

**COLLEGE OF ENGINEERING**  
**DEPARTMENT OF CHEMICAL ENGINEERING**

**P.O. Box 116005**

**Gainesville, Florida 32611-6005**

Telephone: (352) 392-0881

FAX: (352) 392-9513

E-mail: [chemical@che.ufl.edu](mailto:chemical@che.ufl.edu)

[http: \\www.che.ufl.edu](http://www.che.ufl.edu)

**GRADUATE PROGRAM REQUIREMENTS**

for the degree of

**Masters of Science, Thesis Option**

Fall 2012

## **A. INTRODUCTION**

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These guidelines describe the Program requirements for the degree of Master of Science with Thesis in the Department of Chemical Engineering. It is the student's responsibility to know and take appropriate steps to meet all Program requirements in this document. General requirements for the various degree program as well as descriptions of courses can be found in the University of Florida Graduate Catalog. A student is normally regulated by the rules set forth in the catalog published in the academic year of the student's first term.

## **B. PROGRAM REQUIREMENTS FOR MASTER OF SCIENCE (M.S.)**

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### *Course Requirements.*

The Graduate School minimum requirement for the M.S. degree is 30 semester credits including up to 6 credits in thesis research work (ECH 6971); the Chemical Engineering Department requires a minimum of 21 credits in courses, during the entire residence in the program. Also up to 3 credits could be taken in departmental seminar (ECH 6926). Included in the 21 credits are three *required* courses that should be taken in first Fall semester: These are the Molecular Basis of Chemical Engineering (ECH 6272), the Continuum Basis of Chemical Engineering (ECH 6270), and the Mathematical Basis of Chemical Engineering (ECH 6847). Each student is expected to take a graduate course in reaction engineering, kinetics, pharmacokinetics or biochemical engineering if offered before they graduate. In addition, at least two graduate Chemical Engineering science courses must be taken. If a minor is chosen, at least six credits of courses must be taken in it. All courses taken in the Chemical Engineering must be numbered 5000 or above. For work outside Chemical Engineering, 6 credits of courses numbered 3000 or above may be taken if part of an approved plan of study. If you are receiving financial support as a Graduate Assistant, you are required to register for a minimum of 9 credits in Fall and Spring, and at least 6 credits in Summer. An example of the course of study for the M.S. degree for a student supported by research assistantship is given below:

<b>Suggested schedule for a student on Graduate Assistantship</b>				
	<b>First Year</b>		<b>Second Year</b>	
<b>Credits</b>	<b>Fall (9 credits)</b>		<b>Credits</b>	<b>Fall (9 credits)</b>
(3)	ECH 6270 Continuum Basis		(1)	ECH 6926 Seminar
(3)	ECH 6272 Molecular Basis		(8)	ECH 6971 Thesis Research
(3)	ECH 6847 Mathematical Basis			
	<b>Spring (9 credits)</b>			<b>Spring (9 credits)</b>
(6)	Two Chemical Engineering graduate courses, including a course in reaction eng., kinetics or biochemical eng.		(6)	Two elective courses
(1)	ECH 6926 Seminar		(1)	ECH 6926 Seminar
(2)	ECH 6971 Thesis Research		(2)	ECH 6971 Thesis Research
	<b>Summer (6 credits)</b>			<b>Summer (6 credits)</b>
(6)	ECH 6971 Thesis Research		(6)	ECH 6971 Thesis Research

**If a student is not supported by assistantship, the course schedule could be different. It is the student's responsibility to ensure that the course schedule meets all requirements of the program and also the requirements for maintaining their visa status (for International Students only). International students are required to register for at least 9 credits in both Fall and Spring, except in the last semester of their program in which they need to only for the number of credits required to meet the graduation requirements. Also if you have finished all your course requirements and are left with only Research credits, you can register for only 3 Research credits. All students need to register for at least 3 credits in the semester in which they graduate. For Thesis based programs, you need to register for at least 3 Research credits in the last semester.**

<b>Sample schedule for a student on Academic Achievement Award or No-Support</b>				
	<b>First Year</b>		<b>Second Year</b>	
Credits	<b>Fall (10 credits)</b>		Credits	<b>Fall (9 credits)</b>
(3)	ECH 6270 Continuum Basis		(1)	ECH 6926 Seminar
(3)	ECH 6272 Molecular Basis		(2)	ECH 6971 Thesis Research
(3)	ECH 6847 Mathematical Basis		(6)	Two elective courses
	<b>Spring (9 credits)</b>			<b>Spring (2 credits)</b>
(7)	Two or three graduate electives, including a course in reaction eng., kinetics or biochemical eng.		(3)	ECH 6971 Thesis Research
(1)	ECH 6926 Seminar			
(1)	ECH 6971 Thesis Research			
	<b>Summer (0 credits)</b>			

Please seek guidance from your research advisor and the Graduate Coordinator to choose the most suitable schedule for you.

**Research and Thesis** - Near the end of the first semester after enrolling in the program, the student will choose a research adviser. By the end of the first semester, the student must also, with the advice and consent of the research adviser, nominate a Supervisory Committee. The Supervisory Committee must have at least two members, one of whom must be Graduate Faculty member of the Chemical Engineering Department. If a minor is chosen, at least one member of the supervisory committee must be from the minor department. The supervisory committee is very important and should be chosen carefully. The supervisory committee advises the student, monitors the student's progress, supervises the preparation of the thesis, and conducts the final examination.

In Chemical Engineering, a candidate for the M.S. degree must prepare and present a thesis acceptable to the Supervisory Committee and the Graduate School. The candidate should consult the Graduate School Editorial Office for instructions about the form of the thesis. The University Calendar specifies final dates for submitting three copies of the abstract to the Dean of the Graduate School and for submitting the original copy of the thesis bound with an abstract. The college copy should be submitted to the college or department by the specified date. After the thesis is accepted, it will be available electronically from the University Libraries.

When the student's course work is substantially completed and the thesis is in final form, the supervisory committee is required to examine the student orally or in writing on (1) the thesis, (2) the major subjects, (3) the minor or minors, and (4) matters of a general nature pertaining to the field of study. A written announcement of the examination must be sent to the Dean of the Graduate School. This exam may not be scheduled earlier than the term preceding the semester in which the degree is to be conferred.

The supervisory committee (2 faculty members) and any other appropriate faculty members and the candidate must be present at the final examination. The oral exam may be conducted using video and/or

telecommunications. However, the student and chair or co-chair must be in the same physical location. All other members may participate from remote sites via technological means. At the time of the examination, all committee members may sign the thesis signature page and the Final Examination Report, although these can be retained by the supervisory committee chair until acceptable completion of corrections.

**Converting from Thesis to NonThesis:** If you choose to covert from the Thesis to the Non-Thesis option, a maximum of 3 credits earned with a grade of S in 6971 (Research for Master's Thesis) can be counted toward the degree requirements only if converted to credit as A, A-, B+, or B in Individual Work. The supervisory committee must indicate that the work was productive in and by itself and that the work warrants credit as a special problem or special topic course.

**Other Remarks** - Graduate level work, totaling no more than 9 credits with a grade of "B" or higher, may be transferred from an institution approved by the Graduate School or 15 semester hours from post-baccalaureate work at the University of Florida. These credits will be applied toward the degree, but the grades will not be computed in the student's grade point average. Transfer of credit requires approval of the student's Supervisory Committee, the Chemical Engineering Department, and the Dean of the Graduate School. Petitions for transfer of credit for the M.S. degree must be made during the first semester of study and, if approved, transfer of credits must be included in the program of coursework.

Students have historically needed 16 to 20 months (4 to 5 *academic-year* semesters) to complete the degree requirements. Financial support may be provided to the student by the thesis adviser through the completion of his/her degree program (as defined by submission of the final thesis to the graduate school). Of course, continued support depends on satisfactory progress by the student and availability of funds. Satisfactory progress is determined by a student's thesis research adviser. Students are strongly encouraged to register for required courses at the earliest possible opportunity.

### **C. ACADEMIC ACHIEVEMENT AWARD**

If you are receiving the Academic Achievement Award from the College of Engineering, you are not allowed to obtain any financial support from your department. To maintain the AA Award you must keep a GPA of 3.0 or higher.

If a student that has the AA award fails to maintain the 3.0 GPA after the first semester, he/she will get a grace period of 1 semester if the GPA is  $>2.5$ . In this case, no petition is required. If the first semester GPA is below 2.5, a petition is required explaining extenuating circumstances that led to the poor performance.

If the 2nd semester GPA is better than 3.0 but because of the poor performance in the first semester, the cumulative GPA is below 3.0, the student needs a petition. If GPA in both 1st and 2nd semesters is below 3.0, the petition will likely be denied unless there are extenuating circumstances.

If a student loses the AA award because of the GPA criterion but then performances extremely well in the 2nd or 3rd semester to raise the cumulative GPA above 3.0, a petition can be filed for reinstating the AAA for the following semesters.

**In each case, a petition has to be submitted by me to the College of Engineering so please contact me well in advance of registration if you fall in any of the categories that require a petition.**

Please also note that you must take courses in College of Engineering (not including ABE) to qualify for the reduced tuition for the AA Award. Also note that the AA Award covers only 36 credits and if you exceed the 36 credit limit, you will need to pay the full tuition for the remaining credits.

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## **D. GENERAL Policies and Requirements**

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**Florida State Residency Requirement** - For tuition purposes, all eligible students (i.e. those who receive tuition waivers and who are U.S. citizens, permanent resident aliens, or legal aliens granted indefinite stay by the Immigration and Naturalization Service) must take appropriate actions to become in-state residents by the end of their first year. Failure to do so may result in loss of the tuition waiver.

**Course Registration Procedures** - Graduate students must get the approval of their adviser for registration of courses, prior to registration. Approval forms can be obtained in 227 CHE Bldg.

**Concurrent Degrees** Graduate students who wish to enroll in a concurrent degree program must obtain the appropriate forms from the graduate school. The graduate coordinator will sign these forms *only after consulting the chair and after the student's graduate adviser has given written approval for the student to enroll in the concurrent degree program*. A copy of all communications regarding the application for the program will be maintained in the student's graduate folder with the Graduate Program Assistant (Shirley Kelly).

**Leave Policy** - Personal time shall be with pay for up to five (5) days per semester appointment. Each employee shall be credited with such five (5) days at the beginning of each semester and shall use leave in increments of not less than one (1) day. For example, an employee scheduled to work six (6) hours on Monday and three (3) hours on Tuesday, who is unable to perform assigned duties on these days for any of the reasons described above, would be charged with two (2) days of personal time, regardless of FTE appointment, or number of work hours scheduled. The personal time provided shall not be cumulative.

The specific dates of absence must be pre-approved by the student's advisor by signature on the leave form (appended below), which is to be completed and submitted to Mrs. Shirley Kelly in 409 CHE Bldg. Importantly, the form includes contact information during the student's absence must be provided in the event that an emergency should develop.

**Academic Honesty and Ethical Conduct in Research** - All students admitted to the University of Florida have signed a statement of academic honesty committing themselves to be honest in all academic work and understanding that failure to comply with this commitment will result in disciplinary action. Students are expected to produce their own work in homework, projects, and exams. Unauthorized collaboration in take-home exams, projects, and individual assignments is a serious violation of the university honor code and could lead to a grade decrease, course failure, and loss of degree status.

Students are expected to maintain high ethical standards in the conduct and reporting of scientific and scholarly research. Students are responsible for ethical research conduct to the University, to the academic community, to those sponsoring the research, and, to the community at large. Research Misconduct, including fabrication or falsification of data, or plagiarism in proposing, performing, or reviewing research or reporting of results, is a most serious offense that can greatly damage the welfare and reputation of the students, faculty, and the University. For more information regarding Research Misconduct, see <http://www.admin.ufl.edu/DDD/attach06-07/R10101-0704.pdf>

From the UF Student Handbook: "Plagiarism is not tolerated at the University of Florida. Plagiarism in a thesis or dissertation is punishable by expulsion. If the plagiarism is detected after the degree has been awarded, the degree may be rescinded. For a thorough discussion and the law, see [www.rbs2.com/plag.htm](http://www.rbs2.com/plag.htm). A briefer discussion and some tips for avoiding it are provided at [www.indiana.edu/~wts/pamphlets/plagiarism.shtml](http://www.indiana.edu/~wts/pamphlets/plagiarism.shtml).

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**LEAVE FORM**

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STUDENT NAME: \_\_\_\_\_

UF ID NUMBER: \_\_\_\_\_

FISCAL YEAR: JULY 1 20 \_\_\_\_ TO JUNE 30 20 \_\_\_\_

LEAVE INFORMATION

DATE OF DEPARTURE \_\_\_\_\_

DATE OF RETURN \_\_\_\_\_

TOTAL NUMBER OF BUSINESS DAYS OF ABSENCE \_\_\_\_\_

CONTACT INFORMATION DURING ABSENCE (PROVIDE A PHONE NUMBER IF AVAILABLE)

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

SIGNATURES

STUDENT: \_\_\_\_\_

Signature

Date

ADVISER: \_\_\_\_\_

Signature

Date