

# CAMB 7000: Topics in Microbiology (Spring 2025)

**Directors:** Joseph Zackular, Sunny Shin, Matthew Weitzman, Michael Betts

**Class Time:** Tuesdays and Thursdays, 2:00-3:30 PM from January 21<sup>th</sup> to March 20<sup>th</sup>

**Location:** The course will be held in person in Richards B207. A hybrid option will be available if possible.

**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. The overall goal of this course is to give students the tools to present and defend their science in a clear and concise fashion. Introductory sessions address the role of storytelling in effectively communicating their research and the use of clear and concise schematics to convey the project. The course directors 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 constructive 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 once in the semester. Students should receive feedback on their proposed Specific Aims from their outside expert. 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 21: “In the beginning...” Matt Weitzman presentation on Strategies for formulating Specific Aims and giving effective presentations. Course introduction and Expectations.

Jan 23: “Show me the science...” Discussion will include details on preliminary exam format.

Jan 28: Example prelims

Jan 30: Round 1 Presentations 1+2:

Feb 4: Round 1 Presentations 3+4:

Feb 6: Round 1 Presentations 5+6:

Feb 11: Round 1 Presentations 7+8:

Feb 13: Round 1 Presentations 9+10:  
Feb 18: Round 1 Presentations 11+12:  
Feb 20: Round 1 Presentation 13 + wrap-up discussion

Feb 25: Round 2 Presentations 1+2:  
Feb 27: Round 2 Presentations 3+4:  
Mar 4: Round 2 Presentations 5+6:  
Mar 6: NO CLASS  
Mar 11: Round 2 Presentations 7+8:  
Mar 13: Round 2 Presentations 9+10:  
Mar 18: Round 2 Presentations 11+12:  
Mar 20: Round 2 Presentations 13 + wrap-up discussion

**Contact information:**

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