

Curriculum Proposal Signature Sheet

CHEM 509: Introduction to Research

TITLE OF PROPOSAL

Type of Proposal

Program

- New
- Changes within Major
- Changes within Cognate *
- Changes in Minor or Track
- Changes in Concentration*
- Program Deletion

Course

- New
- Changes in Course taken only by Majors
- Changes in Course required of Non-Majors*
- Changes in Course open to Non-Majors
- Deletion of Course taken only by Majors
- Deletion of Course required of Non-Majors*
- Deletion of Course open to Non-Majors

Chemistry

SPONSORING DEPARTMENT(S)

Review and Approval

approved by the Chemistry Dept 3/2/10

DATE(S)

Signature of Sponsoring Chair(s)/Date

[Signature]

11-16-2010

* For starred items Chairs of affected Departments/Programs must sign below *before* Dean's review

Dean's Preliminary Review

Proposal: Complete

Additional preliminary comments below

- Satisfies U of S Curricular Requirements
- Consistent with College Goals/Mission

Dean's Signature/Date

[Signature]

12-15-10

CAS

CPS

SOM

GRAD

DHC

Preliminary FSCC Disposition:

- Committee recommends approval (*new program proposals require a Recommendation from the full Senate*)
- Proposal will require minimal review: Anticipated FS Meeting Date: _____
- Proposal will require significant review: Anticipated FS Meeting Date: _____

FSCC Chair Signature/Date _____

Issues: _____

Additional Signatures

Department: _____ Signature: _____ Date: _____

Department: _____ Signature: _____ Date: _____

Department: _____ Signature: _____ Date: _____

THE UNIVERSITY OF
SCRANTON
A JESUIT UNIVERSITY

DEPARTMENT OF CHEMISTRY

To: Dr. W. Jeff Welsh, Dean/CGCE

From: David E. Marx, Chair/Chemistry



Date: November 16, 2010

Subject: CHEM 509 New Course within the Master's Programs in Chemistry

I am submitting a new course proposal for CHEM 509: Introduction to Research as part proposed changes to the master's programs in the Chemistry Department. As you know, the Chemistry Department is requesting that the three current MA programs in Chemistry, Biochemistry, and Clinical Chemistry be re-named "MS Thesis Track" to eliminate the ambiguity that currently exists between the MA and MS programs. In addition, we are proposing that the capstone experience in the new MS Thesis program consist of the writing and defense of the Master's thesis (thus eliminating the "double capstone" of a thesis coupled with comprehensive examinations that currently exists). We are also proposing the re-establishment of CHEM 509 (formerly named CHEM 252), Introduction to Research (a 1 credit course), as a prerequisite to the a newly named CHEM 599, Master Thesis course, as a mechanism of ensuring that thesis students begin their research experience early in their careers in order to finish their degree programs in a reasonable amount of time. We propose that the CHEM 599 course be expanded from 2-6 credits to 2-8 credits, eliminating an elective course within the MS Thesis Track program.

In summary, we are submitting this change to accompany the previously submitted Program Revision proposals (3) and the Course Revision proposal..

Please let me know if I can provide additional information or answer any questions about these changes.

New Course

Course Title: Introduction to Research

Course Number: CHEM 509 **Date Of Initial Offering:** Fall 2011
Semester year

Rationale for Course level

This one-credit course would be an introductory course established as part of the revision to the MA program in the Chemistry Department.

Credit Hours: 1 **Format:** lecture lab other: _____

Frequency: annual each semester alternate years

Prerequisites: N/A

Rationale for pre-requisites (if pre-requisites are listed)

Catalog Description (50 word maximum)

This course provides the student with an introduction to the literature and research methods in chemistry and biochemistry. As part of the course requirements, each student will select a research mentor, assemble a thesis committee, and write a proposal for the master's thesis. A student will not be allowed to engage in master's research until she/he has obtained a satisfactory grade in this course.

Similar Courses being offered at the University

While other master's programs have research courses, we are not aware of any programs that currently require an introductory course for first-semester graduate students to "set them on the right track" by being introduced to discipline-specific literature resulting in the completion of a required research proposal.

Discuss Extent of overlap with existing courses

None

Special Resources Required (e.g. library, equipment, materials/facilities)

No additional resources required.

Characteristics (check any/all that apply):

Major: Required Elective
GE : submitted to CCC will be submitted to CCC _____ Area Free only
date

<input type="checkbox"/> Humanities (CA)	<input type="checkbox"/> S/B Sciences (S)	<input type="checkbox"/> Cultural Diversity (D)
<input type="checkbox"/> Humanities (CH)	<input type="checkbox"/> Natural Science (E)	<input type="checkbox"/> Writing Intensive(W)
<input type="checkbox"/> Humanities (CL)	<input type="checkbox"/> Theology/Phil (P)	
<input type="checkbox"/> Humanities (CF)	<input type="checkbox"/> Quantitative Reasoning (Q)	

Interdisciplinary: YES NO **Team Teaching:** YES NO

Exclusively For Special Programs/Concentrations: NO YES Chemistry, Clinical Chemistry, and Biochemistry MS (Research Track) students

Home College: CAS PCPS KSOM GRAD

Required Attachments:

- Syllabus with student learning objectives, assessment/evaluation mechanisms, and outline of topics
- Description of, or example of, readings/papers/projects/examinations
- Assessment/evaluation based course improvement mechanisms

CHEMISTRY 509

Introduction to Research

C. Baumann (<http://academic.scranton.edu/faculty/cab302>)
941-6389
cab302@scranton.edu

Fall 2011

Office: Loyola 109

This one-credit course provides the student an introduction to the literature and research methods in chemistry and biochemistry. The student will select a research mentor, assemble a thesis committee and write a proposal for the master's thesis. A student will not be allowed to engage in master's research until she/he has obtained a satisfactory grade in this course.

Weeks 1 and 2

Complete the Academic Integrity Tutorial. You must complete the university's Academic Integrity Tutorial no later than the end of the first week of the course (<http://matrix.scranton.edu/academics/wml/acad-integ/index.shtml>).

The ability to express your ideas in English will be critically important as you move through the thesis process. If you wish to improve your writing skills, the University Writing Center (<http://matrix.scranton.edu/academics/ctle/writing/index.shtml>) is eager to help you.

Weeks 3 and 4

Faculty presentations. Each faculty member in the department will make a 20 minute presentation about available research projects in his/her group. Times and locations for these presentations will be posted during the second week of classes. Please make every effort to attend as many of these as possible.

Week 5

Select a mentor. After you have attended the presentations, make appointments to further discuss potential research projects with those faculty members whose research matches your research interests or career goals. Once you and a mentor have decided on your thesis topic, you should begin writing the master's thesis proposal.

Weeks 6-10

Write the master's thesis proposal. During this period, the mentor will guide you through literature searches, using online access to Chemical Abstracts and other available databases. The mentor will also instruct you on complying with the university's research regulations, including IACUC and IRB policies, and the department's research policies. It is expected that the mentor will explain the differences between original research and plagiarism and provide you with the

groundwork necessary to perform your research in a safe and ethical manner. For consequences of violating academic ethics please refer to the University of Scranton Academic Code of Honesty: http://matrix.scranton.edu/student_handbook/policy_academic_code_honesty.html . You will prepare a draft of the research proposal and submit it to your mentor, who will read the draft and suggest improvements. This process of writing and rewriting will continue until the proposal is ready for review by your thesis committee.

Weeks 11-12

Assemble the master's thesis committee. You will select two department faculty members (in addition to your mentor) to serve on your thesis committee. You should choose committee members that can provide additional guidance and scientific expertise to you as you perform your research. Once your proposal draft has been approved by your mentor, members of the committee will also read the proposal. The committee may approve the proposal or may suggest alterations to the plan before giving approval. Once the proposal has been approved, you will complete a departmental research authorization form. Once the proposal has been approved and authorization granted (this may include IRB and IACUC authorizations as well), you may begin your master's research.

GRADING POLICY

The grading for this course will be S/U. The minimum requirement for a satisfactory grade will be selection of a mentor and research committee; completing (and obtaining committee approval of) a master's thesis proposal, and obtaining authorization to begin the research project. A grade of "S" in this course will be necessary in order to register for CHEM 599 *Master's Thesis*.

CHEMISTRY 509

Introduction to Research

Assessment/evaluation based course improvement mechanisms

All students enrolled in this course will:

1. Complete the university's Academic Integrity Tutorial no later than the end of the first week of the course
2. Attend at least three faculty research presentations.
3. Select a mentor and decide on a thesis topic.
4. Use online access to Chemical Abstracts and other available databases to prepare proposal drafts.
5. Understand the university's research regulations, including IACUC and IRB policies, and the department's research policies.
6. Recognize the difference between original research and plagiarism
7. Select a thesis committee.
8. Obtain all necessary approvals for beginning the master's thesis research.