STATE UNIVERSITY OF NEW YORK, POTSDAM
DEPARTMENT OF CHEMISTRY
Chemistry Research Project

CHEM 497 Syllabus (1-3 credits)

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Research time & Office Hours

To be discussed with the research advisor

Course Description and Goals

Training students to develop the skills needed to become good chemists is essential to their growth and is central to our goals as educators. The greatest comprehension, retention, and utilization of concepts and techniques learned in the classroom can *only* be accomplished in the laboratory through research where students learn to grapple with problems, formulate questions, and analyze arguments and information.

This undergraduate chemistry research course provides an excellent opportunity for students to become active participants in the discovery, critical evaluation, and application of knowledge in the various disciplines. It provides the opportunity for students to identify their interests through direct experience and exposure to the many areas of chemical and biological sciences. The course offers an exciting challenge and many personal and intellectual rewards to students interested in an undergraduate research experience.

Research Activities and Expectations

Successful undergraduate research requires a serious commitment and hard work on the part of both student and mentor. Students can take this course as a 1, 2, or 3 credit hour course. Each 3 hours of lab work count for 1 credit. Students are encouraged to spend a minimum of 6 hours per week in the lab for two semesters to be able to accomplish some work and obtain a meaningful undergraduate research experience. Most students believe that doing research for one semester will allow them to make a major discovery but the truth of the matter is that this is very unlikely. Making precise measurements and

developing skills to become good scientist requires hard work, practice, perseverance, experience, and judgment.

Students are expected to:

1- Meet with their mentor on a weekly basis to discuss findings and develop new experiments.

2- Search the literature to retrieve information pertinent to the research project and plan multiple visits to the library: *one hour of literature search in the library can be worth many hours in the lab.*

3- Keep accurate research notebook and appropriate records (plots, spectra, graphs, schemes, etc…)

4- Present their research findings at local, regional or national meetings in the form of a poster or a talk.

5- Write a final lab report at the end of each semester summarizing their work and findings in a format that is discussed with the research advisor.

6- Show up for the designated hours for research. Failure to do so will result in lower grades. Make-up labs for missed times are to be discussed with the research advisor.

Grading procedure

Grades for this course are subjective and are to be discussed with your research advisor.

Note

Safety in a laboratory results from a cautious attitude and the recognition of potential hazards. An accident in the laboratory can seriously injure or kill. Thus, each person in the laboratory is responsible for the safety of all persons around him. Your instructor will provide basic safety training and discuss any safety hazards that might be associated with your research project or with a particular experiment.

Every student will be asked to sign a “Safety Regulations for Chemistry or Biochemistry Laboratories” document acknowledging that he/she has read these regulations and understood them.