



Center for Musculoskeletal Research

IND 569: Art of Science

Course Co-Directors:

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Center for Musculoskeletal Research

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Office hours: Upon request

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Office hours: By appointment

Course Website: Blackboard

Prerequisites: Graduate standing or permission

Course Description:

This course covers a variety of topics related to the pursuit of scientific inquiry in the context of contemporary biomedical research. The goal is to give students a broad overview of the skills required to be a successful modern scientist and to make students aware of the resources available to acquire those skills. Lectures address a range of topics, including strategies for preparing a manuscript, peer-review, scientific communication, the inner workings of the NIH, and career planning. Lectures are designed for real time interaction, and student/fellows are encouraged to contribute to the discussion.

Attendance: Since this class is graded in part on participation, attendance is mandatory. Students are expected to arrive on time, fully attend and participate in ALL class sessions. Extenuating circumstances causing absence should be discussed with the instructor *before* the absence occurs, not post-facto. If you must miss a class, you can make it up by submitting a two-page paper on the topic for that day.

Assessment and Grading Criteria:

50% Attendance/participation

50% Completion of three 500-word reflections on how the topics covered in this course have enhanced and facilitated your professional development as a scientist. Reflections

are due by **5pm on December 9, 2024** and can be submitted under the “Assignments” tab on Blackboard or emailed to BOTH instructors.

E-mail: You should only use email as a tool to set up a one-on-one meetings with Dr. Nichols, Dr. Muthukrishnan, or the course lecturers. Your message should include at least two times when you would like to meet and a brief (one-two sentence) description of the reason for the meeting. Emails sent for any other reason will not be considered or acknowledged. Participation in class discussions asking questions is strongly encouraged during class. For more in-depth discussions, please plan to meet in person (via Zoom). Our conversations should take place in person rather than via email, thus allowing us to get to know each other better and fostering a more collegial and effective learning atmosphere (Courtesy of S.S Duvall, Salem College).

Academic Integrity: Academic integrity is a core value of the University of Rochester. Students who violate the University of Rochester University Policy on Academic Honesty are subject to disciplinary penalties, including the possibility of failure in the course and/or dismissal from the University. Since academic dishonesty harms the individual, other students, and the integrity of the University, policies on academic dishonesty are strictly enforced. For further information on the University of Rochester Policy on Academic Honesty, please visit the following website:

http://www.rochester.edu/college/honesty/docs/Academic_Honesty.pdf

Students in this course are expected to conduct themselves in an honest and ethical manner, as well as to respect the intellectual work of others. Students should complete all required readings and work on their own, though open discussions with others regarding course content and issues raised in the case studies is always encouraged. Any writing assignment completed in lieu of an approved absence must represent the student’s own work, with any ideas or text taken from others being appropriated identified and cited.

Accommodations for students with disabilities: Students needing academic adjustments or accommodations because of a documented disability must contact the Disability Resource Coordinator for the school in which they are enrolled (see link below for contact information). <http://www.rochester.edu/eoc/DisabilityCoordinators.html>

Textbook:

No textbooks are assigned for this course.

Time & Place:

Mondays 1:00-1:50 pm
1-9525/35 Northeastern Room

Lecture Schedule:

<i>Date</i>	<i>Lecture Title</i>	<i>Presenter</i>
9/9/24	Observation in Science	Susie Daiss
9/16/24	Scientific Communication	Dina Markowitz, PhD
9/23/24	Roadmap to the NIH	Alayna Loiselle, PhD
9/30/24	The F31/F32 Fellowship Application	Anne Nichols, PhD
10/7/24	Publish or Perish: Step by Step Process for Writing a Manuscript	Gowri Muthukrishnan, PhD
10/14/24	Fall Break (no class)	
10/21/24	Peer review: Being a Constructive Critic & Responding to a Critique	Jennifer Jonason, PhD
10/28/24	Rigor, Reproducibility, and Scientific Fraud	Roman Eliseev, MD, PhD
11/4/24	Life and Wellness in the Scientific Space	Amber Rivera, MSW
11/11/24	Career Fate Determination	Eric Vaughn and David Cota-Buckout
11/18/24	Managing Grad School and Beyond	CETL
11/25/24	Viewing Academic Science Through an Entrepreneurial Lens	Anthony Franchini, PhD
12/2/24	Considerations for Careers Outside of Academia	CMSR Alumni Panel