

Syllabus - Chemistry Research- CHE 492 Spring 2009

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Office Hours: Mondays, Wednesdays & Fridays: 10:00 - 11:30 am, or by appointment.

1- PRE-REQUISITE: Consent of the instructor.

2- LAB TIME: By arrangement with the instructor (6 hours per week per enrolled credit hour spent on research). Research may take place outside the time span of the term with the consent of both the instructor and department chair.

3- STUDENT LEARNING OUTCOMES: This course fulfills the following NKU chemistry department outcomes:

- Explain the major concepts and experimental findings in the chemical sciences.
- Demonstrate the ability to carry out experimental protocols using modern instrumentation and methods.
- Utilize critical thinking skills to apply concept knowledge and adapt experimental techniques to:
a) form and test hypotheses and b) solve scientific problems.
- Compile, critically evaluate and interpret scientific information and data.
- Effectively communicate scientific information through written and oral means.
- Apply effective group strategies to solve problems.
- Evaluate the relationship between chemistry, mathematics, physics, biology and other disciplines, and between chemistry and society.
- Apply computer technology and other technologies in the comprehension, interpretation and presentation of the chemical sciences.

4- OBJECTIVES: The overall goal of your undergraduate research experience is for you to develop the skills necessary to become a professional scientist, whether that be in graduate school, in medical/dental/pharmacy/veterinary schools or in an industrial setting.

In order to achieve that goal, the NKU chemistry department faculty has agreed that you will need to meet the following objectives:

- Have a mastery of your research project, including understanding what you are doing, why you are doing it and how what you are doing fits into the area of research.
- Search the literature for publications related to your research as needed and critically review (read) those papers.
- Keep accurate and detailed records of your experiments and results in a laboratory notebook.
- Be a good laboratory citizen, which means working with and watching for others, following safety guidelines, assuming lab responsibilities and keeping your lab space and common areas clean.
- Learn to work and think independently.

5- GRADING POLICY: Your grade in CHE 492 will be based on how well you achieve the objectives stated above (in addition to any requirements outlined by your instructor).

6- SAFETY CONTRACT: You are required to sign documents related to chemical laboratory safety and to abide to their policies. You are also required to take the on-line safety training test on hazardous waste management at the following web site:

<http://access.nku.edu/physicalplant/Environmental%20Safety/EnvironmentalSafety.html>

7- RESEARCH REPORTS & PRESENTATIONS: At the end of the semester, a summary report might be required. Depending on the progress made in your project, you may also be able to contribute to oral or poster presentations at campus-wide, local or regional professional meetings.

This syllabus is subject to change. If you have any questions about any item in this syllabus, you must contact your instructor immediately.