

## Syllabus

### I. General Information

Course Time and Location: Thursdays, 4:00-4:50 PM; we will be meeting in ISC 1291.

Credits: This is a one-credit course.

Prerequisites: Instructor permission; students must have already taken or be taking Biochemistry or Molecular Cell Biology.

Instructor: Dr. Beverly Sher

Dr. Sher's Office Hours: Mondays from 3:30 until 4:30, or by appointment; schedule appointments by email.

### II. Course Description

Host-microbe interactions are endlessly fascinating. For example, the human microbiota affects every aspect of human health, producing over half of the small metabolites in blood and interacting with many body systems, including the immune system and the nervous system. Human responses to pathogens are governed by many factors, ranging from host and pathogen genetics to the activity of the microbiota. New research articles that increase our understanding of host-microbe interactions appear daily, with topics ranging from the discovery of new classes of antibiotics produced by the microbiota to the effects of the microbiota on neurodevelopmental disorders. In this course, we will explore some of these current areas of research by reading and discussing recent research articles.

### III. Course Objectives

- \*To enhance students' ability to understand and critique biomedical journal articles
- \*To explore interesting aspects of host-microbe interactions that affect health through discussion of recent research papers

### IV. Texts and Other Readings

Optional background reading for the course is *Between the Lines: Finding the Truth in Medical Literature*, by Marya Zilberberg, MD, MPH. Additional recommended background readings will be posted on Blackboard.

We will be discussing one research article each week. All members of the group will be allowed to nominate articles; Dr. Sher will post promising articles to the course

Blackboard site, and each student will choose an article to present from the collection. If a student nominated an article, they will have first dibs on presenting it.

## **V. Class Format**

This course is a seminar, and our class sessions will be spent discussing individual research articles. In order for discussions to be productive, all students will need to feel comfortable participating. We will create and maintain an atmosphere of mutual respect in which everyone's ideas can be heard.

### Preparation for class discussion: Discussion points

For each class period, non-presenting students will read the assigned article and prepare a short typed summary of the article, a typed Twitter summary of the article (no more than 140 characters; no, the Twitter summary does not have to be posted to Twitter; clever hashtags are welcome), and a set of discussion points (comments and questions about the article) for use in class. These will be turned in at the end of the hour.

### Class discussion

Discussions of the articles we will read this fall will proceed as follows:

- 1) Group summary: At the beginning of the discussion, a volunteer will read their summary of the paper aloud. Other members of the class will then add any additional ideas needed to round out the summary. Doing this will remind everyone in the group what the article was about and prepare the group for discussion.
- 2) Group question list: After the group summary, each non-presenting student will supply a single “most important” question about the paper from their discussion points. The presenter will collect these questions into a list on the classroom whiteboard.
- 3) Background information presentation: In a short, very informal whiteboard-based presentation, the presenter will supply any necessary background information about the topics discussed in the paper, as well as about the techniques used to generate the data discussed in the paper. This section of the presentation should take no more than 15 minutes.
- 4) Group discussion of the paper, facilitated by the presenter: After the background presentation, the presenter will facilitate group discussion of the article. The presenter should focus the discussion on the article’s 3-5 most important figures or tables, rather than trying to cover all of the data from the article. The presenter should also make sure that all of the questions on the class’s question list are at least addressed, if not answered, by the end of the class period.

All students must bring a copy (either electronic or paper, but electronic versions have many advantages over the paper versions) of the article to class so that they can refer to the article's figures and tables when necessary.

## **VI. Useful Tools**

Marking scientific papers up as you read them is part of being a good critical reader, and reading the electronic versions of scientific papers is a much better experience than reading printouts, given the extensive use of color in research articles' figures. For this reason, having tools that allow you to annotate PDFs would be very helpful for this course.

If you have an iPad or an iPhone, you could use the inexpensive GoodReader app to mark up PDFs on your device. I've been reading scientific papers on my iPad using GoodReader for years, and I highly recommend it. I can zoom in on the details of figures, I can write comments with a fingertip, there are lots of colors available so that I can color-code my highlighting and comments, and erasing is a breeze. And when I need to revisit the paper later on, all of my notes are there, too!

There are similar PDF annotation apps for non-Apple devices, and other PDF annotation apps for Apple devices are available, too. It's time to invest in one of these apps and get comfortable with using it.

## **VII. Course Policies**

### Grading

Course grades will be determined as follows: discussion points 75% (note that these constitute the class participation grade); presentation points 25%. There will be no exams.

The breakpoints for the final grade are the following: 93% and above is an A; from 90% up to 93% is an A-; from 87% up to 90% is a B+; from 83% up to 87% is a B; from 80% up to 83% is a B-; from 77% up to 80% is a C+; from 73% up to 77% is a C; from 70% up to 73% is a C-; from 67% up to 70% is a D+; from 63% up to 67% is a D; and from 60% up to 63% is a D-. Anything less than 60% is an F.

I do not use the Blackboard Grade Center. Thus, you will need to keep track of your progress yourself.

## Deadlines

Article summaries/ discussion points: The typed article summary, Twitter summary, and discussion points for each article will be due at the end of class on the day on which the article is discussed. I will read them, make comments, and return them to you!

Pre-presentation meeting with Dr. Sher: The presenter will meet with me sometime during the week prior to the presentation to discuss their plans for the presentation, including the background information that they intend to present and the figures upon which they intend to focus. An appointment for this informal conversation should be scheduled by email. This meeting will be worth 10% of the presentation grade.

## Attendance

Because having a good class discussion depends on the participation of all students, every student's presence in class is essential. Thus, I will be taking attendance. Students will be permitted one *unexcused* absence over the course of the semester; a second unexcused absence will lower a student's course grade by a full GPA point (from an A to a B, for example.) Discussion points/ article summaries from days on which a student has an unexcused absence will not be accepted. Excused absences will not affect the course grade.

## COVID-19 policies

All COVID-19-related absences will be excused!

If I get sick, or if too many of the students in the class will have excused absences on a given day, I will move class discussion online and send a Zoom link to the class by email. Keep an eye on your email in-box!

Well-fitting masks and respirators, such as N-95s, are welcome in class. Unless local transmission drops substantially, I will be wearing an N95 in class, as there is abundant evidence that wearing an N95 protects the wearer and the people around them. The CDC website has clear guidance for selecting masks and enhancing their fit. See <https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/types-of-masks.html> for details. *The New York Times'* Wirecutter service has useful product recommendations- see <https://www.nytimes.com/wirecutter/reviews/where-to-buy-n95-kn95-masks-online/> .

As there are no exams in Journal Club, I will not be recording class sessions or posting notes to Blackboard.

## **VIII. Fall 2022 Schedule**

<b>Date</b>	<b>Topic</b>
September 1	Introduction; first article discussion
September 8	Second article discussion
September 15	Third article discussion
September 22	Fourth article discussion
September 29	Fifth article discussion
October 6	Sixth article discussion

### **Fall Break: Wednesday, October 13-Sunday, October 16**

October 20	Seventh article discussion
October 27	Eighth article discussion
November 3	Ninth article discussion
November 10	Tenth article discussion
November 17	Eleventh article discussion

### **Thanksgiving Break: Wednesday, November 23- Sunday, November 27**

December 1	Twelfth article discussion
December 8	Thirteenth article discussion