General course information

GENERAL COURSE INFORMATION

BIOPHRM/MOLGEN 7807

Spring 2023

Wed & Fri 9:35 to 10:55 AM

Room 684 Biological Sciences Building

INSTRUCTORS

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COURSE DELIVERY

The course classes will be held **in person**. Should classes be cancelled (e.g., due to weather emergencies or as dictated by the OSU Covid19 policies), we will meet virtually during our regularly scheduled time via CarmenZoom (link is provided on carmen course homepage). We will share updates via email as necessary. Also, in case of unexpected emergencies when students cannot attend classes (due to illness or quarantine), students can continue to participate in lectures and discussions via synchronous CarmenZoom telecasts. If OSU policy requires in person classes, remote attendance option is only for emergency situations, and will require **prior approval** of instructors. Please contact the instructors immediately if you are quarantined or become ill such that you are unable to participate in class or complete the assignments. This will allow us to develop an alternative plan, if necessary, so that you can successfully complete the course.

COURSE OBJECTIVES

This is a graduate level seminar-style course that is designed for first- or second-year graduate students with appropriate backgrounds in molecular biology, genetics and biochemistry. The primary learning goals of the course are:

- To explore in some detail the mechanisms that the cell uses to control gene expression at the post-transcriptional level.
- To gain proficiency in critically reading and evaluating primary research articles.

- To present scientific information to an audience of peers and to actively participate in detailed discussions of recent research articles.
- To become conversant with writing an effective one-page Specific Aims of a grant proposal.

COURSE EXPECTATIONS

Below are general course expectations. Specific expectations for each graded section (presentations, class participation and final exam) are in the following section.

- Attendance is MANDATORY. If you are going to miss a class, you must clear this with the instructor for that day or be graded as being absent. Arrive in class on time; consistent late arrival counted against your class participation grade.
- All students are expected to read all assigned papers in depth including evaluation of any supplementary materials linked to an article. Students are also expected to read assigned background review articles.
- Each student is expected to actively participate in discussion during lectures and paper presentations. Coming prepared with at least one question to each class can help you to actively participate.
- All course information and materials will be made available via Carmen (unless specified otherwise). It is students' responsibility to be familiar with all course information and policies, obtain all course materials from Carmen and to submit assignments via this online portal.

COURSE COMPONENTS AND GRADING

The course consists of instructor led lectures and student presentations of assigned primary research articles. A detailed syllabus is finalized once enrollment is complete. The three graded components of the course are weighted as follows:

50%	Presentation
25%	Quizzes (15%) and class participation (10%)
25%	Final exam

1. **PAPER PRESENTATIONS**

Paper assignments will be made in the first 1-2 weeks of the course. Each student will select (via random draw) one of the assigned research articles that they will later present to the class. The final exam assignment will also be based on this paper.

Timeline for presentation preparation:

2 weeks prior to presentation	- Meet with faculty mentor to review presentation, data panel and question(s) for the class.
1 week prior to presentation	- Meet with faculty mentor to review finished presentation. - Submit quiz questions for the class via carmen (See "**Presenter responsibility for discussion question**" and Section 2 on quizzes and class participation for more details). - Questions and accompanying data panels assigned to the class.
Day of presentation	- Answers to data panel questions turned in before the class. - Student presentation and class discussion

Expectations for presentation preparation:

You are **required** to meet with an instructor at least two times to go over your presentation. It is your responsibility to set-up meeting time with faculty mentor to review your presentation. Email the instructor who assigned your paper to set up both the meetings well ahead of your presentation date. It is highly recommended that you send your presentation to the faculty mentor at least 1 day prior to your scheduled meeting.

The first meeting must be 2+ weeks before your talk. Before this meeting, you are expected to have carefully read the assigned paper as well as background reviews and papers, understood all data panels in the paper and have very good grasp of the overall message of the paper. In this meeting, you will go over the paper and your preliminary presentation.

The second meeting will review the finished presentation and should take place at least 1 week before your talk. You are expected to have an almost finished presentation at this meeting.

Your presentation is your responsibility – the faculty mentor is there to help you prepare and answer your questions but is not expected to prepare the presentation for you.

Guidelines for presentations:

Timing: Presentation should be approximately 45 minutes. Practice your presentation so that it will be polished and so you do not exceed your time. Expect your presentation to be interrupted with questions from the students and faculty in the audience. You may use notes, but please do not read your presentation.

Content: In addition to the assigned paper, presenter is expected to read several additional background papers and reviews relevant to their topic. This will help with having a well-prepared presentation and will help with writing the Specific Aims for the final exam. Your presentation must include: Introduction, Results and Discussion (not necessarily as sections).

Introduction – Briefly summarize results from earlier papers that led to the study being discussed in class. Describe the purpose of the study, gap in knowledge being addressed, and/or the hypothesis being tested. Do not dwell on material that was covered by the instructor or other students in earlier sessions.

Results – About half of the presentation should be on experimental results. You should be thoroughly prepared to discuss why and how the experiments were done and what the results actually show. If any new techniques are described, go over them in some detail. Since the class has already read the article, it is not necessary to go over each experiment in the paper. Instead, you should discuss the key experiments from the paper. Do not dwell on techniques or information already covered previously in the course.

Discussion – What do the results of the paper mean? What are the most important take-home messages of the paper? Does the paper change the way we think about a particular problem? How does it relate to other papers that have been covered in the course? Are there any weaknesses in the paper? What should be done next?

General presentation requirements:

- You are required to give Powerpoint (or Mac Keynote) presentations and expected to bring your own laptop.
- Be aware of the font you use to annotate slides. Sans serif font such as Arial, Helvetica or Comic Sans project the best. The smallest size should be 20 point.
- The images and figures on slides must be of high resolution, which are available in the original paper files online. It is your responsibility to download these and incorporate them into your talk. It is also your responsibility to obtain any additional figures you need (e.g., background). Feel free to modify figures or their order in any way you wish to fit the style of your presentation. Be sure the figures are large.
- Do not clutter your images with unnecessary Powerpoint "decorations" or “tricks” or use excessive or inappropriate colors.

Evaluation of presentation: Instructors will grade presentations based on the following elements:

- Background (set up of the main question/knowledge gap addressed by the paper)
- Methods (key experimental approaches central to understanding the paper)
- Results (accurate presentation of key experiments supporting main conclusions)
- Discussion (set results in broader context, raise questions for future, identify inconsistencies/problems with data/data interpretation)
- Engage class in discussion
- Quality of slides and presentation (layout, eye contact, language, pace)

Immediately following the presentation class, the instructors present will give you feedback. Your faculty mentor will also give you written feedback summarizing the comments soon after the presentation. Your faculty mentor in discussion with the second instructor designated to attend your presentation will also provide you with a tentative presentation grade-range (between 0-100). Both the feedback and grade-range will be provided via Carmen. Your final presentation grade will be assigned at the conclusion of the semester.

Above average presentation (90-100 range): Presentation is effective in conveying the main new insights provided by the paper; contains material (background or discussion) that goes significantly beyond the assigned paper; excellent visual aids/handouts; engages class in discussion.

Average presentation (80-89 range): Presentation is clear and easy to understand; good visual aids and/or handouts; no major scientific mistakes but there are obvious areas with room for improvement.

Below average presentation (70-79 range): Presentation is significantly lacking in one or few of the following aspects: poorly organized; too long; too short; did not follow above instructions, significant language difficulties; no new insights; serious scientific mistakes; low quality visual aids; did not engage class in discussion. A presentation lacking in multiple aspects outlined here may be scored even lower than the indicated range.

Note: There will be no opportunity to make up for a poor presentation. Presentation makes up half of your grade in the course. So put in your best effort.

Presenter responsibility for discussion question: To facilitate discussion of each paper, the student presenter of the paper will identify one figure panel from their paper that exemplifies a (the) key point of the study. At the first meeting with your faculty mentor, you will provide one or two short answer questions based on this panel for the class. Following any changes to questions based on discussion and feedback from the mentor, one week prior to your presentation you will submit the questions as an assignment via Carmen. The faculty mentor will assign these questions to the class via Carmen one week prior to the paper presentation.

2. **QUIZZES AND CLASS PARTICIPATION**

Active student participation in this class is essential. Two key elements will be assessed for student participation: a) careful reading of each assigned paper, and b) active participation by each student during paper discussion.

1. **a) Quizzes:**One week before each paper presentation, students will be provided (via Carmen) with 1-2 questions that will be chosen by the presenting student. The answers to these questions should be submitted *online on Carmen* at the start of the paper presentation. Instructors will grade the answers. All quizzes together will make 15% of the final grade.
2. **b) Class participation:** Instructors will monitor participation of each student during class and paper discussions throughout the course. Each student is expected to actively participate in discussion during paper presentations. Don't be shy to ask questions. No question is a silly/simple question. It may be helpful to come prepared with at least one question to each class. At the end of the course, instructors will assign participation grade that will be 10% of the final grade.

A peer evaluation survey will be provided to the class after each presentation. This is an opportunity for you to provide feedback to your peers to help them improve their presentation skills (or tell them what they are already very good at). Response to surveys is required and will influence your class participation grade.

3. **FINAL EXAM**

The final exam will consist of a Specific Aims page that describes the next grant to follow up on the work that is described in the paper you presented to the class. We will provide instruction on preparing these mini proposals, but they should be a single page that starts with a paragraph describing the background, the

scientific problem, the questions/knowledge gap that remain to be addressed, the specific hypothesis to be tested, and 2-3 specific aims how this will be done. This should follow NIH requirements – one page single spaced, no less than 0.5-inch margins, 11 point Arial font. Various resources are provided on the course Carmen page on writing an effective Specific Aims page.

The Specific Aims page will be reviewed by a 'study section' made up of the students in the class. The final exam grade will be determined by the quality of your Specific Aims and your review of other student's Specific Aims.

Your final exam grade will be determined by the instructors who will independently grade a) your proposal and b) your review of other peer proposals. The grade for final exam will reflect your combined performance on these two components. Your grade is not decided by your peers.

TECHNOLOGY REQUIREMENTS

Here is a summary of technology necessary for remote access to the course (if necessary) and to complete assignments.

- Computer (Mac – OS X or PC – Windows 10) with high-speed internet connection or a tablet where quiz answers can be typed in and submitted via Carmen. These devices should be brought to all scheduled in person activities.
- Webcam: built-in or external webcam, fully installed and tested
- Microphone: built-in laptop or tablet mic or external microphone
- Other: a mobile device (smartphone or tablet) or landline to use for BuckeyePass authentication
- CarmenZoom for virtual meetings
- Microsoft Office 365 (http://go.osu.edu/office365help) (all Ohio State students are now eligible for free Microsoft Office 365 ProPlus)

Help with Carmen, or any other technology issues is available at the Ohio State IT Service Desk.

- Self-Service and Chat support: ocio.osu.edu/help (http://ocio.osu.edu/help)
- Phone: 614-688-4357(HELP)
- Email: servicedesk@osu.edu (http://servicedesk@osu.edu)
- TDD: 614-688-8743

SAFETY AND HEALTH REQUIREMENTS

The COVID-19 pandemic is present. Current expectations can be found at the Safe and Healthy Buckeyes (https://safeandhealthy.osu.edu/) . As a reminder, please observe the following steps:

Before entering class/recitation:

-If you have any illness as defined in the current university safety guidelines, please do not come to the class and seek medical assistance as needed. Immediately contact the instructors to make alternative plans (e.g., attending classes remotely).

While in class/recitation:

-Adhere to other public safety protocols and directives for our specific classroom site as per the current university guidelines including wearing a mask as recommended.

Students who do not follow these health and safety requirements will first be reminded of the expectations. If they do not immediately adhere to those expectations, they will be instructed to leave class. Those students may be marked absent for the class session, and repeated violations of these health-saving protocols will be reported to the Office of Student Life Student Conduct for potential disciplinary action that may include suspension or expulsion as outlined here. (https://safeandhealthy.osu.edu/return-campus-training)

IMPORTANT NOTES

All communications regarding the course, including requests for meetings, **must** be made using your **official university buckeyemail.osu.edu email** account. 1) FERPA prevents us from discussing class-related subjects through any other account, and 2) the OSU spam filter occasionally starts blocking (for example) all emails from gmail.

PLEASE TAKE CARE OF YOURSELF

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce a student's ability to participate in daily activities. The Ohio State University offers services to assist you with addressing these and other concerns you may be experiencing.

If you are or someone you know is suffering from any of the aforementioned conditions, you can learn more about the broad range of confidential mental health services available on campus via the Office of Student Life's Counseling and Consultation Service (CCS) by visiting **ccs.osu.edu** (http://ccs.osu.edu/) or calling 614-292-5766 (tel:%28614%29%20292-5766) . CCS is located on the 4th Floor of the Younkin Success Center and 10th Floor of Lincoln Tower. You can reach an on-call counselor when CCS is closed at 614-292-5766 (tel:%28614%29%20292-5766) .

If you are thinking of harming yourself or need a safe, non-judgmental place to talk, or if you are worried about someone else and need advice about what to do, 24 hour emergency help is also available through the 24/7 National Suicide Prevention Hotline at 1-800-273-TALK or at suicidepreventionlifeline.org (http://suicidepreventionlifeline.org/) .

Graduate school has also put together a list of resources for student wellness: https://gradsch.osu.edu/pursuing-your-degree/social-wellness-student-life (https://gradsch.osu.edu/pursuing-your-degree/social-wellness-student-life)

ACCOMMODATIONS

The University strives to make all learning experiences as accessible as possible. If you anticipate or experience academic barriers based on your disability (including mental health, chronic or temporary medical conditions), please let us know immediately so that we can privately discuss options. To establish reasonable accommodations, we may request that you register with Student Life Disability Services. After registration, make arrangements with us as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion. SLDS contact information: slds@osu.edu (mailto:slds@osu.edu) ; 614-292-3307; slds.osu.edu (http://www.ods.ohio-state.edu/) ; 098 Baker Hall, 113 W. 12th Avenue.

Religious accommodations

Our inclusive environment allows for religious expression. Students requesting accommodations based on faith, religious or a spiritual belief system in regard to examinations, other academic requirements or absences, are required to provide the instructor with written notice of specific dates for which the student requests alternative accommodations at the earliest possible date. For more information about religious accommodations at Ohio State, visit odi.osu.edu/religious-accommodations (https://click.t.osu.edu/?qs=a110e0fd74783a999831554351122d337ff9ded1cb379424023f41e59caa0eb44a103352c2ceabcfac6e2a615f251e8384ad19bd8ae2c49f) .

STATEMENT ON ACADEMIC MISCONDUCT

It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The term “academic misconduct” includes all forms of student academic misconduct wherever committed; illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with examinations. Instructors shall report all instances of alleged academic misconduct to the committee (Faculty Rule 3335-5-487). For additional information, see the Code of Student Conduct http://studentlife.osu.edu/csc/ (http://studentlife.osu.edu/csc/) .

The Ohio State University and the Committee on Academic Misconduct (COAM) expect that all students have read and understand the University’s Code of Student Conduct. Ignorance of the University’s Code of Student Conduct is never considered an “excuse” for academic misconduct. Suspected cases of academic misconduct will be reported to the Committee on Academic Misconduct. If COAM determines that you have violated the University’s Code of Student Conduct, the sanctions for the misconduct could include a failing grade in this course and suspension or dismissal from the University.

If you have any questions about the above policy or what constitutes academic misconduct in this course, please contact the instructors.