

BIOSCI580 BIOCHEMISTRY SEMINAR

SPRING 2022 (TERM 2214)

FRIDAYS 10:00 AM - 11:50 PM

INSTRUCTOR: ANDREA BERMAN

WHEN THE UNIVERSITY OPERATING POSTURE DICTATES REMOTE INSTRUCTION PLEASE USE ZOOM

COURSE DESCRIPTION: Comprehension, effective and efficient analysis, and discussion of primary literature is essential for the success of any biologist. This course focuses on reading and analyzing primary research literature in the field of biochemistry, with an emphasis on effective techniques for communicating data analysis. We will choose two major topics to focus on over the semester. We will discuss journal articles by analyzing what is presented in the paper and by identifying data that would have strengthened the work. You are expected to read each article carefully before class and participate fully in the discussion. You will put together PowerPoint presentations to lead peers through paper figures in three presentations and you will write one critique about one paper.

INSTRUCTOR: Dr. Andrea Berman, A318 Langley Hall, 412-624-2200, ajb190@pitt.edu. The best way to contact me, regardless of the University operating posture, is by email. Office hours are by appointment and will occur over the Zoom platform. To schedule a meeting, please email me with the date(s) and a couple times you are available.

SOFTWARE: We will use Canvas as the Learning Management System. When the University operates remotely, synchronous course meetings will occur via Zoom and be recorded. Office hours will be held via Zoom; I will send you a Zoom link once you schedule a meeting with me.

COURSE MATERIALS: There are no required textbooks for this course. Course handouts and other documents will be posted on Canvas.

INSTRUCTOR COMMITMENT TO INCLUSION: I aim to provide an environment that is both intellectually challenging and supportive. This entails facilitating open dialog where everyone feels valued and comfortable contributing. Innovative thinking—scientific or otherwise—emerges from the collaborative exchange of ideas, which are expanded in scope by diverse experiences.

INSTRUCTOR COMMITMENT TO YOUR SUCCESS: I want all my students to succeed. While this requires you to take ownership of your preparation and performance, I will:

- do my best to grade work within 1 week of receipt.
- facilitate respectful, but critical, discussions about data interpretation.
- request frequent feedback so I can modify my teaching style and/or materials to enhance your learning.
- provide resources and materials that will enable your success.
- Send email me an image of a baby panda to demonstrate you've read the syllabus.

ZOOM ETIQUETTE AND EXPECTATIONS: The University of Pittsburgh Student Conduct Code applies to online behavior as well as in-person or classroom behavior. You are expected to be professional and

respectful when attending class on Zoom. The following are class policies for our meetings with Zoom. All students are expected to adhere to the policies.

- Sign in with your first name and last name.
 - Exception: If you do not have access to a computer or smartphone with internet access, call into class using a landline phone. This is not optimal; please try to locate an internet-enabled device to use for class.
- Please turn off notifications from other apps on your device while you are in class.
- Video: Please turn on your video when possible. Since this is a discussion-based seminar, it will mimic an in-person experience more closely.
 - Exceptions:
 - If you have limited internet bandwidth or no webcam, it is ok to not use video.
 - If you're unable to find an environment without a lot of visual distractions, it is also ok to turn off your video.
- Audio: Please mute your microphone when you are not talking.

CLASS PARTICIPATION: You will be expected to participate in the discussion of the journal articles. Each student will give three presentations: two short ones (describe ~one figure) and one longer one (describe 2-3 figures). This will include describing the hypotheses tested, techniques used, results, figures and tables, and conclusions drawn from these results. All students are expected to ask relevant questions or provide alternative interpretations to the speakers most days. Two students will be assigned as moderators who will keep the discussion going by preparing questions themselves.

GUIDELINES FOR SELECTING A PAPER FOR MEETINGS 9-14: Papers should be current or seminal primary literature and related to the topics that we have chosen for the course. The following journals are recommended as sources of papers: Nature Structure Molecular Biology, PNAS, Molecular Cell, JBC, JMB, Science, eLIFE, RNA, Nucleic Acids Research, or Nature. You must email the instructor your article (link or PDF) at least one week prior to your assigned presentation—this means two Thursdays before your presentation; your article must be approved by the instructor because there will not be time for you to carefully go through every figure and supplemental figure during the discussion; the instructor will advise on which figures you should cover. Use Pubmed or journal websites to download articles. You might need to log into the library system through Pitt to access articles. Under NO circumstances should you pay for articles. Repeat: DO NOT PAY FOR ARTICLES!

GRADING:

PRESENTATIONS (50 POINTS)

Group paper presentation	10 points per person x 2 [2 for slides, 8 for preparedness]
Individual paper presentation	30 points [10 for slides, 20 for preparedness]

PARTICIPATION (40 POINTS)

Attendance	30 points (3 points/class for 10 classes)
Moderating	10 points

WRITTEN ASSIGNMENT (10 POINTS)

2-pg critique of paper discussed when you are assigned as moderator	10 points (due 2 weeks after discussion)
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AT LEAST 70 POINTS OUT OF THE 100 POINTS ARE REQUIRED FOR A C IN THE COURSE.

WRITTEN ASSIGNMENT: You will write a 1–2-page critique of the paper you moderate. Please use 12-point font, regular 1” margins, and double spacing. 2 pages is the most that will be graded; don’t be afraid to write concisely because it is possible to accomplish all the requested items in 1 page.

This critique should include three things: (1) an introductory paragraph describing the hypothesis of the paper and how it fits into the broader context, the general techniques employed in the study, and the main conclusion. (2) Identify which experiment you feel is the most important for the main conclusion and describe why you believe this. (3) Describe either: (a) the next study that should follow this one or (b) provide detailed description of major problems with the paper. If you have space for both, you may include both. **YOU MAY WORK ON THIS WITH THE OTHER PERSON ASSIGNED TO THIS PAPER.** In this case, you will both receive the same score for the one document.

LATE POLICY FOR WRITTEN ASSIGNMENT: Maximum points available to the student will be reduced by 1 point for each 24-hour period following assignment deadline.

ATTENDANCE: Because of the nature of the seminar, you are expected to attend class synchronously. All discussions will be recorded for your review and for students who are unable to attend synchronously. These recordings will be available on Canvas and are only for use by students in this course during this term.

You are expected to attend as many classes as possible. Assignments missed due to emergency situations (illness, serious injury, or death in your family) will be considered on an individual basis. Requests for an extension must be submitted by email. Work must be made up within one week of the missed due date. If a conflict arises with the date of your presentations, you must arrange with a classmate to swap the date of your presentation. Please inform the instructor by email (and cc the person who as agreed to switch with you) if you switch presentation dates with a classmate.

ACADEMIC INTEGRITY POLICY: Cheating/plagiarism will not be tolerated. Students suspected of violating the University of Pittsburgh Policy on Academic Integrity (<http://www.as.pitt.edu/faculty/policy/integrity.html>) will be required to participate in the outlined procedural process as initiated by the instructor. Violation of the Academic Integrity Code requires the instructor to submit an Academic Integrity Violation Report to the Dean’s Office.

Any attempt to submit work that is not the student’s own work is a violation of academic integrity. If a writing assignment contains evidence of plagiarism, the level of severity will determine whether the sanction is an F in the course, a 0 score on the assignment, or partial credit on the assignment. A second academic integrity offense in the course will result in an automatic grade of F.

TURNITIN: students agree that by taking this course all required assignments may be subject to submission for textual similarity review to turnitin.com for the detection of plagiarism. All submitted papers will be included as source documents in the turnitin.com reference database solely for the purpose of detecting plagiarism of such papers. Use of turnitin.com page service is subject to the usage policy and privacy pledge posted on the turnitin.com site.

E-MAIL: I may send out an e-mail notice using the University e-mail addresses available through Canvas.

Each student is issued a University e-mail address (username@pitt.edu) upon admittance. This e-mail address may be used by the University for official communication with students. Students are expected to read e-mail sent to this account on a regular basis. Failure to read and react to University communications in a timely manner does not absolve the student from knowing and complying with the

content of the communications. Students that choose to forward their e-mail from their pitt.edu address to another address do so at their own risk. If e-mail is lost because of forwarding, it does not absolve the student from responding to official communications sent to their University e-mail address.

DISABILITY RESOURCE SERVICES: If you have a disability for which you are or may be requesting an accommodation, you are encouraged to contact both your instructor and the Office of Disability Resources and Services, 140 William Pitt Union, 412-648-7890, as early as possible in the term. Disability Resources and Services will verify your disability and determine reasonable accommodations for this course.

TO ENSURE THE FREE AND OPEN DISCUSSION OF IDEAS, STUDENTS MAY NOT RECORD CLASSROOM DISCUSSIONS WITHOUT THE ADVANCE WRITTEN PERMISSION OF THE INSTRUCTOR, AND ANY SUCH RECORDING PROPERLY APPROVED IN ADVANCE CAN BE USED SOLELY FOR THE STUDENT'S OWN PRIVATE USE.

ALL HANDOUTS AND CANVAS POSTINGS BY THIS INSTRUCTOR ARE THE PROPERTY OF THE UNIVERISTY OF PITTSBURGH (UNLESS OTHERWISE STATED), AND ARE NOT FOR SALE OR DISSEMINATION

SCHEDULE AND ASSIGNMENTS: THIS IS SUBJECT TO CHANGE

VERSION: 31-DEC-21

	DATE	TOPIC	ITEMS DUE	NOTES
1	1/14	Course introduction Pick topics for course Reading primary literature	Think of some topics in biochemistry that you would like to learn more about Complete Google form	AB to assemble groups based on interests and assign moderators randomly
2	1/21 TOPIC 1	Article 1 (led by instructor)	Read journal article 1 Come prepared with questions	
3	1/28 TOPIC 1	Article 2 (groups A & B)	Read article 2 Come prepared with questions	
4	2/4 TOPIC 1	Article 3 (groups C & D)	Read article 3 Come prepared with questions	
5	2/11 TOPIC 1	Article 4 (groups E & F)	Read article 4 Come prepared with questions	
6	2/18 TOPIC 1	Article 5 (groups A & B) Moderated by 1 student	Read article 5 Come prepared with questions	
7	2/25 TOPIC 1	Article 6 (groups C & D) Moderated by 2 students	Read article 6 Come prepared with questions	
8	3/4 TOPIC 1	Article 7 (groups E & F) Moderated by 2 students	Read article 7 Come prepared with questions	Groups A & B: send paper to AB by 3/3
SPRING BREAK	3/11			
9	3/18 TOPIC 2	Article 8 (group A) Moderated by 2 students	Read article 8 Come prepared with questions	Group C: send paper to AB by 3/17
10	3/25 TOPIC 2	Article 9 (group B) Moderated by 2 students	Read article 9 Come prepared with questions	Group D: send paper to AB by 3/24
11	4/1 TOPIC 2	Article 10 (group C) Moderated by 2 students	Read article 10 Come prepared with questions	Group E: send paper to AB by 3/31
12	4/8 TOPIC 2	Article 11 (group D) Moderated by 2 students	Read article 11 Come prepared with questions	Group F: send paper to AB by 4/7
13	4/15 TOPIC 2	Article 12 (group E)	Read article 12 Come prepared with questions	
14	4/22 TOPIC 2	Article 13 (group F)	Read article 13 Come prepared with questions	

BIOSC1581 Communicating in the Biological Sciences

Spring 2022 (Term 2224)

Fridays 12:00 pm – 12:50 pm

When the University operating posture dictates remote instruction, please use Zoom

Instructor: Dr. Andrea Berman, A318 Langley Hall, 412-624-2200, ajb190@pitt.edu. The best way to contact me, regardless of the University operating posture, is by email. Office hours are by appointment and will occur over the Zoom platform. To schedule a meeting, please email me with the date(s) and a couple times you are available.

Course Description and objectives: Professional biologists—including health care providers, academic, industrial, and government researchers and scientists, policy advisors, teachers at all levels, some attorneys, and more—must communicate through oral and written means daily. The main goal of this course is help you build your communication skillset for biology using the following objectives:

- Identify how and why scientific writing differs from professional writing in other disciplines
- Learn to recognize the patterns in written English that help or impede communication
- Search, read, and analyze scientific literature
- Use your accumulated biology knowledge to synthesize a written review of a biological topic
- Present your review in an oral presentation
- Recognize how your presentation must change depending upon audience and communication medium
- Constructively assess the effectiveness of other people's written and oral communication, as well as your own

Software for the course: We will be using Canvas as the Learning Management System. When the University operates remotely, synchronous course meetings will occur via Zoom and be recorded. Office hours will be held via Zoom. We will use EndNote software for reference organization. Please download the software for free at my.Pitt.edu through the Software Download Service. For help navigating Endnote: <http://pitt.libguides.com/content.php?pid=353128>.

Course Materials: There are no required textbooks for this course. Course handouts and other documents will be posted on Canvas.

Zoom etiquette and expectations: The University of Pittsburgh Student Conduct Code applies to online behavior as well as in-person or classroom behavior. You are expected to be professional and respectful when attending class on Zoom. The following are class policies for our meetings with Zoom. Please read carefully. All students are expected to adhere to the policies.

1. Sign in with your first name and last name.
2. Please turn off notifications from other apps on your device while you are in class.
3. Video: Please turn on your video when possible. Since this is a discussion-based seminar, it will mimic an in-person experience more closely.

Exceptions:

- a. If you have limited internet bandwidth or no webcam, it is ok to not use video.
 - b. If you're unable to find an environment without a lot of visual distractions, it is also ok to turn off your video.
2. Audio: Please mute your microphone when you are not talking.

Class participation: Discussion is a critical part of the writing process. As such, interactive class meetings are the cornerstone of the process and essential to your success in the course. Please be prepared to discuss your ideas with the class. This includes respectful debate and critique. Twenty-four points of your final grade are based on attendance and participation. Excused absences will only be granted for extenuating circumstances (death in the family or severe illness). Failure to participate in peer review and class discussions will also result in a loss of participation points.

Assignments: Unless otherwise noted, assignments are due at the beginning of class on the specified class day. Assignments turned in after 12:15 pm will be considered late. The final paper is due on Tuesday, May 3, 2022, by 5 pm. The maximum points possible for each assignment will be reduced 10% per 24-hour period following assignment due dates.

Grading: Grades will be determined in the following manner:

Assignment	Points possible
Primary Literature Assignment	10
Major & Minor Premises	10
Figures & Figure Legends	10
Introduction	15
Body & Revised Figure Legends	15
Abstract, Conclusion, & Revised Introduction	15
PowerPoint Assignment	10
Practice Oral Presentation	10
Final Oral Presentation	30
Final Review Article	30
Peer review	10
Attendance and Participation	14
TOTAL	179

Grading Scale

Final letter grades are determined on a straight scale as follows:

A range: >90% of total points

B range: 80-89% of total points

C range: 70-79% of total points

D range: 60-69% of total points

F grade assigned if fewer than 60% of the points have been earned.

Note: You must earn a grade of C (not C-) or better for the 2 credits of this course to count

toward the elective credits required for the Biological Sciences major. If you pass this course with less than a C, the 2 credits will only count toward the University's requirement that you have completed a writing intensive course in your major discipline. Final grades are not subject to negotiation.

Missed class: Because of the nature of the course, you are expected to attend class synchronously. All discussions will be recorded for your review and for students who are unable to attend synchronously. These recordings will be available on Canvas and are only for use by students in this course during this term.

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The course materials made available to you are the intellectual property of me and/or Dr. Erica McGreevy. You are welcome to use the materials provided for your own private use. You may not reproduce the course materials in any way. Posting the materials to ANY website without written permission is a violation of the academic integrity code. This includes all note-sharing websites.

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Schedule and assignments

Version: 6 Jan 22

	DATE	Topic	Items due
1	1/14	<ul style="list-style-type: none"> • Introductions • Course Information, select topics • Considering your audience when communicating in biology 	<ul style="list-style-type: none"> • none
2	1/21	<ul style="list-style-type: none"> • What is a review article? Identifying major and minor premises. • Dividing into teams and selecting topics 	<ul style="list-style-type: none"> • Read review articles posted to Canvas
3	1/28	<ul style="list-style-type: none"> • Navigating primary literature 	<ul style="list-style-type: none"> • Email article to AB by 10 am 1/25/22 for approval.
4	2/4	<ul style="list-style-type: none"> • Developing major and minor premises • What constitutes plagiarism? • Literature searches • EndNote 	<ul style="list-style-type: none"> • Primary literature assignment (10 points)
5	2/11	<ul style="list-style-type: none"> • Document structure and formatting • Choosing and formatting data figures • Writing figure legends 	<ul style="list-style-type: none"> • Major and minor premises (10 points)
6	2/18	<ul style="list-style-type: none"> • Paragraph structure • Writing the introduction and coming up with a title • Developing introductory figures 	<ul style="list-style-type: none"> • Data figures and legends (10 points)
7	2/25	<ul style="list-style-type: none"> • Writing about experiments 	<ul style="list-style-type: none"> • Introduction (15 points)
8	3/4	<ul style="list-style-type: none"> • Writing the abstract and conclusions 	<ul style="list-style-type: none"> • Body and revised figure legends (15 points)
	3/11	<ul style="list-style-type: none"> • Spring break 	
9	3/18	<ul style="list-style-type: none"> • Effective scientific presentations • "Assertion-Evidence" PowerPoint slides • Delivery "Dos and Don'ts" 	<ul style="list-style-type: none"> • Abstract, Conclusion, and revised introduction (15 points) <p>**meetings with instructor to discuss drafts to be scheduled for the next 1-2 weeks.</p>
10	3/25	<ul style="list-style-type: none"> • "Round robin" Practice presentations 	<ul style="list-style-type: none"> • PowerPoint slides (10 points)
11	4/1	<ul style="list-style-type: none"> • Formal practice presentations, round 1 (3 students) • Peer review 	<ul style="list-style-type: none"> • Practice presentation (10 points) • Peer paper review for people who are not presenting (10 points)
12	4/8	<ul style="list-style-type: none"> • Formal practice presentations, round 2 (3 students) • Peer review 	<ul style="list-style-type: none"> • Practice presentation (10 points) • Peer paper review for people who are not presenting (10 points)
13	4/15	<ul style="list-style-type: none"> • Final presentations-1 (3 students) 	<ul style="list-style-type: none"> • (30 points)
14	4/21	<ul style="list-style-type: none"> • Final presentations-2 (3 students) 	<ul style="list-style-type: none"> • (30 points) • Final revised article due by 5 pm May 3, 2022. (30 points)