

## Guidelines for Research Studies

### **To students interested in honors research (30100, 30200, 30300) or independent study (31001-4) in Chemistry or Biochemistry**

Students can register for undergraduate research projects in the Honors Program or the Independent Study Program. To register for either Honors Research or Independent Study, students must have the written approval of the faculty mentor and the chairperson of the department (or the chairperson's designee). Approval should be obtained in the semester prior to which the work will be performed. **Research reports are required of all undergraduate research students for every term for which a grade is given.** The students are trained in how to design and perform experiments, how to keep a notebook, how to write a report and research paper and how to make oral and poster presentations. Each student in these programs must have a conference with the chairperson (or the chairperson's designee) every term he or she is registered for research. An information form, including the student's major, the name of the mentor, the title of the research project and the projected graduation date must be on file with the chairperson (or the chairperson's designee).

Those completing three semesters of honors research are required to give an oral presentation of their work during the Spring semester. **All students in Honors and Independent Studies are required to attend the research presentation** and you will be notified about its exact date and time. If you do not attend the research presentation, a 0.33 point deduction will be applied to your final grade.

#### **Honors Research**

In order to graduate "with Honors" the student must maintain a "B" average or better in the Major subject, submit an Honors report in research publication format, and receive 9 credits of "A" for this work. A maximum of nine credits may be credited toward the degree.

#### **Independent Studies**

Independent Study involves reading, writing, and research or special projects that culminate in a formal term paper or term project. In order to register for Independent Studies, the student must have a GPA of 2.5 or better in chemistry. No more than four (4) credits of Independent Study may be awarded per semester. A maximum of nine credits may be credited toward the degree.

#### **Reports and Grades**

In order to receive a grade for an honors or independent research course, the student is required to write a paper on the work performed that should be reviewed by the mentor no later than one week prior to submission of the final report to the chairperson (or the chairperson's designee). **The paper should have page numbers and sections that correspond to a cover sheet (see sample below), introduction, methods, results, discussion, and references.** The cover sheet should include the student's name,

mentor's name, course number, number of credits for course, and semester, title, date submitted, line for mentor's signature, and mentor's recommended grade and any other pertinent information. The introductory section should be well documented and be as extensive as possible. A final copy of your revised paper, including a letter grade from the mentor, should then be submitted to the chairperson (or the chairperson's designee).

For those completing Chem. 30100 or the first independent research course, limited results are expected, so an extensive review of the literature (and as much of the other components as possible) is expected in the report. For all students, 1 credit requires **5 pages minimum**, 2 credits is **10 pages minimum**, 3 credits is **15 pages minimum**, double spaced, 12 points font - Times New Roman or equivalent, with diagrams, and 1-inch margins on all sides. Subsequent reports will build on the previous report.

Notes: In the above format, four pages of text are approximately 1000 words. Figures with captions may be included in the text; however, each figure may not be larger than one-half page. Three one-half page figures are allowed per 5 pages (additional figures are permitted but they are not counted in the minimum page count). References must be included at the end of the document. References must include the names of all authors, the title of the article, journal, year, volume, and pages. The exact format can be similar to your favorite journal style, but it must also include the title of the article, which most journals omit due to page restrictions.

**All papers are to be submitted during the final examination period. A letter grade will be deducted from those papers that are submitted between the final examination period and six days later. Another letter grade will be deducted from those papers that are submitted seven days after the above period. A+ grade can only be assigned for exceptional work such as being a co-author on a research paper that is published in an accepted scientific peer reviewed journal.**

The grading scheme will be based on (1) the completion of the minimum number of hours in the laboratory (4 hours per week per credit for the spring and fall semesters), (2) the letter grade recommendation from the mentor, and (3) the grade of the report given by the department chairperson minus any penalties due to a late report.

For registration, please make an appointment with the advisor (Prof. Simms) in room MR1024 Science Building on the listed days, about a week before classes (Spring semester registration between **January 17-24**, Summer semester registration between **May 22-25**, and for the Fall semester registration between **August 17-25**).

Sincerely,  
Prof. Simms

COVER SHEET

Name:

Last four digits of ID#:

Mentor:

Research Course Number:

Number of Credits:

Semester:

Title:

Mentor's Signature:

Date:

Recommended Grade for Report:

Date Submitted to Department Chairperson:

Final Grade Assigned by Chairperson: