

PRIMARY LITERATURE/SEMINAR
(Spring 2018) BI 407
Tues Thurs 12:00-1:50PM SB1 Rm107

INSTRUCTOR Justin Courcelle 725-3866 justc@pdx.edu	COURSE DESCRIPTION A course in critically reading primary scientific literature and hearing scientific research talks
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Websites: Course homepage <http://web.pdx.edu/~justc/courses/>

My Office hours: Mon 2:00-4:00 SRTC Room B2-04, or by appointment

Grading: Grading is based on your preparation for manuscript discussions prior to class (30%), participation in class discussions (40%), and attendance at the weekly seminar (30%). There are NO makeup discussions or seminars. Unexcused absence from more than one discussion session or one seminar will result in a failing grade.

Course goals, Learning Objectives:

Learn how to read the primary literature critically.

Learn how the scientific writing format is accomplished and understand its structure and purpose.

Practice the art of explaining concepts we are familiar with and unfamiliar with.

Hear scientific research talks.

Learn to assess the value of scientific statements. Learn to judge which statements are supported by strong evidence and which ones are more speculative.

Basic Course Format

Each Tues. : We will discuss a paper from the primary literature.

Each Thurs. : Most weeks, we will hear a seminar speaker discuss their research on the same topic.

Academic Honesty: Acts of academic dishonesty will result a grade of zero for the assignment and may be reported to student affairs.

Students with accommodations approved through the Disability Resource Center (DRC) are responsible for contacting me prior to or during the first week of the term to discuss accommodations. Students who believe they are eligible for accommodations but who have not yet obtained approval through the DRC should contact the DRC immediately. It is the student's responsibility to make sure that their exams and finals at the DRC are scheduled to begin before class finishes on each exam day.

As an instructor, one of my responsibilities is to help create a safe learning environment for my students and for the campus as a whole. Please be aware that as a faculty member, I have the responsibility to report any instances of sexual harassment, sexual violence and/or other forms of prohibited discrimination. If you would rather share information about sexual harassment, sexual violence or discrimination to a confidential employee who does not have this reporting responsibility, you can find a list of those individuals at <https://www.pdx.edu/sexual-assault/get-help>. For more information about Title IX please complete the required student module "Creating a Safe Campus" in your D2L.

Overview of Journal Discussion Format

It is important to keep in mind that no one is an expert on everything and everyone approaches a scientific problem from a different background and with different biases. So please remember, we are all here to learn together... including me.

That said, every week, you will receive a paper to read via email to your pdx account. *Everyone* is responsible for reading the entire paper and coming to class prepared to discuss it. In addition, we will assign different class members (with some overlap) various components of the paper each week. It will be your responsibility to prepare and potentially lead the discussion for these components as we progress through each manuscript.

While every scientific manuscript is unique, typical assignments may involve the following:

General Introduction:

What is the Big Question the investigators are trying to address?

What are the key vocabulary terms/concepts needed to understand the paper?

Set up the problem and scientific question for the class. Is it an important question? Is it interesting? Why do the researchers think it is interesting?

Figures:

Good figures are almost like mini-papers in themselves. They are set up to answer a small specific question. What mini question is the figure trying to address? What is the rationale? Try to figure out how the experiment itself was performed. How does the assay work? Is there a positive control? Negative Control? How does their experimental sample compare with this? Is it reasonable, convincing? Are there alternative explanations the authors didn't consider?

Discussion:

Be prepared to discuss the implications of the research—what has the research shown? What new experiments does it suggest? How might the conclusions of the paper be further supported (or refuted)?

It is likely you will have to look up other papers and review articles to get the background or help you understand what is needed. A great resource for finding peer-reviewed literature and review articles is PubMed:

<http://www.ncbi.nlm.nih.gov/pubmed/>

We will discuss strategies for preparing during the first class.