

Topics in Principles of Molecular & Cell Biology (BMED: 5208)

Fall 2021 (1 SH)

Course Schedule: M; 2:30 – 3:20 PM

Room location: 2189 MERF (Medical Education and Research Facility)

Course Description:

This course is a weekly journal article discussion course. Each week, you will read an article which has been selected to match content presented the previous week in Principles of Molecular and Cellular Biology. In this way, the courses are mutually beneficial. This course has four critical goals:

- 1) Read and interpret scientific articles
- 2) Participate in a scholarly conversation about data and scientific techniques
- 3) Summarize the story of a scientific study in writing
- 4) Learn about a wide range of scientific approaches and laboratory techniques

Instructional Team:

Course Director:

Darren Hoffmann, PhD (he/him/his)

Assistant Professor, Department of Anatomy and Cell Biology

Office Location: B046 Med Labs

Office Phone: 319-335-7704

Email: darren-hoffmann@uiowa.edu



Instructors:

The primary instructors for this course are your graduate student TAs for the Principles of Molecular & Cellular Biology Course. Throughout the course, the TAs will rotate so you'll have an opportunity to learn from each of them at different points in the class.

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Pharmacology Program (3rd year student; Strathearn Lab)

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Course Schedule

Session #	Date	Journal Article	Topic
0	M 8/23	Introduction to the Course	
1	M 8/30	Article TBD	Protein Structure, Regulation (DH)
	M 9/6	Holiday – Labor Day	
2	M 9/13	Article TBD	DNA, Genome, Histones (DH)
3	M 9/20	Article TBD	Eukaryotic Transcription (NG)
4	M 9/27	Article TBD	RNA Processing (NG)
5	M 10/4	<i>(TA Presentations)</i>	
6	M 10/11	Article TBD	Protein Translation/Modification (BB)
7	M 10/18	Article TBD	Intracellular Trafficking (BB)
8	M 10/25	<i>(TA Presentations)</i>	
9	M 11/1	Article TBD	Cell Bio Meth, Actin/Myosin (TT)
10	M 11/8	Article TBD	Cytoskeleton (TT)
11	M 11/15	Article TBD	Junctions, Nucleoskeleton, Migration (TT)
	M 11/22	Holiday – Thanksgiving Break	
12	M 11/29	<i>(TA Presentations)</i>	
13	M 12/6	Article TBD	Signaling (SC)
14	M 12/13	Article TBD	Redox regulation (GB/PG)

Grading and Assessment

Grading

Grades in this course will be assigned using a S/U (satisfactory/unsatisfactory or pass/fail) grading scheme. To achieve a “S” letter grade, you must attend all class sessions and complete all required writing assignments.

If you are unable to attend a class session because of an excused absence (medical or family emergency, religious observances), you will be provided a make-up assignment, which is a short write-up of the article of the week. One unexcused absence will be allowed in the course, and completion of the make-up assignment is required in that circumstance. Unexcused absences are absences due to factors of lower priority (e.g., weddings or family get-togethers, personal vacations, etc.). If a student misses more than one session due to unexcused absence, a grade of U (Unsatisfactory) will be assigned.

Assessment

Discussion Participation

This course is all about discussion and the stories of science. So we will not grading you on your knowledge of content of the articles we explore. Instead, we will be asking you to participate actively in discussion. We will not be counting your contributions to discussion, but if we note that you are regularly not participating in class discussion, we will reach out to you directly to encourage more involvement.

Article Write-Ups

In the latter half of the course, we will ask you to submit brief write-ups of two of the assigned class articles and one article that you choose based on your research interests. These write-ups will ask you to tell the story of the study and provide prompts to guide your writing, such as: “what was the gap in the research area that led to this study?” or “What was the most important finding that confirmed the authors’ hypothesis for this study?” Write-ups should be no shorter than 500 words and no longer than 1000 words.

Your write-ups will be evaluated by the teaching team based on the quality of your ideas. If we feel that your writing is problematic, we may ask you to revise and resubmit your writeup based on writing feedback provided by the teaching team.

Expectations

Readiness and Participation Expectations

It is expected that you will read the assigned article before each class session. When you read a paper, you should be asking yourself questions like:

“What gap does this research address?”

“What are the controls in the experiments and why do they make sense as controls?”

“Are there other ways the study could have been done?”

“What about the methods is new to you? What questions do you have about these techniques?”

“Who are the authors? How does this research fit within a broader research agenda?”

“Why do you think this article got accepted for publication? What is important about it?”

“Which figures set up the study, and which are the definitive results for proving the hypothesis?”

“What do you like or dislike about the way the data is presented?”

These types of questions will form the backbone of our discussions.

Please set calendar reminders to complete the article assignments before every class. Reading journal articles is an essential part of scientific work, regardless of your field or career path. We believe that establishing good reading habits early will benefit you in the long run.

If you are not regularly participating in discussions, we will do our best to draw you out and engage you directly in class to encourage your participation. We may also contact you outside of class to inquire what we can do to make article discussion more productive for you. As stated previously, we’re not keeping track of how many words you say or how many times you raise your hand. But we are very interested in having quality discussions and helping each student find their way through article reading, interpretation and scientific discourse.

Attendance Expectations

All class sessions are required to attend. Attendance in this course is important because your small groups depend on your participation to have an engaging conversation.

Excused absences are allowed for extenuating circumstances of high priority (e.g., medical or family emergency, religious observances). If you need to be absent for this type of reason, please contact the course director as soon as possible so we can make alternative arrangements for you and your discussion group.

Unexcused absences are absences for circumstances of lower priority (e.g., family get-togethers, personal vacations, simply forgetting to come, etc.). A student may have ONE unexcused absence and still receive a “S” grade in the course. More than one unexcused absence results in an automatic grade of “U” for the course.

Communication Expectations

If you have questions about the course or any of the articles that we explore, please feel free to reach out to the course director (Darren Hoffmann) or any of the Graduate TAs in the course. We will not hold scheduled office hours, so if you would like to have a conversation, please reach out to schedule an appointment based on our mutual availability.

All class-wide communication will be sent out through the ICON Announcements feature. Please make sure that you have activated your ICON profile to receive notifications and emails for Announcements. Individual email communications should be using your uiowa email addresses to ensure security and that your emails don't get lost due to spam filters.

Policies and Procedures

Reporting of Student Mistreatment

If you are mistreated or you witness an incident of mistreatment of a student by a course instructor, please understand that reporting is expected and encouraged. If the student feels comfortable to do so, they can raise their concern directly with the instructor. They can also share their concern with the course director. If these are not suitable options or a resolution is not reached through this communication, the student can contact the Biomedical Science Program Director (prabhat-goswami@uiowa.edu). Finally, the Associate Dean for Graduate and Postdoctoral Studies (daniel-tranel@uiowa.edu) should be contacted if all other attempts at resolution have failed. In order for us to take action, complaints must be made within six months of the incident. Students also may take advantage of the services of the Office of the University Ombudsperson. If a complaint cannot be resolved at the departmental and/or collegiate level, students may file a formal complaint utilizing the procedure specified in II-29.7 of the UI Operations Manual (<http://www.uiowa.edu/~our/opmanual/>).

Diversity, Equity and Inclusion in Our Course

We consider it especially important that students of all diverse backgrounds are welcomed and supported in this course. Diversity of experience is a significant benefit in the group learning environment that is built into this course's design. It is our goal to have a classroom that is respectful of all forms of diversity: gender, sexual orientation, disability, age, socioeconomic status, ethnicity, race, culture, perspective, and other background characteristics. If you have ideas for how we could better encourage and support diversity in our course, please contact us. In addition, in scheduling exams, we have attempted to avoid any conflicts with major religious holidays. If we have inadvertently scheduled an exam which creates conflict with your religious observances, please let us know as soon as possible so other arrangements can be made.

Accommodations for Disabilities

If you have a disability that requires accommodation to read articles, participate in classroom discussions, or complete writing assignments in this course, please let us know as soon as possible. We will work with you and Student Disability Services to arrange accommodations that will allow you to learn and demonstrate your learning. We consider disability to include mobility and physical impairments, learning disabilities, psychological conditions, vision or

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hearing loss, and other invisible disabilities that may impact your ability to participate in this course. Please do not feel that you need to hide or simply endure a disability.

Academic Integrity/Plagiarism

As graduate students, you are expected to maintain the highest standard of professionalism in your study. If we determine that cheating or plagiarism has occurred, the student will receive a zero on that assignment. Any evidence of cheating will be reported to the Office of Graduate and Professional Studies and Graduate College administration and may result in dismissal from the course and/or graduate program.

Understanding Sexual Harassment

Sexual harassment subverts the mission of the University and threatens the well-being of students, faculty, and staff. All members of the UI community have a responsibility to uphold this mission and to contribute to a safe environment that enhances learning. Incidents of sexual harassment should be reported immediately. See the UI Operations Manual Part II, Chapter 4, and Part IV, Chapter 2 (<http://www.uiowa.edu/~our/opmanual/>).

Severe Weather Course Impacts

If severe weather makes it difficult or impossible to travel to campus, the course director will let the class know via ICON announcements if we are canceling class that day. Please check for any University-wide weather cancellations on the U Iowa.edu homepage. If there is a severe weather event while we are in class, we will seek shelter in the innermost part of the building at the lowest level possible. Class will resume when the event is over. (UI Operations Manual Part II, Chapter 22 <http://www.uiowa.edu/~our/opmanual/>)