

MBIO 610 Research Methods in Microbiology and Immunology
Friday 11:00-1:00pm Room 601 CTRB Fall 2017

Course Co-Directors:

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Course Description

In MBIO 690 M&I senior graduate students (*) and faculty describe the theory and practice behind experimental methods they are using in their laboratories. This is a unique opportunity for senior graduate students to gain experience teaching and for first year graduate students to learn more about local technical expertises they can call upon in their independent research or recall when participating in seminar and journal club. The course will include lectures on methods, followed by a workshop approach that includes demonstrations and/or examination of primary reports for evaluation of the quality of the experimental data obtained and the strengths and weaknesses of the approaches used.

Date	Topic	Lecturer
8/25	Introduction to methods & Online resources	Alard
9/01	Hypothesis generation and testing	Salter
9/08	Flow cytometry	Stivers*
9/15	In vitro analysis of immune function	Harding*
9/22	Confocal Microscopy	Best*
9/29	Electrophoresis/blotting	Perpich*
10/06	Metagenomic/metabolomics	Denny*
10/13	Proteomic/Mass Spec	Powell
10/20	Exam I	
10/27	RNA-based analysis of gene expression	Skidmore*
11/03	In vitro Assay Development and Evaluation of Test articles	Chung
11/10	In vitro virology methods	Warner*
11/17	In vivo selection of mutants	Price*
11/24	Thanksgiving break	
12/01	Uses of animals in research	Kosiewicz
12/08	Animal models of infections	Warawa
12/08	Final Exam	

*Student instructors

Grading

Letter grades will be assigned based on: two take-home exams (25% each) with 50% of final grades based on participation in workshops and discussions associated with the topics. These may include Team-based or problem based learning exercises. Letter grades will employ the +/- grading system.

Title IX/Clery Act Notification

Sexual misconduct (sexual harassment, sexual assault, and sexual/dating/domestic violence) and sex discrimination are

violations of University policies. Anyone experiencing sexual misconduct and/or sex discrimination has the right to obtain confidential support from the PEACC Program 852-2663, Counseling Center 852-6585 and Campus Health Services 852-6479.

Reporting your experience or incident to any other University employee (including, but not limited to, professors and instructors) is an official, non-confidential report to the University. To file an official report, please contact the Dean of Student's Office 852-5787 and/or the University of Louisville Police Department 852-6111. For more information regarding your rights as a victim of sexual misconduct, see the Sexual Misconduct Resource Guide (<http://louisville.edu/hr/employeerelations/sexual-misconduct-brochure>).