

CAMB 700: Topics in Microbiology (Spring 2023)

Directors: Joseph Zackular

Class Time: Tuesdays and Thursdays, 2:00-3:30 PM from January 17 to April 4th

Location: The course will be held in person in CTRB 4040 at the Children's Hospital of Philadelphia. Access to the Children's Hospital requires a UPenn ID at the security desk. Please arrive a few minutes early to help facilitate traveling through CHOP security. A hybrid/remote option will be available in case of changes to University Policy and the evolving COVID-19 pandemic.

Course Description: This course is designed for second year students studying MVP program related projects and focuses on presentation skills in the scientific area of microbiology and pathogen-host interactions. Introductory sessions address the role of storytelling in effectively communicating your research and the use of clear and concise schematics to convey the project. The course director will also cover strategies for effective prelim presentations in the new slide-based format. In subsequent classes students will give two presentations on their research project.

First presentation: The students will present a PowerPoint presentation on their project Specific Aims and a project schematic. Each student presentation should provide sufficient background, discuss what is known and what is not known about the topic, and frame two or three Specific Aims for a potential F31 style grant application. We will also discuss potential experimental strategies to address the central hypothesis of the grant proposal. The discussions are deliberately wide-ranging, and review recent literature, techniques, and how to construct a presentation and grant. There will be specific focus on experimental expectations, alternative approaches/strategies, and alternative models. For the first presentation we will have a visiting senior graduate student join to provide feedback and their experiences.

Second presentation: Students presentations will be given in the format of the preliminary exam for this year (5 PowerPoint slides given uninterrupted for 15 minutes, followed by questions). Students will present background, Specific Aims, experimental details, expected results, and alternative strategies during their presentation and field questions from faculty, peers, and upper year students. For this second presentation, two visiting faculty and the same visiting senior graduate student will join the class to provide critical feedback and questions.

Taken together, the students will learn how to prepare, present, and defend a research topic, as well as to integrate positive and negative criticism into the development of a strong research direction.

Outside experts: Each student will be required to identify and contact an outside expert (Penn faculty member) in their field of research (broadly defined – virology, bacteriology, immunology). They will meet with the outside expert at least twice in the semester. The first meeting will occur prior to and soon after their first presentation in class. Students should receive feedback on their proposed Specific Aims from their outside expert. Students are then required to meet for a second time prior to their final presentation to discuss their progress and Specific Aims. We highly encourage students to meet with and stay in contact with their experts throughout the Spring semester and meet as frequently as needed. Faculty experts will not be restricted from student preliminary exam committees.

Course Evaluation: The success of the course rests entirely upon the discussion quality and engagement of the faculty and students involved. Class participation is 100% of grade.

Schedule:

Jan 17: "In the beginning..." Course introduction with proposal hook and 2-minute elevator pitch from each student

Jan 19: "Show me the science..." Strategies for formulating specific aims and giving effective presentations. Discussion will include details on preliminary exam format.

Jan 24: Round 1 Presentations 1+2:
Jan 26: Round 1 Presentations 3+4:
Jan 31: Round 1 Presentations 5+6:
Feb 2: Round 1 Presentations 7+8:
Feb 7: Round 1 Presentations 9+10:
Feb 9: Round 1 Presentations 11+12:
Feb 14: Round 1 Presentations 13+14:
Feb 16: Round 1 Presentations 15+16:
Feb 21: Round 1 Presentations 17 + 18
Feb 23: Round 1 Presentations 19:

Feb 28: Round 2 Presentations 1+2:
Mar 2: Round 2 Presentations 3+4:
Mar 7: Round 2 Presentations 5+6:
Mar 9: No class
Mar 14: Round 2 Presentations 7+8:
Mar 16: Round 2 Presentations 9+10:
Mar 21: Round 2 Presentations 11+12:
Mar 23: Round 2 Presentations 13 + 14
Mar 28: Round 2 Presentations 15 + 16
Mar 30: Round 2 Presentations 17 + 18
April 4: Round 2 Presentations 19

Contact information:

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