



Proposal to the Senate Educational Policy Committee

PROPOSAL TITLE: Revision to the non-thesis Master of Science in Chemistry

SPONSOR: Wilfred A. van der Donk, Professor of Chemistry, 244 5360, vddonk@illinois.edu,
Director of Graduate Studies

COLLEGE CONTACT: Karen Carney, Associate Dean, LAS, kmcarney@illinois.edu

BRIEF DESCRIPTION: During a review of the requirements for the various degree options in chemistry, the department of chemistry felt that the requirements for a non-thesis Master of Science in Chemistry degree are rather light. We typically do not admit students into this degree track, but sometimes students in the PhD program decide to leave the PhD program and we provide the option to earn a non-thesis MS degree. The numbers of students that earn the non-thesis MS in Chemistry are small compared to our PhD program (26 over the last 10 years). The current requirements are the same as the minimum requirements by the Graduate College and are as follows:

The minimum requirement for the non-thesis MS is 32 hours of graduate credit in chemistry or a related discipline at the 400-level and above. Of these hours, 12 must be at the 500-level, 8 of which must be in chemistry.

During the review, these requirements were considered light for a degree from a top 10 chemistry department: less than half of the course hours need to be at the 500 level, and only one fourth of the courses need to be in chemistry. We propose here to change the requirements to what one would more reasonably expect for an MS degree in chemistry from the University of Illinois at Urbana-Champaign (changes highlighted in yellow). The Head of the department (Prof. Gregory Girolami) as well as the Courses and Curriculum committee and the Budget and Operations committee in the Department of Chemistry have endorsed these proposed changes.

The minimum requirement for the non-thesis MS is 32 hours of graduate credit in chemistry or a related discipline at the 400-level and above. Of these hours, 20 must be at the 500-level, 16 of which must be in chemistry.

Before submitting the suggested changes to the various committees in chemistry we analyzed the non-thesis MS degrees that our department has awarded in the period Dec 2004- May 2014 and noted that 24 of 26 students would have fulfilled these more demanding requirements. Hence, the proposed revised requirements are most certainly attainable. The reason to request the changes is to assure that all students earning the non-thesis MS in chemistry in the future will be required to complete the more demanding set of courses. Another important reason is to demonstrate to

potential employers of our non-thesis MS degree recipients the rigor of the degree, through the listing of the degree requirements on the Program of Study page.

The new proposed requirements are readily attainable for our students because our requirements for the PhD program are such that most students that switch from the PhD to the non-thesis MS track can fulfil the proposed requirements within one semester. They will typically have taken the 20 h required for the PhD degree (12 h at the 500 level) and hence will need just 12 more hours (8 at the 500-level), which can be readily done in one semester. We note that the students also need an extra semester under the current requirements to reach the 32 hours. Hence, the time-to-degree should not change with the proposed revision of the requirements, and the proposed revised requirements will not impose an undue burden on students who switch from the Ph.D. to the non-thesis MS program. However, the proposed requirements will prevent students earning the degree who, in the opinion of our faculty, would not have taken a sufficiently rigorous curriculum to warrant a non-thesis MS degree from our department.

JUSTIFICATION: The current requirements for a non-thesis Master of Science in Chemistry are quite light. With the proposed changes, the Department of Chemistry feels that the requirements are more in line with what one would reasonably expect from a student that obtains such a degree from the department at the University of Illinois at Urbana-Champaign.

BUDGETARY AND STAFF IMPLICATIONS:

1) Resources

- a. How does the unit intend to financially support this proposal?
No resources are required
- b. How will the unit create capacity or surplus to appropriately resource this program? If applicable, what functions or programs will the unit no longer support to create capacity?
Not applicable
- c. Will the unit need to seek campus or other external resources? If so, please provide a summary of the sources and an indication of the approved support.
No external resources required
- d. Please provide a letter of acknowledgment from the college that outlines the financial arrangements for the proposed program.
No external resources required

2) Resource Implications

- a. Please address the impact on faculty resources including the changes in numbers of faculty, class size, teaching loads, student-faculty ratios, etc
No changes required on faculty resources.
- b. Please address the impact on course enrollment in other units and provide an explanation of discussions with representatives of those units. (*A letter of acknowledgement from units impacted should be included.*)

Given the small numbers of Course Masters we typically award each year, the changes should not have considerable impact on course enrollment in other units

- c. Please address the impact on the University Library (*A letter of estimated impact from the University Librarian must be included for all new program proposals. If the impact is above and beyond normal library business practices, describe provisions for how this will be resourced.*)

No impact on the University Library

- d. Please address the impact on technology and space (e.g. computer use, laboratory use, equipment, etc.)

No impact on technology and space

DESIRED EFFECTIVE DATE: Fall 2016

STATEMENT FOR PROGRAMS OF STUDY CATALOG:

Master of Science in Chemistry

The program leading to the degree of Master Science in Chemistry is designed to be completed in one year of full-time study by students entering without deficiencies. A research thesis is optional.

Thesis Option

| | | |
|--------------------------|--|----|
| CHEM 599 | Thesis Research (12 max applied toward degree) | 12 |
| Total Hours | | 32 |

Other Requirements¹

| | |
|---|-----|
| Other requirements may overlap | |
| Minimum 500-level Hours Required Overall: | 12 |
| Minimum GPA: | 3.0 |

¹ For additional details and requirements refer to the department's [Graduate Programs](#) and the [Graduate College Handbook](#).

Non-Thesis Option

| | |
|-------------|----|
| Total Hours | 32 |
|-------------|----|

Other Requirements¹

| | |
|---|-----------------|
| Other requirements may overlap | |
| Minimum 500-level Hours Required Overall: | 20 (16 in CHEM) |
| Minimum GPA: | 3.0 |

¹ For additional details and requirements refer to the department's [Graduate Programs](#) and the [Graduate College Handbook](#).

**Appendix A:
(Proposed Curriculum Revisions)**

Master of Science, Chemistry; Non-thesis Option

| Current Requirements: | Current Hours | Revised Requirements: | Revised Hours |
|--|----------------------|--|----------------------|
| Thesis Hours Required–CHEM 599 (min/max applied toward degree): | 0 | Thesis Hours Required–CHEM 599 (min/max applied toward degree): | 0 |
| Minimum 500-level Hours Required Overall | 12 (8 in CHEM) | Minimum 500-level Hours Required Overall | 20 (16 in CHEM) |
| Other Requirements:* | | Other Requirements:* | |
| Minimum GPA: | 3.0 | Minimum GPA: | 3.0 |
| Total Hours | 32 | Total Hours | 32 |

Appendix B

Chemistry Graduate Degree Programs Overview Tab in the Academic Catalog (no changes needed)

Chemistry

- [Overview](#)
- [Masters](#)
- [Doctoral](#)
- [Joint Degrees](#)

www.chemistry.illinois.edu/

Head of the Department: Gregory Girolami
107 Noyes Laboratory
505 South Mathews Avenue
Urbana, IL 61801
(217) 333-0711
E-mail: chemadm@scs.uiuc.edu

Major: Chemistry
Degrees Offered: M.A., M.S., Ph.D.
Graduate Concentration: [Astrochemistry](#) (Ph.D. only)

Major: Teaching of Chemistry
Degree Offered: M.S.

Joint Degree Program: the Master of Science in Chemistry can be earned jointly with the following
Degrees Offered:
J.D. in Law
M.B.A. in Business Administration

Medical Scholars Program: Doctor of Philosophy (Ph.D.) in Chemistry and Doctor of Medicine (M.D.) through the [Medical Scholars Program](#)

Graduate Degree Programs

The degrees offered in chemistry are the Master of Science in Chemistry, Master of Science in the Teaching of Chemistry, and Doctor of Philosophy in Chemistry. This catalog also provides information on a joint program leading to the Doctor of Philosophy in Chemical Physics ([see Chemical Physics](#)). Opportunity also exists for specializing in computational science and engineering within the department's graduate programs via the [Computational Science and Engineering \(CSE\) Option](#).

Admission

Graduate College requirements apply. Further, applicants should have at least 25 semester hours in chemistry (properly distributed) and a grade point average of 3.0 (A = 4.0), to be considered for admission to the graduate programs. Applications from students with less than the usual preparation in chemistry or with grade point averages below 3.0 may be considered on an individual basis. In addition, we ask applicants to submit results from the Graduate Record Examination (GRE) General Test and the GRE Chemistry Subject Test.

International students whose native language is not English are required to have a minimum paper-based Test of English as a Foreign Language (TOEFL) score of 580 (237 on the computer-based test). In addition, teaching is a requirement in the chemistry graduate program, and there are special requirements for applicants whose native language is not English. The University requires a minimum Test of Spoken English (TSE) score of 50. Any applicant whose native language is not English is expected to provide TSE scores in order to receive full consideration for admission and financial aid.

Students who are currently enrolled in graduate programs at other institutions are advised that they should first complete degree work at their current institution before they will be considered for admission to the chemistry PhD program at the University of Illinois. In addition, we require a statement from the applicant and a letter from the applicant's research adviser or department head detailing the situation. Students might be admitted without a degree from their current institution under exceptional circumstances that will need to be described in detail via a letter from the applicant and a separate statement from the department head of the student's current graduate program.

Contact chemistry graduate admissions for further information. The department does not currently accept applications for the MA program.

Medical Scholars Program

The Medical Scholars Program permits highly qualified students to integrate the study of medicine with study for a graduate degree in a second discipline, including Chemistry. Students may apply to the Medical Scholars Program prior to beginning graduate school or while in the graduate program. Applicants to the Medical Scholars Program must meet the admissions standards for and be accepted into both the doctoral graduate program and the College of Medicine. Students in the dual degree program must meet the specific requirements for both the medical and graduate degrees. On average, students take eight years to complete both degrees. Further information on this program is available by contacting the Medical Scholars Program, 125 Medical Sciences Building, (217) 333-8146 or at www.med.illinois.edu/msp.

Graduate Teaching Experience

Experience in teaching is considered a vital part of the graduate program and is required as part of the academic work of all Ph.D. candidates in this program.

Financial Aid

Support for graduate students is available through fellowships and assistantships. All candidates are considered for these upon application. Graduate students making normal progress toward their degrees generally receive a tuition waiver as well as a stipend.

CLEARANCES: (Clearances should include signatures and dates of approval. These signatures must appear on a separate sheet. If multiple departments or colleges are sponsoring the proposal, please add the appropriate signature lines below.)

Signatures:

W. A. D. D.
Unit Representative:

9-2-15
Date:

Karen M. Carney
College Representative:

9/25/15
Date:

[Signature]
Graduate College Representative:

10/29/15
Date:

Joseph V. Sweeney
School Representative

22 September 2015
Date:

**Senate Educational Policy Committee
Proposal Check Sheet**

PROPOSAL TITLE (Same as on proposal): Revision to the non-thesis Master of Science in Chemistry

PROPOSAL TYPE (select all that apply below):

A. Proposal for a **NEW** or **REVISED** degree program. Please consult the Programs of Study Catalog for official titles of existing degree programs.

1. Degree program level:

Graduate Professional Undergraduate

2. Proposal for a new **degree** (e.g. B.S., M.A. or Ph.D.):

Degree name, "e.g., *Bachelor of Arts or Master of Science*": _____

3. Proposal for a new or revised **major, concentration, or minor**:

New or Revised **Major** in (name of existing or proposed major): Chemistry

New or Revised **Concentration** in (name of existing or proposed concentration): _____

New or Revised **Minor** in (name of existing or proposed minor): _____

4. Proposal to rename an existing major, concentration, or minor:

Major Concentration Minor

Current name: _____

Proposed new name: _____

5. Proposal to terminate an existing degree, major, concentration, or minor:

Degree Major Concentration Minor

Name of existing degree, major, or concentration: _____

6. Proposal involving a multi-institutional degree:

New Revision Termination

Name of existing Illinois (UIUC) degree: _____

Name of non-Illinois partnering institution: _____

Location of non-Illinois partnering institution:

State of Illinois US State: _____ Foreign country: _____

- B. Proposal to create a new academic unit (college, school, department, program or other academic unit):

Name of proposed new unit: _____

- C. Proposal to rename an existing academic unit (college, school, department, or other academic unit):

Current name of unit: _____

Proposed new name of unit: _____

- D. Proposal to reorganize existing units (colleges, schools, departments, or program):

1. Proposal to change the status of an existing and approved unit (e.g. change from a program to department)

Name of current unit including status: _____

2. Proposal to transfer an existing unit:

Current unit's name and home: _____

Proposed new home for the unit: _____

3. Proposal to merge two or more existing units (e.g., merge department A with department B):

Name and college of unit one to be merged: _____

Name and college of unit two to be merged: _____

Proposed name and college of new (merged) unit: _____

4. Proposal to terminate an existing unit:

Current unit's name and status: _____

- E. **Other educational policy proposals** (e.g., academic calendar, grading policies, etc.)

Nature of the proposal: _____

Revised 10/2012

UNIVERSITY OF ILLINOIS
AT URBANA-CHAMPAIGN

EP.16.33

Office of the Provost and Vice Chancellor
for Academic Affairs

Swanlund Administration Building
601 East John Street
Champaign, IL 61820



October 30, 2015

Bettina Francis, Chair
Senate Committee on Educational Policy
Office of the Senate
228 English Building, MC-461

Dear Professor Francis:

Enclosed is a copy of a proposal from the College of Liberal Arts and Sciences and the Graduate College to revise the Master of Science in Chemistry.

Sincerely,

A handwritten signature in cursive script that reads 'Kathryn A. Martensen'.

Kathryn A. Martensen
Assistant Provost

Enclosures

c: W. van der Donk
K. Carney
A. Elli
J. Hart
A. McKinney

UNIVERSITY OF ILLINOIS
AT URBANA-CHAMPAIGN

Graduate College

204 Coble Hall
801 South Wright Street
Champaign, IL 61820-6210



Executive Committee

2015-2016 Members

Wojtek Chodzko-Zajko
Dean & Chair
Graduate College

Members

Abbas Aminmansour
Architecture

John D'Angelo
Mathematics

Nicki Engeseth
Food Science & Human
Nutrition

Susan Fowler
Special Education

Rutilio Fratti
Biochemistry

Paul Hergenrother
Chemistry

Kevin Jackson
Accountancy

Samantha Knoll
Mechanical Science &
Engineering

John Lambros
Aerospace Engineering

Isabel Molina
Media and Cinema Studies &
Latina/Latino Studies

Kirsten Phelps
Library and Information Science

Sandra Rodriguez-Zas
Animal Sciences

Mark Rood
Civil & Environmental
Engineering

Lisa Rosenthal
Art & Design

Angeliki Tzanetou
Classics

Michelle Wang
Statistics/Psychology/
Bioengineering

October 28, 2015

Kathy Martensen
Office of the Provost
207 Swanlund MC-304

Dear Kathy,

Enclosed please find the proposal from the College of Liberal Arts & Sciences and the Graduate College to Revise the Master of Science in Chemistry.

The proposal was received by the Graduate College on September 25, 2015. It was forwarded to the Graduate College Executive Committee for review at the October 19, 2015 meeting. The proposal was approved to move forward to the Provost office.

I send the proposal to you now for further review.

Sincerely,

A handwritten signature in blue ink, appearing to read 'John C. Hart'.

John C. Hart
Executive Associate Dean
Graduate College

c: K. Carney
W. van der Donk
A. McKinney

UNIVERSITY OF ILLINOIS
AT URBANA-CHAMPAIGN

College of Liberal Arts and Sciences
Office of the Dean

2090 Lincoln Hall
702 S. Wright Street, MC-448
Urbana, IL 61801



September 25, 2015

Wojtek Chodzko-Zajko
Dean, Graduate College
204 Coble Hall MC-322

Dear Dean Chodzko-Zajko:

The Committee on Courses and Curricula, on behalf of the Faculty of the College of Liberal Arts and Sciences has voted to approve the following proposal:

Revision to the non-thesis Master of Science in Chemistry

Please let me know if you have any questions on this proposal. This proposal is now ready for review by the Graduate College for proposed implementation Fall 2016.

Sincerely,

A handwritten signature in black ink that reads "Karen M Carney".

Karen M. Carney
Associate Dean

enclosure

C: Professor Wilfred van der Donk
Professor Gregory Girolami
Professor Jonathan Sweedler