

## **Contemporary Issues in Biochemistry**

11:115:201 Fall 2020

Tuesdays and Fridays, 11:10 am – 12:05 pm

Remote Instruction – managed using [Canvas](#)

## **Contact Information**

Instructor: Dr. Crane

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Office: Lipman 117

Office Hours: Tuesdays and Fridays, 10 – 11 am or by appointment

## **Course Overview**

This course is designed to familiarize students with current topics and methodologies in biochemistry research, and to introduce students to the areas of expertise of department faculty.

## **Program Learning Goals (PLG) Addressed by 11:115:201**

- (PLG 3) Upon completion, students will be critical thinkers with effective written and oral communication skills; well prepared for positions in industry, government and graduate/professional study.
- (PLG 4) Graduates will have a fundamental understanding of ethical and current issues in biochemistry and understand the importance of ethics in scientific research.

## **Course Learning Goals**

- identify each step of the research process, from forming hypotheses all the way through to dissemination of information
- critically evaluate peer-reviewed literature
- identify ethical considerations regarding academic and research integrity
- evaluate, analyze and visualize data

- identify current topics and directions of biochemistry research and applications
- communicate information about biochemistry to others with limited background

## **Assignments and Grading**

General Discussion and Participation: 10%

In-Class Assignments: 10%

Ethics Discussion: 10%

Homeworks: 10%

Quizzes: 15%

Talk Summaries: 20%

Presentation and associated assignments: 25%

There is no final exam for the course.

## **Assignment Details**

### General Discussion and Participation

There will be an ongoing “general discussion” on our Canvas page in which you are encouraged to participate. In addition, I encourage you to participate in as much of our in-class discussion as you can.

### In-Class Assignments

Throughout the semester there will be a number of low-stakes in-class assignments. These will be primarily graded on a no credit/half credit/full credit scale or as “all or nothing.”

### Ethics Discussion

There will be an ethics discussion on our Canvas page that will open when we begin to discuss research ethics. I will post specific instructions for how to earn full credit for this discussion.

## Homeworks

A quantitation worksheet will be distributed relatively early in the semester. There will also be a paraphrasing and citation assignment and a graphing and data analysis assignment.

## Quizzes

There will be three short open quizzes during the semester on the following topics:

1. Quantitative Literacy
2. Model Organisms
3. General Toxicology

## Talk Summaries

There will be a number of guest speakers this semester. You will be asked to briefly summarize the presentations of two of the speakers (I will break them into two groups so that the due dates can be spaced out). The summary will be a short (1-2 pages) document that includes:

- a. the name of the speaker
- b. a detailed summary of the material presented (Please do not reproduce the entire lecture, but please do be specific. For example, “Dr. Boyd talked about bacteria and how they react to a certain metal.” Is very different than “Dr. Boyd talked about *Staphylococcus aureus* and how it reacts to copper.”)
- c. an explanation of how the topic fits into the biochemistry “big picture” – i.e., why is this topic important / relevant?
- d. explanations of two reasons this topic is of particular interest to you

Not all speakers will provide presentation slides, so please take detailed notes and keep the requirements of the summary in mind as you are doing so.

## Presentation and associated assignments

At the beginning of the semester, I will ask you about what topics in biochemistry are most interesting to you. Then I will assign you to groups based on your interests. Your group will put together a presentation to be delivered during the last month (or so) of class.

There will be some low-stakes assignments associated with this presentation: for example, your group will submit an outline of your presentation and your group will be asked to make at least one of your slides ahead of time. You will also write up the information you presented and provide an honest assessment of your efforts.

Specific details will be provided on Canvas.

## Expected Grading Scheme

≥90: A

85-89.9: B+

80-84.9: B

75-79.9: C+

70-74.9: C

60-69.9: D

<60: F

## **Academic Integrity**

All members of the Rutgers community are expected to adhere to the University's [Academic Integrity Policy](#). The principles of academic integrity require that a student:

- properly acknowledge and cite all use of the ideas, results, or words of others.
- properly acknowledge all contributors to a given piece of work.
- make sure that all work submitted as his or her own in a course or other academic activity is produced without the aid of impermissible materials or impermissible collaboration.
- obtain all data or results by ethical means and report them accurately without suppressing any results inconsistent with his or her interpretation or conclusions.
- treat all other students in an ethical manner, respecting their integrity and right to pursue their educational goals without interference. This requires that a student neither facilitate academic dishonesty by others nor obstruct their academic progress.
- uphold the canons of the ethical or professional code of the profession for which he or she is preparing.

Adherence to these principles is necessary in order to ensure that

- everyone is given proper credit for his or her ideas, words, results, and other scholarly accomplishments.
- all student work is fairly evaluated and no student has an inappropriate advantage over others.
- the academic and ethical development of all students is fostered.
- the reputation of the University for integrity in its teaching, research, and scholarship is maintained and enhanced.

Failure to uphold these principles of academic integrity threatens both the reputation of the University and the value of the degrees awarded to its students.

Every member of the University community therefore bears a responsibility for ensuring that the highest standards of academic integrity are upheld.

I am required to report any suspected violation of the policy to the [Office of Student Conduct](#). What happens after that depends on a number of factors, including the severity of the violation and whether or not is considered a first offense.

One of the most common offenses is plagiarism, either from an outside reference or from another student's work. Although you are encouraged to discuss things with each other, the work you submit must be always be your own. I will be using the Turnitin function on Canvas to manage written assignments submitted through Canvas.

If after our academic integrity exercises you are unsure of how to properly use sources, please come to office hours or make an appointment with me so that we can go over it in more detail.

### **Students with Differing Abilities**

Rutgers University welcomes students with disabilities into all of the University's educational programs. In order to receive consideration for reasonable accommodations, a student with a disability must contact the appropriate disability services office at the campus where you are officially enrolled, participate in an intake interview, and provide documentation according to the [documentation guidelines](#). If the documentation supports your request for reasonable accommodations, your campus's disability services office will provide you with a Letter of Accommodations. Please share this letter with your instructors and discuss the accommodations with them as early in your courses as possible. To begin this process, please visit the ODS website and follow the instructions for [getting registered](#).

## **Student Wellness Services**

Just In Case Web App <http://codu.co/cee05e>

Access helpful mental health information and resources for yourself or a friend in a mental health crisis on your smartphone or tablet and easily contact CAPS or RUPD.

Counseling, ADAP & Psychiatric Services (CAPS)

(848) 932-7884 / 17 Senior Street, New Brunswick, NJ 08901/

[www.rhscaps.rutgers.edu/](http://www.rhscaps.rutgers.edu/)

CAPS is a University mental health support service that includes counseling, alcohol and other drug assistance, and psychiatric services staffed by a team of professional within Rutgers Health services to support students' efforts to succeed at Rutgers University. CAPS offers a variety of services that include: individual therapy, group therapy and workshops, crisis intervention, referral to specialists in the community and consultation and collaboration with campus partners.

Violence Prevention & Victim Assistance (VPVA)

(848) 932-1181 / 3 Bartlett Street, New Brunswick, NJ 08901 /

[www.vpva.rutgers.edu/](http://www.vpva.rutgers.edu/)

The Office for Violence Prevention and Victim Assistance provides confidential crisis intervention, counseling and advocacy for victims of sexual and relationship violence and stalking to students, staff and faculty. To reach staff during office hours when the university is open or to reach an advocate after hours, call 848-932-1181.

Scarlet Listeners

(732) 247-5555 / <http://www.scarletlisteners.com/>

Free and confidential peer counseling and referral hotline, providing a comforting and supportive safe space.

## **Diversity and Inclusion**

One thing that makes Rutgers great is the diversity of our population. We are all here to learn from each other, and learning often takes the form of lively discussion and debate among people with different perspectives. As long as we are respectful to one another, discussion and debate can be valuable experiences. It is my priority to foster learning among students in the Rutgers community, and this requires that my classroom be a safe space for all. If anyone in the class says anything that makes you feel uncomfortable regarding your ethnic, religious, gender, or other identity, please let me know. Additionally, if you prefer to be called a name that is different from the name on my roster, or have a preferred set of pronouns that you would like me to use, please let me know that as well. I want this class to be a positive experience for all of us!

## Course Schedule (subject to change)

Date	Topic
	<b>Module 1: Research and Communication</b>
Sep 1	Course Introduction
Sep 4	Sources of Information
Sep 11	Reading Scientific Papers
Sep 15	Reading Scientific Papers
	<b>Module 2: Ethics</b>
Sep 18	Academic Integrity
Sep 22	Use of sources and proper citation
Sep 25	Research Ethics; Special Considerations
Sep 29	Special considerations continued
Oct 2	Case Studies
Oct 6	Case Studies
	<b>Module 3: Quantitative Literacy</b>
Oct 9	Math for Biochemistry
Oct 13	Graphing
Oct 16	Statistics
Oct 20	Data interpretation
Oct 23	Data interpretation continued
	<b>Modules 4 and 5: Faculty Speakers and Student Presentations</b>
Oct 27 (start)	
Dec 8 (end)	