

Pathology 582, Fall 2021

Drs. Greg Dressler and Andy Muntean (Course Directors)
BSRB 2049, x46490,

Class meets in 6225 THSL, MW 2:45-4

Course outline

The objective of this course is to introduce students to some of the latest developments within the general areas of Cell and Molecular Basis of Disease. We hope to develop the student's oral presentations skills and their critical thinking ability, in a non-threatening environment. The topics can be quite varied and will also be a reflection of the interest of the faculty. In terms of content, there should be some connection to the introductory lecture course, Path 581.

There will be 3 topic sessions and one session on pre-lim and grant writing. The sessions will consist of an introductory lecture and assigned papers. The student presentations and critiques will form the core of the course. The idea being that students will present a paper, much like a journal club, that they have chosen from a list of papers submitted by the faculty member. The student will then present and discuss the paper with the rest of the class.

I will sit in on all the presentation and try and stimulate the discussion and provide an expert point of view. The students who are not presenting will be expected to read and know the papers and hand in the paper critiques after each class. They should also participate by asking relevant questions, providing new points of discussion, challenging the data. Remember, the presenter does not need to "defend" the paper, feel free to point out all the flaws.

The last session will focus on grant writing skills in preparation for the Pathology pre-lim exam.

Students will be graded on their presentations, their critiques, and their participation in the general discussions.

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Guide to Student Oral Presentations:

Provide a short introduction. Explain methods that are complex or unique. Place the paper into context. The following outline is a guide to what I am looking for:

1-Background and significance of the question

- why is this being done?
- what is the major question being asked in this study
- is it important?
- how does this issue relate to biomedical science in general?

2-Experimental Design

- why did they chose the methods?
- are the controls appropriate?
- what else could have been done?

3-Critical analysis of the results

- are the data sound?
- are the data statistically significant, are there enough samples?
- do the authors gloss over certain data points?

4- Critical appraisal of the major conclusions

- do the conclusions follow from the data presented?
- have they answered the questions raised?
- are there alternative conclusions that are not discussed?

5- Contribution to the field

- how does this alter the field?
- does the paper contradict or agree with previous papers?

6- What would you do next

- if this was your lab, what future projects do you envision?

Presentations should use Powerpoint. PLEASE, DO NOT JUST REPEAT WHAT IS IN THE PAPER. You need not present every figure. I am looking for critical analyses, alternative views, identifying problems in the data or interpretations.

PS, DON'T BELIEVE EVERYTHING YOU READ!

582 Schedule, Fall 2021 (6225 THSL, MW 2:45-4)

August

30 M – Introduction to the Scientific Literature, how to read and write papers - Dr. Muntean

September

Module 1

1 W Lecture 1- Epigenetics and Cancer – Dr. Muntean
8 W Paper 1 - TBD
13 M Paper 2 - TBD
15 W Paper 3 - TBD
20 M Paper 4 – TBD

Module 2

22 W Lecture 2 – Stem Cell Biology - Dr. Dressler
27 M Paper 5 - TBD
29 W Paper 6 - TBD

October

4 M Paper 7 - TBD
6 W Paper 8 - TBD

Module 3

11 M Lecture 3 – Gut microbial metabolites on health and diseases - Dr. Chang Kim
13 W Paper 9 - TBD
18 M Paper 10 - TBD
20 W Paper 11 - TBD
25 M Paper 12 – TBD

Intro to prelims and grant writing

27 W Lecture 4 – Grant Writing

November

1 M Discussion and critique of pre-lim topics
3 W
8 M Prelim specific aims page due
15 M Open class for discussion of experimental design, methods, rationale, etc.
Additional class time scheduled as needed
29 M. Pre lims due

December

2 M Written Pre-lims due
8-17 Pre-lim Exam Weeks

CRITIQUE FORM

Path 582, 2020

Name: _____

Date: _____

Paper: _____

1. For this paper, what do you think is the critical experiment and why?

2. Do you see any technical or conceptual flaws in this work that raise concerns or doubts?

3. How does this paper advance the field?