

REQUEST FOR CHANGE IN MASTERS DEGREE PROGRAM
Signature Routing Log

General Information:





Proposal Name: CHE MS plan B

Proposal Contact Person Name: Mark Meier Phone: 257-3837 Email: meier@uky.edu


INSTRUCTIONS:

Identify the groups or individuals reviewing the proposal; note the date of approval; offer a contact person for each entry; and obtain signature of person authorized to report approval.

Internal College Approvals and Course Cross-listing Approvals:

Reviewing Group	Date Approved	Contact Person (name/phone/email)	Signature
Graduate Program Committee	11/03/09	Mark Meier / 257-3837 / meier@uky.edu	
CHE Faculty	11/12/09	Leonidas Bachas / 257-6350 / bachas@uky.edu	
		/ /	
<i>A&S EPC</i>	<i>10/5/10</i>	<i>ganpaty morthy 17-4429 ganpaty, morthy & uky.edu</i>	
<i>A&S Dean</i>	<i>10/5/10</i>	<i>Anna Bosch 176689 Bosch @ uky.edu</i>	

External-to-College Approvals:

Council	Date Approved	Signature	Approval of Revision ⁴
Undergraduate Council			
Graduate Council		 2011.01.13 15:18:41 -05'00'	
Health Care Colleges Council			
Senate Council Approval		University Senate Approval	

Comments:

⁴ Councils use this space to indicate approval of revisions made subsequent to that council's approval, if deemed necessary by the revising council.

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1. GENERAL INFORMATION

College: Arts and Sciences Department: Chemistry

Current Major Name: Chemistry Proposed Major Name: No Change

Current Degree Title: Coursework MS Degree Proposed Degree Title: No Change

Formal Option(s): Plan B (Coursework) Proposed Formal Option(s): No Change

Specialty Fields w/in Formal Option: N/A Proposed Specialty Fields w/in Formal Options: N/A

Date of Contact with Associate Provost for Academic Administration¹: 4/26/10

Bulletin (yr & pgs): GS Spring 2010 CIP Code¹: 40.0501 Today's Date: 4/26/10
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Accrediting Agency (if applicable): N/A

Requested Effective Date: Semester following approval. OR Specific Date²:

Dept. Contact Person: Mark Meier Phone: 7-3837 Email: meier@uky.edu

2. CHANGE(S) IN PROGRAM REQUIREMENTS

	<u>Current</u>	<u>Proposed</u>
1. Number of transfer credits allowed (Maximum is Graduate School limit of 9 hours or 25% of course work)		
2. Residence requirement (if applicable)		
3. Language(s) and/or skill(s) required		
4. Termination criteria		
5. Plan A Degree Plan requirements ³ (thesis)		
6. Plan B Degree Plan requirements ³ (non-thesis)		Remove requirements for "Out-of-Department" and "Additional Advanced" courses
7. Distribution of course levels required (At least one-half must be at 600+ level & two-thirds must be in organized courses.)		
8. Required courses (if applicable)		
9. Required distribution of courses within program (if applicable)		

¹ Prior to filing out this form, you MUST contact the Associate Provost for Academic Administration (APAA). If you do not know the CIP code, the APAA can provide you with that during the contact.

² Program changes are typically made effective for the semester following approval. No changes will be made effective until all approvals are received.

³ If there is only one plan for the degree, plans involving a thesis (or the equivalent in studio work, etc.) should be discussed under Plan A and those not involving a thesis should be discussed under Plan B.

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10. Final examination requirements
11. Explain whether the proposed changes to the program (as described in sections 1 to 10) involve courses offered by another department/program. Routing Signature Log must include approval by faculty of additional department(s).
12. List any other requirements not covered above?
13. Please explain the rationale for changes. If the rationale involves accreditation requirements, please include specific references to those requirements.

The Graduate Faculty of the Department of Chemistry has approved a proposal for revision of our Coursework MS degree requirements. These program requirements had not been revised (or seriously discussed) in at least 20 years. When we looked at these requirements we find a degree program that really does not mesh well with the current state of our field (or of science, for that matter). The requirements of our current 30-credit hour Coursework MS Program are composed of three sections:

Seminar Courses (3 credit hours) - All graduate students must enroll in a seminar course for credit once per year.

The Core (12 credit hours)

- Four courses, one in each of 4 of the 5 different divisions of Chemistry (Analytical, Biological, Inorganic, Organic, and Physical). Specific courses in each division have been designated as 'core' courses.

Out-of-the-Department Courses (6 credit hours)

- Two courses from outside of the Chemistry department.

Additional Advanced Courses (9 credit hours)

- Three additional Chemistry courses, again selected from 3 different divisions.

The Core requirement enforces breadth of education in chemistry. The Out-of-Department requirement forces breadth again, this time outside of chemistry. The Additional Advanced Courses requirement yet again enforces breadth in chemistry. Each of these three sections forces a student to cover the breadth of the field and into the surrounding disciplines. Essentially, the current program requires 27 credits of 'breadth', and there is little room for 'depth' in any one area. In our view, these requirements promote an extremely broad and shallow graduate education. While it may work well for students who simply need a graduate degree in order to be promoted within their company (this is one type of student who seeks this degree), it does not work well for younger students who are interested in learning more about a specific subject.

Within the current requirements it is not easy to assemble a course plan that focuses on any of the cutting edge areas of chemistry, either a traditional area like analytical chemistry or a multidisciplinary area like environmental chemistry, materials chemistry, or others. The current Additional Advanced Courses requirement forces a student to spread their attention at a point in the graduate career when selection of a set of courses concentrated in one area may be more appropriate to their interests.

We would like to propose simplified degree requirements that would permit both the "broad" style that we currently have, but would also enable students to assemble a coursework plan that focuses on a specific area of interest, either within traditional chemical disciplines or in a multidisciplinary area.

In the proposed plan, the program will remain a 30 credit hour degree program. We will retain the Core requirement. This requirement, common to our MS-A, MS-B, and Ph.D. programs, ensures that all students have a broad knowledge of chemistry and are prepared to take advanced courses. We propose to have no other specific Departmental requirements. UK and CPE requirements ensure that the majority of the courses will be in Chemistry, so there is no danger that we will be granting degrees in Chemistry to students who do not have a strong background in the field, and Departmental requirements state that all Coursework MS degree students must have their coursework plan approved by the Graduate Program Committee. The requirement for approval

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ensures that students follow a coherent plan with an appropriate emphasis on Chemistry.

This simplification of the program will permit us to accommodate students who want to pursue the current model of the coursework MS program as well as to meet the educational interests of a broader array of students. For example:

- Students with a very specific interest in Chemistry. After completing the core requirement, they would have the freedom to pursue one topic in more depth than is currently possible. An example, a student interested in synthetic methodology would likely concentrate on organic and inorganic chemistry courses;
- Students who want to pursue a MS degree in Chemistry, but would like to take a greater number of courses outside of the department. For example, a chemistry MS student with an interest in geochemistry can take the relevant courses in chemistry (inorganic, environmental, and crystallography courses), and then take courses in Earth and Environmental Sciences;

We believe that this revision creates a degree program that will appeal to a wider array of students and will do a better job of meeting the needs of our students – nearly all of whom end up employed as chemists working in one specific area of the field.

Comparison of Current and Proposed Requirements

Current Requirements (30 Credit hours required)

Seminar Courses: All graduate students must enroll in a seminar course for credit once per year.

Core Courses: (one course from each of 4 of the 5 traditional areas of chemistry)

Out-of-Department Courses: (2 courses)

Additional CHE courses: (3 additional courses, one from each of 3 of the 5 traditional areas of chemistry)

15 credit hours of graduate courses in Chemistry (UK, CPE)

12 credit hours in CHE at the 600/700-level (CPE)

3 credit hours in Seminar Courses

Course plan approval by GPC

Proposed Requirements (30 credit hours required)

Seminar Courses: (two courses in CHE 776, one course in CHE 772)

Core Courses: (one course from each of 4 of the 5 traditional areas of chemistry)

15 credit hours of graduate courses in Chemistry (UK, CPE)

12 credit hours in CHE at the 600/700-level (CPE)

3 credit hours in Seminar Courses

Course plan approval by GPC