

Syllabus

I. General Information

Course Times and Location: Thursdays, 4:00-4:50 PM, ISC 1291

CRN: 13144

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: Tuesdays from 12:30 to 1:30 PM, or by appointment; schedule appointments by email.

II. Course Description

The microbiota affect every aspect of human health, producing roughly half of the small metabolites in blood and interacting with many body systems, including the immune system and the nervous system. New research articles that increase our understanding of the microbiota 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 addition, scientists are beginning to try to manipulate the microbiota to affect the health of the host. In this course, we will explore some of these fascinating topics by discussing recent research papers from the biomedical literature in a journal club format.

III. Course Objectives

*To explore interesting aspects of the microbial basis of human health and disease through discussion of recent research papers

*To enhance students' ability to understand and critique biomedical journal articles

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. Recommended background reading on the scientific process 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 the articles that look promising to the course Blackboard site, and each student will choose an article to present from the collection. If a student nominated a particular article, s/he will have first dibs on presenting it.

V. Class Format and Culture

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.

VI. Discussion Points/ Article Summaries:

For each class period, non-presenting students will read the assigned article and prepare a short typed summary of the article (one paragraph), a Twitter summary of the article (140 characters or less in length),

and a set of discussion points (comments and questions about the article) for use in class. These will be due at the end of the hour in which the article is presented.

VII. Discussions of the Articles:

Discussions of the articles we will read this fall will follow the following pattern:

1) Group summary: At the beginning of the discussion of each paper, a volunteer will read his or her 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 provide everyone in the group with a basic understanding of what the article was about and prepare the group for discussion.

2) Group question list: After the group summary, each member of the group will supply a single “most important” question about the paper from his/ her discussion points; the student who is presenting the article will make a list of these questions on the classroom whiteboard.

3) Background information presentation: In a short, informal whiteboard 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. A handout containing diagrams or other visual information that would be difficult to reproduce on the board may be used to supplement the whiteboard presentation. 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 group question list are at least addressed, if not answered, during the course of the discussion. Group members will be expected to bring paper or electronic copies of the article to class so that they can refer to the article’s figures and tables when necessary.

VIII. Course Policies

Grading

Course grades will be determined as follows: discussion points 75%, presentation points 25%. There will be no exams.

Deadlines

Article summaries/ discussion points: The 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 presented. They must be turned in on paper, not electronically, so print them out before you come to class!

Pre-presentation meeting with Dr. Sher: The presenter will meet with Dr. Sher sometime during the week prior to the presentation to discuss his/ her plans for the presentation, including the background information that s/he intends to present and the figures upon which s/he intends 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. A student will be allowed two unexcused absences over the course of the semester, but the third unexcused absence will lower the student’s final grade in the course by a full GPA point (from an A to a B, for example.) Excused absences will not affect a student’s grade.

IX. Course Calendar

| Date | Topic |
|------------------------|--------------------------------|
| Thursday, August 29 | Introduction; first discussion |
| Thursday, September 5 | First student presentation |
| Thursday, September 12 | Second student presentation |
| Thursday, September 19 | Third student presentation |
| Thursday, September 26 | Fourth student presentation |
| Thursday, October 3 | Fifth student presentation |
| Thursday, October 10 | Sixth student presentation |
| Thursday, October 17 | Seventh student presentation |
| Thursday, October 24 | Eighth student presentation |
| Thursday, October 31 | Ninth student presentation |
| Thursday, November 7 | Tenth student presentation |
| Thursday, November 14 | Eleventh student presentation |
| Thursday, November 21 | Twelfth student presentation |
| Thursday, December 5 | Final student presentation |