

**CHEMISTRY CHE 590 - Research**  
**Southern Connecticut State University**

**Fall/Spring/Summer Semester 20xx**

**Scheduled meetings with research adviser to be determined.**

**Pre-requisite:** CHE 589 for students on the thesis track. None if taken as an elective for students on the comprehensive examination track.

**Course Overview and Requirements**

This is a 3 credit graduate course for the laboratory research involved in the thesis proposal in consultation with the research adviser. Completion of CHE 590 includes a research report summarizing the work if the student has enrolled in the course as an elective. The guidelines for the report are the same as those for a thesis and the report is due the Friday before final examinations are scheduled to begin.

**Course Description**

<b>Expected Student Learning Activity</b>	<b>Weekly Hours for Course*</b>	<b>Total Hours for Course (14 week semester)</b>	<b>Term Credits Earned</b>
Laboratory time (Contact Hours)	9	126	
Reading and Study Time	2	28	
Reports	4	56	
<b>Total Hours</b>	<b>15</b>	<b>210</b>	<b>3</b>

\* Please note that these times are only estimates based on the Department of Education's definition of a credit hour and adjustments for the specific course by the Chemistry Department and do not guarantee a specific grade in the course. Students may find that they require more or less time to succeed in the course.

**Learner Outcomes**

Upon completion of this course a student will be able to:

1. Conduct research experiments (and related exercises specific to the sub-discipline of chemistry selected) in an independent fashion. The mentoring and hands-on experience is designed to prepare students to further their ability to think critically in evaluating the progress of research projects. Students are expected to be able to analyze any data to evaluate the success of an experiment and propose further experimentation or revisions to conditions that will enable the completion of the research (in the current study or for

future research). These aspects will be assessed by the faculty adviser as part of the overall grade on an ongoing basis.

2. Utilize all appropriate instrumentation in the department to characterize the products generated. Students will be given hands-on training by the faculty adviser for the appropriate instrumentation (if any) to be used for the study and are expected to be able to independently operate the instruments. This will be assessed through the quality of data acquired (within the parameters of the project) and presented in the appendix or supporting information of the research report.

3. Apply the concepts taught in CHE 588 (thesis students or students who have taken the course as an elective) as they apply to the current research topic in the preparation of a high quality, rigorous, research report or thesis. This includes proper styles for the written document and figures, a complete background literature search and summary, a thorough experimental section summarizing general and specific experimental details, a discussion of the results of the research including proper literature citations, and a conclusions section assessing the impact of the current research especially in terms of how the current research has progressed the specific field of study. Assessment of the final report (non-thesis track) will be the responsibility of the faculty adviser. It is recommended that faculty advisers use the evaluation sheet designed for the thesis as a guideline in determining the final grade. (See the CHE 591 syllabus)

**Evaluation:** The individual faculty adviser completes the evaluation of the research experimentation and written report.

**Late/Missed Work:** There is no mechanism for late submission.

**Accommodating Students With Disabilities:** As a student with a disability, before you receive course accommodations, you will need to make an appointment with the Disability Resource Center located in EN C-105A to arrange for approved accommodations. At present several research laboratories are equipped to address physical disabilities but inherent limitations based on the discipline specific requirements can be expected.