



Washburn University, Department of Chemistry, CH 390 Undergraduate Chemical Research

Purpose: “Laboratory or theoretical computational research in any of the fields of chemistry, a typed formal report is required.” CH 390 is designed to develop the student chemist’s abilities in four areas:

- 1) development of experimental procedures and laboratory skills,
- 2) assimilation, application and communication of chemical concepts,
- 3) problem solving techniques, and
- 4) critical thinking skills.

Prerequisite: Departmental permission.

Textbook: All of the primary and secondary chemical literature.

Attendance: For every one hour of research credit enrolled, a minimum of three hours of laboratory time is expected per week (six hours per week in the summer). There are no sick days or excused absences. All missed time must be made up. At the beginning of the semester the student chemist is expected to set a tentative schedule. He/she should realize, that due to the demands of the research being explored, significant deviation from the tentative schedule might need to occur.

Grading: Final grades will be assigned based on attendance (30%), research participation and technique (30%), and a formal research report (40%). “Positive” results are not required to be successful in this course, whereas clear and honest results are a must. Scientific integrity and the personal safety of all the researchers involved are of paramount importance.

Formal Research Report: The formal report is expected to conform to both the ACS-CPT “[Guidelines for Preparing a Research Report](#)” and the *ACS Style Guide*, by J. S. Dodd. A due date for the report will be mutually agreed upon, allowing time for revisions if necessary.

Research Project: A research project outline will be established and agreed upon by the instructor and student at the beginning of the semester. It will be in either written or verbal form. As the semester of active research progresses the project outline may be modified due to the demands of the chemistry investigated.

Lab Notebook:

- It should be treated as a legal document. Use only permanent, black ink. All errors should be crossed out with a single line, date and initial. Don’t worry, mistakes happen to all of us.
- All procedures must indicate necessary safety precautions.
- Document EVERYTHING.
- Be very clear and organized. It takes a lot of work to fight the entropy!!!

Students with Disabilities: Washburn University provides reasonable accommodations to students who are qualified individuals with a disability. Qualified individuals with disabilities must register with, and provide documentation to, the Services for Students with Disabilities Office (SSWDO) to be provided accommodations. Accommodations will only be provided upon receipt of the request by the SSWDO. Initial requests for accommodations should be submitted two months or more prior to the date services are anticipated; however, you should contact SSWDO as soon as a need may arise. Examples of accommodations provided include in-class notetakers, test readers and/or scribes, adaptive technology and brailled materials. Location: Morgan Hall, Room 150, Phone: 785-231-1010, ext 1629, TDD: 785-231-1025
www.washburn.edu/services/studentaffairs/stuservices

Advising, Counseling and Career Services: Students at times experience difficulty with issues such as studying, personal problems, time management, or choice of major, classes, or employment. The Center for Learning and Student Success (CLASS) is available to help students with counseling, testing, learning assistance, career services, and academic advising. To discuss issues confidentially and free of charge, contact: CLASS, Morgan 122, 231-1010 ext. 1299, zdpclas@washburn.edu, www.washburn.edu/services/class.

Academic Misconduct: All students are expected to conduct themselves appropriately and ethically in their academic work. Inappropriate and unethical behavior includes (but is not limited to) giving or receiving unauthorized aid on examinations or in the preparation of papers or other assignments, or knowingly misrepresenting the source of academic work. Washburn University’s Academic Impropriety Policy describes academically unethical behavior in greater detail, and explains the actions that may be taken when such behavior occurs. For a complete copy of the Academic Impropriety Policy, contact the office of the Vice President for Academic Affairs, Morgan 270, or go on-line to: www.washburn.edu/admin/fac-handbook/FHSEC7.htm#VIII.