

**BCHM 465 Syllabus
Spring 2017**

INSTRUCTOR: Dr. Joe Ogas
office: WSLR B020
tel: 496-3969
e-mail: ogas@purdue.edu

Office hours: by appointment

LECTURE TA: Colin Carlock
office: BIND 280
tel: 496-3765
e-mail: ccarloc@purdue.edu

Office hours: by appointment

COURSE OBJECTIVES

The overall objective of this course is to have students apply the basic concepts addressed in previous courses to areas of biochemical research that are under active investigation, with an emphasis on critical thinking. In addition, students will learn how to keep abreast of current research through the use of primary literature.

The specific objectives of the course are to have students develop a working familiarity with process of developing testable hypotheses, the ability to assess the strengths and weaknesses of a variety of approaches used to test hypotheses, the ability to succinctly ask pertinent questions regarding a topic of interest, and the ability to assess the robustness of a variety of sources of information. Further, students in this class will be expected to develop the ability to read primary literature, identify and understand the hypotheses being tested, understand how experiments address these hypotheses, and subsequently incorporate that information into a working model.

DEPARTMENTAL LEARNING OUTCOMES ADDRESSED BY THIS COURSE

- BCHM 465 students will understand the molecule principles of life based on the core disciplines of biology, chemistry and physics.
- BCHM 465 students will understand the scientific method.
- BCHM 465 students will acquire information literacy: the ability to locate, evaluate, and utilize information in the disciplines of biochemistry and molecular biology that is required for research, data analysis, and communication.
- BCHM 465 students will appreciate the ethical issues facing professionals in the life sciences.
- BCHM 465 students will understand the contributions of our discipline to society, including improvements to medicine, agriculture, the economy and the environment.

TEXTBOOK

The textbook(s) from BCHM 361/561 and BCHM 462/562 will serve as a general reference. Lectures will have associated reading materials that will be provided electronically or will be based on primary literature.

LECTURE TIME AND PLACE

Tuesday and Thursday, 11:30-12:20, room BCHM 105. 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/tlt/BoilerCast/>

BLACKBOARD

Course materials are available at <http://www.itap.purdue.edu/learning/tools/blackboard/>. Lecture materials will be available the day before class and should be printed off and brought to class.

ASSESSMENT

Exams are cumulative.

The grading for this course will be as follows:

Midterm Exam I	200 points
Midterm Exam II	200 points
Class participation	200 points
Final	200 points

Class participation consists of several components, including contribution to class discussion as well as in class assignments, homework, and quizzes. There will be multiple unannounced short quizzes, which will be used to assess preparation for discussion for a given topic. There will be multiple in class assignments, the majority of which will be group assignments but with some individual assignments potentially included as well. In addition, it is anticipated that there will be at least one major presentation of a small group to the class, primarily regarding data from primary literature. Presentations will be evaluated based on content, organization/clarity, and delivery (each category will be equally weighted). The remainder of class participation points will come from homework and overall contribution to class discussion as assessed by the instructor/TA. In general, homework count for 40 points of 200, in class assignments count for 40 of 200, quizzes count for 40 points of 200, participation counts for 40 points of 200, and presentations count for 40 points of 200. Points associated with various aspects of participation will be normalized to generate the final 200 point scale.

The cutoff values for letter grades will be based on a curve. Typical values for a curve in this class are:

680 points	A
600 points	B
520 points	C
440 points	D
439 points and below	F

Missing a presentation or exam will result in a grade of 0 being recorded unless documented justification for the absence is presented. Any request to be excused from a class or exam must include official documentation (doctor's note, request from academic advisor, etc) explaining why the class/ exam was or will be missed. Makeup tests will be scheduled in consultation with the instructor.

If you have any disagreements with the way your exam or essay has been graded, please consult the grading key and then take them up with the TA.

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

EXTRA CREDIT

There will be no opportunity for extra credit.

OBTAINING EXTRA HELP

The TA or Dr. Ogas 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 that can be answered in class or by return 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 AND PARTICIPATION

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

Group discussion is critical component of this class. Consequently, tardies and absences will both recorded. Students that are more than 5 minutes late to class will be marked as tardy. Students that are more than 10 minutes late to class will be marked as absent. Three tardies will count as an unexcused absence. 2 unexcused absences will result in drop in equivalent of 1 letter grade for total participation score. Furthermore, greater than 2 unexcused absences will result in a failing grade for the course.

HOMEWORK ASSIGNMENTS

You are expected to complete all reading and/or writing assignments before class on the date indicated. An electronic copy of each writing assignment is due by midnight the day before class to Blackboard.

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.

ANTI-HARASSMENT POLICY

Purdue University is committed to maintaining an environment that recognizes the inherent worth and dignity of every person; fosters tolerance, sensitivity, understanding and mutual respect; and encourages its members to strive to reach their potential. The most effective way to work toward preventing Harassment is through education that emphasizes respect for every individual.

Harassment in the workplace or the educational environment is unacceptable conduct and will not be tolerated. Purdue University is committed to maintaining an educational and work climate for faculty, staff and students that is positive and free from all forms of Harassment. This policy addresses Harassment in all forms, including Harassment toward individuals with legally protected status for reasons of race, gender, religion, color, age, national origin or ancestry, genetic information or disability and Harassment toward individuals for other reasons such as sexual orientation, gender identity, gender expression, marital status or parental status. The University will not tolerate Harassment of its faculty, staff or students by persons conducting business with or visiting the University, even though such persons are not directly affiliated with the University.
Purdue Anti-Harassment Policy

LECTURE SCHEDULE (*this is a rough outline – may be altered significantly including addition of new topics and/or removal of listed topics based on progress/interests of class and material covered in BCHM 463*)

<u>Week</u>	<u>Topic</u>
1	Introduction/overview of class Analysis of science in popular press
2	Comparison of Vioxx and Zetia
3	Comparison of Vioxx and Zetia
4	Pruitt paper on RNA genome
5	Exam I, review of exam
6	Pruitt paper on RNA genome
7	Pruitt paper on RNA genome

- 8 Ciliate follow-up on RNA genome/ Behrens paper on MBD3
- 9 Behrens paper on MBD3
- 10 Exam II, review of exam
- 11 Behrens paper on MBD3
- 12 Class-selected comparison of papers
- 13 Class-selected comparison of papers
- 14 Class-selected comparison of papers
- 15 Class-selected comparison of papers