue University is committed to maintaining a community that 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 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. A hyperlink to Purdue's full Nondiscrimination Policy Statement is included in our course Brightspace under University Policies and Statements.

## MENTAL HEALTH

**If you find yourself beginning to feel some stress, anxiety and/or feeling slightly overwhelmed, try [WellTrack](#).** Sign in and find information and tools at your fingertips, available to you at any time.

**If you need support and information about options and resources,** please contact or see the [Office of the Dean of Students](#). Call 765-494-1747. Hours of operation are M-F, 8 a.m.- 5 p.m.

**If you find yourself struggling to find a healthy balance between academics, social life, stress, etc.,** sign up for free one-on-one virtual or in-person sessions with a [Purdue Wellness Coach at RecWell](#). Sign up is free and can be done on BoilerConnect. Students in Indianapolis will find support services curated on the [Vice Provost for Student Life website](#).

**If you're struggling and need mental health services: 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 mental health support, services are available. For help, such individuals should contact [Counseling and Psychological Services \(CAPS\)](#) at 765-494-6995 during and after hours, on weekends and holidays, or by going to the CAPS offices in [West Lafayette](#) or [Indianapolis](#).

### **BASIC NEEDS SECURITY**

Any student who faces challenges securing their food or housing and believes this may affect their performance in the course is urged to contact the Dean of Students for support. There is no appointment needed and Student Support Services is available to serve students 8 a.m.-5 p.m. Monday through Friday.

### **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](mailto:drc@purdue.edu) or by phone: 765-494-1247.

### **DISCLAIMER**

This syllabus is subject to change.