**Course Title:** MVP Core: CAMB 706 (Fall)

**Directors:** Michael Betts/Paul Bates

**Section Directors:** Jay Zhu/ Rick Bushman (Microbiology)
Matt Weitzman/Jianxin You (Virology)
Sparky Lok/ Chris Hunter (Parasitology)

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**Description:** The MVP Core class, to be held in the Fall and Spring for first year CAMB-MVP students will combine, coordinate, and replace the three individual MVP elective fundamental courses, CAMB 547, 548, 549, into a unified core course. This will provide CAMB-MVP students with key fundamental knowledge of Microbiology, Virology, and Parasitology. The course will be organized into three sections after 2 overview lectures as described in the syllabus.

**Schedule:** MWF, 2:30-3:30

**Format:** Lecture/Discussion (Themed lecture sets with intermittent journal article discussion groups)

**Student assignments:** Midterm/final exam for each subsection; Journal article presentation within each subsection

**Grading Criteria:** 50% Exam based (in class or take home, varies by section leaders); 40% presentation based, 10% participation based (participation in discussions, asking questions during lecture, etc.)

**Prerequisites:** none

**Enrollment criteria:** Required for all first year CAMB-MVP students. Non CAMB-MVP students by permission of course director.

**Fall Syllabus:**

- **August 31:** Pathogen overview (Bushman)
- **September 2:** Immunology overview (Hunter)

**September 7-November 11: Microbiology**

- 9/7, 9/9, 9/12, 9/14 Rick Bushman: Bacterial Genomics, Lateral Transfer, Phage
- 9/16: Student presentation
9/19, 9/21, 9/23  Dieter Schifferli: Strategies for bacterial adhesion and invasion

9/26: Student presentation

9/28, 9/30, 10/3:  Jay Zhu: Genetic Tools used for bacterial pathogenesis; Bacterial cell communications, biofilm

10/5:  Student Presentation

10/7  Midterm (in class)

10/10, 10/12, 10/14:  Sunny Shin: Intracellular Bacteria

10/17, 10/19, 10/21:  Elizabeth Grice: Vertebrate microbial communities in health and disease

10/24:  Student Presentation (Shin Lectures)

10/26:  Student Presentation (Grice Lectures, J. Zhu to attend)

10/28, 10/31, 11/2:  Mark Goulian: Signal transduction in bacteria

11/4:  Student Presentation (J. Zhu to attend)

11/7, 11/9:  Erin Graf: Clinical Microbiology, Clinical Lab Tour

11/11  Microbiology Final (in class)

November 14-December 16:  Virology Part 1

11/14, 11/16,  Rick Bushman: Viral structure and diversity

11/18:   Student Presentation

11/21, 11/23,  Paul Bates: Viral receptors and entry

11/28, 11/30,  Matthew Weitzman: Viral DNA replication and DNA damage

12/2:  Student Presentation

12/5,  Ron Colman: Retrovirus infection

12/7:  Student Presentation

12/9,  Ron Colman: Retrovirus pathogenesis

12/16 Midterm (1 page NSF grant proposal)