



GNET 801/PATH 801:

Scientific Critical Thinking & Grant Writing

Fall Semester, 2023

Tuesdays 2:00-5:00 pm

238 MacNider Hall

Course Directors: Cyrus Vaziri, Ph.D.
and Jessica Bowser, Ph.D.

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Synopsis: This journal club-style discussion course will focus on molecular events that regulate normal cell cycle progression, and on how deregulation of the cell cycle leads to cancer. This course will follow the development of the cell cycle field chronologically, illustrating how current concepts and paradigms have evolved as a result of scientific inquiry. This will be a perfect starting point for students that would like to know more about the cell cycle and cancer, but have no prior knowledge of these fields.

Course Objectives: In addition to providing a thorough understanding of the cell cycle, a major goal is to teach the 'scientific method' – the process by which scientists identify problems, formulate testable hypotheses, collect experimental data, and eventually establish new models of biological processes. The scientific method will be illustrated by studying the cell cycle field, yet is *applicable to any field of study*. Students will have the opportunity to improve their oral presentation skills. The course also incorporates a mini grant-writing 'boot-camp' to help students develop persuasive strategies for marketing their fellowship proposals. *This course will help students to develop skills that will be required throughout their scientific careers.* Course content is derived solely from primary literature and updated every year to reflect evolving paradigm shifts in the field. Grades will be based solely on in-class performance and take-home assignments. There will be no final exam.

Key words: Cell cycle, signal transduction, oncogenes, tumor suppressors, cell cycle checkpoints, DNA damage signaling, carcinogenesis, cancer

Prerequisites: Enrollment in a graduate program or permission of the course director.

I literally just wish all my other courses could be run in this format. I feel like I learned a lot and was challenged, and like this course actually was preparing me for writing grants and teaching me to think like a scientist. Thank you to Cyrus and Jessica for being so freaking awesome!!!!

- BBSP Student (2020)

It was a great class, it helped me improve essential academic skills such as paper critical analysis and development of research proposals.

I strongly recommend.

Cyrus and Jessica are fantastic teachers and mentors.

- BBSP Student (2020)

GNET/PATH 801 Student Feedback

10 out of 10
students

strongly recommend
GNET/Path 801 to their peers

