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GRADUATE PROGRAM REQUIREMENTS

for the degree of

Master of Science, Thesis Option

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## A. INTRODUCTION

This guideline describes the requirements for the degree of Master of Science with Thesis (MS) in the Department of Chemical Engineering. The students in this program need to meet all requirements listed in this guideline as well as the Graduate Catalog published by the Graduate School to fulfill the requirement of the MS degree. The Graduate Catalog (<http://graduateschool.ufl.edu/academics/graduate-catalog>) describes the more general requirements for this degree program. A student must follow the general rules set forth in the Graduate Catalog published in the academic year of the student's first admission.

The MS program is for students who have already had undergraduate chemical engineering background and provide them an opportunity to develop an in-depth knowledge of chemical engineering fundamentals at the graduate level. The students in this program also need to focus on a specific specialization area of chemical engineering to acquire basic experience in research in the designated area through the department faculty.

A student in this program will need 5 to 6 semesters to complete the degree requirements. One academic year includes three semesters.

## B. ADMISSION TO THE PROGRAM

Students seeking the MS degree must have completed a bachelor degree in chemical engineering with a GPA of 3.0 or higher. A perspective student also needs to have a quantitative GRE score of at least 150 and a verbal GRE score of at least 140. In addition, an international student needs to submitted a satisfied TOFEL score or equivalent English language evaluation score that passes the minimal admission standard set by the University of Florida.

## C. PROGRAM REQUIREMENTS for MASTER OF SCIENCE (MS)

Course Requirements - The MS program requires a total of 30 credits of graduate courses, including 3 to 6 credits in Thesis Research (ECH 6971). Among the 30 credits, at least 15 credits must be taken from the chemical engineering core courses, including the three Basis courses of Chemical Engineering, Molecular Basis (ECH 6272), Mathematical Basis (ECH 6847) and Continuum Basis (ECH 6270), and one graduate level kinetics course, Kinetics (ECH 6506) or Pharmacokinetics (BME 6644). The remaining credits can be taken in chemical engineering related courses offered by the Chemical Engineering Department or by other departments, allowing the students to develop a specialization focus. If necessary, the students can also take Individual Work (ECH 6905) to be accompanied with the Thesis Research to enhance the ability of the student in the research project of the chosen area. However, the total credits taken from the Thesis Research (ECH 6971), Individual Work (ECH 6905), and Departmental Seminar (ECH 6926) cannot over 9 credits. All the credits for the program must be in courses numbered 5000 or above (graduate level courses). Please seek guidance from your research advisor and the master program coordinator to choose the most suitable schedule for you.

Please note, at least three credits of Thesis Research (ECH 6971) must be registered in the semester in which they graduate.

***International Students*** - International students are required to register for at least 9 credits in both Fall and Spring semesters, except in the last semester of their program in which they need to only register for the number of credits required to meet the graduation requirements. However, a minimum of 3 credits is required in the graduation semester.

**Course Registration Procedures** - Prior to registration for courses before each semester, the MS graduate students must get the approval from their research advisor for registration of courses. Approval forms can be obtained from the graduate student advisor.

#### **D. Guidelines of the Research and Thesis for the MS degree**

**Research Advisor and Supervisory Committee** - Near the end of the first semester after enrolling in the program, the student needs to choose a research advisor. Consequently, with the advice and consent of the research advisor, the student will nominate a Supervisory Committee. The Supervisory Committee must have at least two members, one of whom must be a 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 will advise the student, monitor the student's progress, supervise the preparation of the thesis, and conduct the final examination.

**Master Thesis** - 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.

**Thesis Defense** - 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.

#### **E. FINANCIAL SUPPORT**

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). Continued support depends on availability of funds and the satisfactory progress of the project, which is determined by a student's thesis research advisor.

If a student is receiving financial support as a Graduate Assistant, the individual is required to register for a minimum of 9 credits in Fall and Spring semester, and at least 6 credits in Summer semester.

**Florida State Residency Requirement** - For those students who are U.S. citizens, permanent resident aliens, or legal aliens granted indefinite stay by the Immigration and Naturalization Service and receive tuition waivers, they must take appropriate actions to become in-state residents by the end of their first year to maintain the tuition waiver.

*Academic Achievement Award* – A student who pays the out-of-state tuition may be considered to be granted the Academic Achievement (AA) Award, based on the individual's application package and the availability of the award.

If a student is receiving the AA Award from the College of Engineering, the student is not allowed to obtain other financial support from the department. To maintain the AA Award, the awardee must keep a GPA of 3.0 or higher and register for 9 credits.

If a student who 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 greater than 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 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 performs extremely well in the 2nd or 3rd semester to raise the cumulative GPA above 3.0, a petition can be filed for reinstating the AA Award for the following semesters.

In each case, a petition has to be submitted by the department to the College of Engineering. Hence, please contact the master program coordinator in advance of registration if the student falls in any of the categories that require a petition.

Please also note that a student 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 3 semesters. Afterwards, the student will need to pay the full tuition for the remaining credits.

## F. OTHER POLICIES AND REQUIREMENTS

***Converting from MS degree to PhD degree*** - MS students who perform well can apply for admission to the PhD program. To be considered for entry starting in Fall semester, students are encouraged to apply before February 15 with the completion of the three Basis courses (Molecular, Continuum, Mathematical). Applications will be compared against the other PhD applicants and decisions will be made based on student credentials and the available projects. In addition to the typical credentials for admission (undergraduate GPA, GRE, etc.), the graduate recruitment committee will consider performance in the MS program and recommendations from UF faculty.

If admitted, such students will receive a Graduate Assistantship and a tuition waiver for the duration of their doctoral studies.

***Converting from Thesis Option to Non-Thesis Option*** - If a student decides to convert from the Thesis option to the Non-Thesis option, a maximum of 3 credits earned in Thesis Research (ECH 6971) can be counted toward the MS Non-Thesis Option (MSNT) degree requirements only if converted to the equivalent credits of Individual Work (ECH 6905) with a grade A, A-, B+, or B. The supervisory committee must determine that the work was productive in and by itself and that the work warrants credits as a special problem or special topic in Individual Work.

*Concurrent Degree Program* - The program allows a student to simultaneously study on an individualized basis that leads to two master's degrees in different graduate programs. Joining such a program is initiated by the student and requires prior approval of each academic unit and the Graduate School. If the student is approved to pursue two master's degrees, no more than 9 credits of course work from one degree may be counted toward awarding the second degree.

Graduate students who wish to enroll in a concurrent degree program must obtain the appropriate forms from the graduate school. The master program coordinator will sign these forms only after the department chair has given 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 student advisor.

*Minor Degree* - Students can take a block of coursework in any master or doctoral program listed in the Graduate Catalog outside the major academic unit to gain a minor degree if approved by the major academic unit. If a minor is chosen, a representative from the minor academic unit must be included in the supervisory committee. If a minor is chosen, at least 6 credits of work are required in the minor field. Two 6-credit minors may be taken under the major academic unit's permission. A 3.00 GPA is required for the courses towards the minor degree(s). The minor program name and the degree awarded will appear on the student's transcript.

*Transfer of credit* - When a student transfers from other graduate institution approved by the Graduate School, a maximum of 9 transfer credits are allowed. Only graduate-level (5000-7999) work with a grade of B or better is eligible for transfer toward the degree requirements; however, grades earned from these credits are not computed in the student's grade point average in UF. Acceptance of 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 MS degree must be made during the first semester of study.

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).