

# CHEM 195 Research Practices in Chemistry

Fall and Spring, 0 credits (Pass/Fail)

Seminars scheduled Friday 3:00-4:20 pm are optional for Section 01 and required for Section 02

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All undergraduate participants in the optional research activities of the Chemistry Department (CHEM 190, 290, 390, 490, 495 & 496) share responsibility for creating a safe and ethical work environment. The department is using enrollment in CHEM 195 to ensure that each student choosing to engage in our research program has appropriate initial training.

## ENROLLMENT

Enrollment in CHEM 195 is open to all W&M students. Co- or pre-enrollment in CHEM 195 is required for participation in all Chemistry Department research courses. ***Students enrolled in CHEM 190, 290, 390, 490 or 495 not meeting this requirement at the end of add/drop will be dropped out of their research course by the Registrar.***

## ATTENDANCE

CHEM 195 course has no attendance requirement. However, Section 01 is scheduled to meet Friday 3:00-4:20 pm to encourage professional development through attendance of Chemistry Department Seminars and other activities scheduled during that time slot. Students registered for Section 02 are required to attend seminar if co-registered for CHEM 390, 490, 495 or 496.

## SAFETY TRAINING

The first required part of CHEM 195 is laboratory safety and environmental health training. You will be enrolled in a Blackboard Safety training course to enable access to two videos: *Introductory Safety Training* and *Chemistry Specific Safety Training*. The Blackboard quizzes associated with both videos must be taken and passed ( $\geq 80\%$ ) **BEFORE initiating laboratory research activities**. Additional safety modules may need to be completed before conducting research in specific labs. Due to federal Occupational Safety and Health Administration requirements, safety training must be satisfactorily repeated annually to continue with research activities.

## RESPONSIBLE & ETHICAL CONDUCT OF RESEARCH

The second required component of CHEM 195 is completion of the Conflict of Interest and Responsible and Ethical Conduct of Research modules offered through the CITI program. Instructions for CITI program registration and completion document submission are posted as Blackboard/Assignments. The modules must be completed before the end of classes Fall 2021 to pass CHEM 195.

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## ADDITIONAL OPTIONAL RESEARCH & PROFESSIONAL DEVELOPMENT OPPORTUNITIES

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### LEARN ABOUT FACULTY RESEARCH INTERESTS

The Chemistry faculty and their current research students are holding a combined research poster session on Friday, September 3 from 3:00-4:00 pm in the ISC Atrium. Starting at 2:45 pm in ISC 1127 on Sept. 3, the Director of Undergraduate Research (Prof. Poutsma) will give a brief overview of how to get an undergraduate research position in Chemistry. In addition, an overview of research interests sorted by area of Chemistry is available ([www.wm.edu/as/chemistry/faculty\\_research\\_areas/index.php](http://www.wm.edu/as/chemistry/faculty_research_areas/index.php)). Many faculty have detailed websites highlighting their research activities as well.

## **STUDENT RESEARCH OPPORTUNITIES IN CHEMISTRY**

Research active members of the Chemistry faculty individually recruit undergraduates to meet the needs of their ongoing research programs. Enrollment in our research course (CHEM 190, 290, 390, 490, 495 & 496) requires a commitment of roughly 4 hours/week/credit. We also operate a full-time ten week summer research program coinciding with W&M's summer session. Students seeking research positions should use the Research Poster Session, faculty websites and peer networks to identify faculty conducting research of interest. Initial contact with faculty is commonly done by e-mail or during faculty office hours before the add/drop period of the desired starting semester. Volunteer participation may be possible after completing safety training at the discretion of faculty.

Interest in faculty-sponsored research is high, and therefore placement is competitive. Individual faculty take many things into consideration when selecting students including, but not limited to, academic performance, laboratory coursework completed, related experience, level of enthusiasm for their specific research program, scheduling and the distribution of ongoing students in their labs. Labs vary in size based on issues such as current funding, safety concerns and instrumentation limitations. Students are expected to develop a level of thoughtful independence while collaborating with faculty, however the faculty generally do not provide support for "student-initiated" research.

Individual faculty provide additional safety training tailored to the specific nature of activities in their research laboratories. At the discretion of individual faculty or the administration, students may be required to refresh their safety training periodically to retain the privilege of research participation.

## **STUDENT FUNDING FOR RESEARCH**

*Department support:* Students chosen by Chemistry faculty for participation in our full time 10-week summer research program are typically paid at least \$10/hour and potentially eligible for free dormitory housing.

*Monroe Scholars and other Charles Center Summer Research Grants:* The Department endeavors to supplement student summer research awards up to the department level for students working full time for the entire ten week summer research program.

*Semester Research Funding:* The Charles Center administers two sources of competitive academic year funding for expenses directly related to the conduct of research with application deadlines of November 14, 2021 (1) Vice Provost Fund: Up to \$500 for domestic research and (2) Reves Center Funding: Up to \$750 reserved for students who are conducting research abroad.

*Conference funding:* When university travel is permitted, conference funding applications are accepted: <https://www.wm.edu/offices/studentleadershipdevelopment/funding/types/conferences/index.php>

## **DEPARTMENT SEMINAR PROGRAM**

The Department anticipates hosting a combination of remote and in-person speakers during the Fall 2021 semester. Formal presentations will typically be scheduled from 3:00-4:00 pm in ISC 1127. Opportunities to meet with the speaker in a small group of other students may also be possible earlier on Fridays. CHEM 195 engagement with outside speakers is entirely optional.

## **RESEARCH SYMPOSIA**

The Charles Center (<http://www.wm.edu/as/charlescenter/>) coordinates several interdisciplinary research symposia throughout the year for undergraduates to present research conducted at either W&M or other institutions. The entire W&M community is invited to "attend" these symposia. The virtual/in-person/hybrid format of these functions will be determined holistically during the ongoing pandemic.