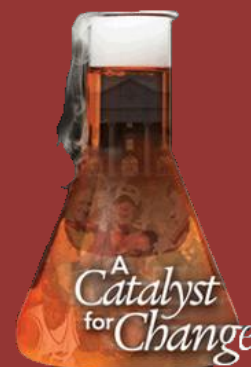




Union University

Department of Chemistry

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Student Guidelines for Research in Chemistry

Congratulations! If you are reading this, you are a student who has expressed interest in performing a research project in the Chemistry Department at Union University. What lies before you will hopefully be one of the high points in your undergraduate experience. This document is written to begin your research experience aright, by going over what you may expect from the experience, from the faculty, and what the faculty will expect from you.

The intent of the research experience in chemistry is to guide students through working on a chemical project in which they perform original work. We desire students to be actively engaged with their minds and attempt to give original thinking to a chemical problem, thinking that is not explicitly discussed in a textbook. Thus, the first expectation of the students is also the most important and that is *investment*. The student must invest themselves in the project, being willing to work hard, stay up late and rise early if necessary, walk around campus thinking about their work, scratch their heads on how to solve problems that may get in the way of performing the research, etc. Now, these items are not necessarily part of every project, but one will certainly find that the more they invest themselves in a research project, the more it also occupies their time and thoughts. A student properly invested in a research project will be excited about the discovery and seeing the project through to completion and the next expectation will come about naturally. That expectation is *time*. A minimum limit on the amount of time spent on a project must be given and that limit is 300 hours. Three hundred hours works out to about 2 months working 8 hours a day, but don't get hung up on attempting to do the least. This type of thinking is antagonistic to the most important expectation of investment. Your time will be spent performing library work in order to learn what researchers before you have learned and for you to begin thinking about where you can make a contribution. Your time will also be spent in the laboratory performing experiments and working at getting quality results. Your time will be spent analyzing the results of the experiments. Lastly, your time will be spent synthesizing these results into how chemical understanding has been advanced through your work.

Perhaps more expectations could be listed, but if you get the first one right, you'll be fine. You should ask your research mentor to elaborate on their unique approach expectations of research students.

A project successfully invested in will lead to ease in writing up the results and presenting these results as a poster and oral presentation, which you will do as a part of Che 424/425 and Che 498. In fact, the difficulty you'll have is figuring out what to cut out of the paper and presentation because you will have learned so much.

Now, concerning what you may expect of the faculty and the department. First, you may expect from the mentoring faculty their presence, guidance, and willingness to help you succeed. Each faculty has a different way of mentoring students, but you shouldn't expect the faculty to solve all your problems. They'll guide you to be sure, but part of

your experience is thinking hard and the faculty will want to see the results of this thinking. You may also expect that the faculty will help you with obtaining the necessary equipment to perform your research and in helping you work with that equipment. You may expect regular meetings with the faculty. There are expectations on the Department of Chemistry as well. The



department provides you with a meal ticket and pays for on-campus housing during the summer should you decide to perform your research on-campus. Also, depending on the resources of the faculty, you may be eligible for a stipend for performing your research. In addition, you may expect that the department will pay for your transportation and accommodations at the American Chemical Society meeting where you present your research. The faculty and department are significantly investing in your success and look forward to the results of this success. Only through the combined efforts of students, faculty, and the Department of Chemistry can undergraduate research at Union University result in the furtherance of chemical knowledge.