Research in Chemistry
CHE 492

Research Mentor: Stefan Paula, Ph.D. paulas1@nku.edu 572-6552 (SC 445)

Office Hours: Wednesday: 1:00 – 3:00 pm; Friday: 12:00 – 2:00 pm, and by appointment

Prerequisite: Consent of instructor

Lab Times: By arrangement with 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.

Objectives: The overall goal of your undergraduate research experience is for you to develop the skills necessary to become a professional research scientist, whether that be in graduate school or in an industrial setting.

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

1. Have a mastery of your research project, including understanding what you are doing, why you are doing it, and the "bigger picture".
2. Search the literature for publications related to your research as needed, and critically review (read) those papers.
3. Keep accurate and detailed records of your experiments and results.
4. Be a good laboratory citizen, which means working with and watching out for others, following safety guidelines, taking care of lab responsibilities and keeping your lab space and common areas clean.
5. Learn to work and think independently.
6. Present your work at the end of the term in the form of a publication quality report as specified by your research mentor. Alternatively, you may present your results in the form of a poster at a local or regional meeting.
7. By the end of EACH WEEK, you need to update your research mentor about your accomplishments by a short, informal email.

For more information regarding these objectives, refer to the research policies document supplied by your research mentor.

You will learn basic techniques and skills in the use of experimental and computational approaches for the study of protein structure and function and of protein/small molecule interactions at the molecular level. This includes homology modeling of protein structures, computational docking of enzyme inhibitors, virtual screening for bioactive compounds, protein purification, and enzyme kinetics.

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 in your instructor's research policies).

Safety Contract: You are required to sign the departmental research safety contract and abide by its policies. Failure to do so will result in dismissal from the lab.

Research Plan: At the beginning of each term, you are required to complete an outline of your planned experiments for the semester and your overall goals. This ensures that you and your mentor understand the goals of your research project and establishes as timetable for the research to be conducted.

This syllabus is subject to change.