

SYLLABUS

Chemistry 495/496 (Honor's Research)

Chem 495 and 496 may be taken only with the consent of the Chemistry Department. Chem 495 requires Chem 195 as a pre- or co-requisite. Chem 496 requires Chem 495 as a pre-requisite.

Course Goals and Rationale: This chemistry research course involves faculty-directed research for senior students pursuing a degree with honors. Although details of the experience will differ amongst the various faculty-led research groups, nevertheless, in general, the course is intended to: (1) engage student interest in original and forefront scientific research, (2) broaden and build student laboratory and/or computational skills, and (3) help the student develop observational, deductive, creative, and problem-solving skills in the chemical sciences.

Research Activities: Each student will be assigned a research project, which is selected through discussions with the faculty mentor. Projects will typically align with some aspect of the faculty member's overall research program. The research may involve a combination of at least two of the following activities: (1) laboratory experiments, (2) computations, (3) field-work, and (4) reading and contextualization of relevant scientific literature. In addition, the student will participate in research discussions with the faculty mentor and/or other research group members.

Credit Hours: Chem 495 and 496 are both three-credit courses. The W&M Credit Hour Policy requires each academic credit to engage students for at least 45 hours of in-person faculty instruction and outside work per credit. Therefore, student activity over the semester in Chem 495 or 496 consists of at least 135 hours. This activity includes both advisor-supervised and independent activities. Enrollment in Chem 495 and 496 requires attendance at weekly departmental seminars.

Advisor/Student Meetings: The advisor and the student will meet for a minimum of three hours over the course the semester (the amount to be included as part of the 135 total student hours). Part of this time will be used for training of the student in relevant techniques and associated safety protocols.

Writing and Defense: Chem 496 completes the student's two-semester honors experience. As such, completion of an honor's thesis describing the student's research and contextualizing it from the original literature is required. Also required is the satisfactory completion of a comprehensive oral examination by a faculty committee in the subject area of the research. Successful completion of Chem 496 satisfies the Chemistry senior writing requirement.

COLL 400: Successful completion of Chem 496 satisfies COLL 400.