



## Department of Chemical and Biomolecular Engineering

### MS GRADUATE DEGREE REQUIREMENTS AND PROCEDURES



Additional information may be obtained from the Rice University General Announcements, the Office of Graduate and Postdoctoral Studies ([graduate.rice.edu](http://graduate.rice.edu)) and the Graduate Studies Committee of the Chemical and Biomolecular Engineering department. It is the student's responsibility to be familiar with the rules, procedures and requirements and to make sure that policies and timelines are followed in order to allow for a timely graduation. A student failing to meet department or university requirements is subject to dismissal from the program.

**This document summarizes departmental requirements and includes information on some university requirements for graduate degrees.**

**Consult the General Announcements and Code of Conduct for official and complete information on University requirements at [ga.rice.edu](http://ga.rice.edu) and [students.rice.edu/students/Conduct.asp](http://students.rice.edu/students/Conduct.asp)**

## **DEPARTMENT OF CHEMICAL AND BIOMOLECULAR ENGINEERING**

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## **Department of Chemical and Biomolecular Engineering**

### **MS GRADUATE DEGREE REQUIREMENTS AND PROCEDURES**

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# Graduate Degree Requirements and Procedure

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## I. THE MS DEGREE

The MS degree offered is a Thesis Master's program, which requires original work reported in a thesis and a public oral examination. MS students must satisfy the departmental and university course requirements and fulfill the teaching requirement. Students receiving a master's degree must be enrolled in a graduate program at Rice University for at least one fall or spring semester of full-time study.

### *I.1 Course Requirements*

MS students must take at least 18 semester hours of advanced courses. **Grades of B- or better in each course** are required. Candidates receive a master's degree after completing at least 30 graduate semester hours of study at the 500-level and above (18 hours course work and thesis hours), 24 hours of which must be taken at Rice. MS students register for the master's research course, CHBE 700.xxx (check the proper adviser section) during fall, spring and summer terms students are engaged in research. Students receiving a master's degree must be enrolled in a graduate program at Rice University for at least one fall or spring semester of full-time study. (Full time study is 9 semester hours per the General Announcements found at [ga.rice.edu](http://ga.rice.edu))

The general guidelines for choosing a course are as follows:

- a) MS students must take at least 18 credit hours of advanced (500 level or above) courses that include the following required core courses:
  - **CHBE 611 Advanced-Topics Thermodynamics**
  - **CHBE 501 Fluid Mechanics & Transport Processes**
  - **CHBE 602 Physico-Chemical Hydrodynamics**
  - **CHBE 590 Kinetics, Catalysis, and Reaction Engineering**  
**and ONE of these two courses:**
  - **CHBE 505 Advanced Numerical Methods OR**
  - **CHBE 692 Applied Mathematics for Chemical Engineering**
- b) The elective 3-credit hour course remaining may be chosen from the engineering or natural science schools. For upper level courses outside of these school requirements please use the CHBE Course Approval Form. The form can be found on the CHBE website.

With the approval of the adviser the student may take any other class without petitioning the Graduate Studies Committee with the understanding that it will **not** count toward fulfilling the course requirements for the MS degree.

Course selection for first year students may be completed after the department orientation. The Graduate Studies Committee will assist and advise students in course selections.

Students must register for the graduate seminar course--CHBE 661 (Fall) and CHBE 662 (Spring), for each semester in residence. Prior approval must be obtained from the Graduate Studies Committee before registering for a class that conflicts with the CHBE seminar. More than two unexcused absences will result in an unsatisfactory grade for the semester.

**Departmental policy** requires that **full-time students be registered for at least 9 credit hours (University minimum)** each semester and **6 hours (University minimum)** each summer.

## **I.2 Teaching Requirement**

Teaching is a graduate degree requirement and all MS students are expected to assist a faculty member on a teaching assignment for at least **two** semesters in residence as assigned by the department Graduate Studies Committee. Students must register for CHBE 605 in each semester they are assigned as a teaching assistant, which usually involves supervising work in the undergraduate laboratory, grading papers, tutoring, and answering student questions on homework and class topics. Unsatisfactory TA performance may result in an additional teaching assignment. Students planning to pursue an academic career may request more involved teaching assignments by informing the Graduate Studies Committee and her/his adviser.

## **I.3 Adviser Selection**

MS students should select a thesis adviser and research topic. Department faculty members will present their research topics to the first-year graduate students during the fall semester. Each MS student will be provided an Adviser/Research Project Preference Sheet to be submitted by the published deadline indicating his/her top choices of research projects. Topics from at least three **distinct** faculty members must be indicated. The department will strive to match the preference of each

student to those of the faculty and to an available research project. Attendance at these presentations is mandatory for all MS candidates unless a student has been admitted as a direct recruit to an adviser. **Each student must visit a minimum of three faculty members** for detailed discussions on the research topics of most interest to him/her. Only those faculty members who make a presentation are available for selection as an adviser. Students will be notified by the end of the first semester of their adviser appointment. Students who fail to identify an appropriate adviser by the spring semester of their first year may be subject to dismissal from the program at the end of their first year in residence.

Students whose adviser's primary appointment is in a different department will be required to follow the requirements outlined in the CHBE guidelines.

#### **I.4 Candidacy, Oral Defense and Thesis Submission**

Each student must complete a research project, write a thesis and successfully defend his/her work in a public oral examination.

All students seeking the MS degree must submit a petition for approval of candidacy with the Department Chair or the Graduate Studies Committee (GSC) Director. The candidacy petition will then be sent to the Office of Graduate and Postdoctoral Studies. Since this petition must reach the Office of Graduate and Postdoctoral Studies by the deadlines posted for fall, spring and summer semesters on the academic calendars it is advisable that the student complete the candidacy form at least one week prior to the posted deadlines. The student petition for candidacy must be approved before the beginning of the student's fifth semester in residence. The final oral examination in defense of the MS thesis can be given only after the candidacy has been approved.

A committee for the oral examination, known as the thesis committee, is selected at the time of candidacy. The thesis committee must consist of at least three members. Two, including the committee chair, must be members from the Department of Chemical and Biomolecular Engineering, and a third faculty member whose primary appointment is within or outside the department at Rice University. Additional members may be added at the discretion of the student and the adviser, provided the previous guidelines have been met. See the General Announcements for thesis committee selection requirements ([ga.rice.edu](http://ga.rice.edu)).

Thesis defense instructions are posted on the Graduate and Postdoctoral Studies website at [gpsdocs.rice.edu](http://gpsdocs.rice.edu). In general students must:

- Confirm with the student's adviser they are ready to defend
- Contact the Academic Coordinator regarding plans to defend
- Confirm the Approval of Candidacy form is up-to-date (ex. Committee changes)
- Schedule a thesis defense date with the thesis committee
- Submit **at least one week (7 calendar days)** before the scheduled oral exam, in either final or advanced draft form, a completed thesis to committee members
  - In the course of the thesis defense the thesis committee members may recommend revisions or additions, which must be incorporated in the final thesis
- Reserve a room for the defense
- Submit the final thesis announcement at [events.rice.edu/rgs/](http://events.rice.edu/rgs/) one week prior to the thesis defense date

After passing the defense the student will need to make sure the Approval of Candidacy Form is signed by each committee member. Within a week of the defense a copy of the Approval of Candidacy Form will need to be uploaded to the Graduate and Postdoctoral Studies submission website. MS candidates must submit their final thesis within six months of passing the oral examination.

Complete instructions, including deadlines, can be found at [graduate.rice.edu/submitthesis](http://graduate.rice.edu/submitthesis).

## **I.5 Satisfactory Progress**

MS students are expected to make continuous and **satisfactory progress** toward fulfilling their MS requirements.

### **Satisfactory Progress in Courses:**

By the end of the second semester in residence, MS students will have completed 18 semester hours of advanced courses with grades of B- or better in each course. In accordance with University policy (see

General Announcements at [ga.rice.edu](http://ga.rice.edu)) graduate students are placed on academic probationary status by the Office of Graduate and Postdoctoral Studies if their cumulative grade point average falls below 2.67 or their semester GPA falls below 2.33. The period of probation will extend to the end of the next semester in which the student is enrolled.

### **Satisfactory Progress in Research:**

Students are expected to meet the research expectation and requirement provided by the thesis adviser. Failure to meet these expectations may result in a warning to the student and notification to the Graduate Studies Committee. Advisers will notify in writing (email or letter) when inadequate research progress is being made as a warning of unsatisfactory performance. Dismissal from the graduate program is possible if the student does not meet the required expectations and requirements received from the thesis adviser. Students with unsatisfactory progress in two consecutive semesters will be automatically dismissed from the graduate program. The Graduate Studies Committee, the thesis adviser and the department chair will consider all the factors that may have affected a student's performance before reaching such a decision. Rice University dismissal policy can be found in the General Announcements Academic and Judicial Discipline ([ga.rice.edu](http://ga.rice.edu))

### **Summary of Expected MS Milestones:**

- Year 1: Courses completed, thesis committee formed
- Year 2: Candidacy declared, thesis defense
- Year 2: Continued Financial Support requested (if applicable). See Section II

## **II. SUPPORT LIMITATION RULE FOR MS STUDENTS**

The department does not normally admit MS students who do not have funding from external sources. MS students who are supported by the department are subject to the normal limit of financial support for MS students, which is four semesters (excluding summers). Students who anticipate taking longer than four semesters for completion for the MS degree, must request in writing an extension of the support at least two months prior to the end of the financial support period. The student must also submit a progress report to be reviewed by their adviser and presented to the department Graduate Studies Committee for review.



### **III. RICE UNIVERSITY POLICIES APPLICABLE TO ALL GRADUATE STUDENTS**

#### **III.1 Changing Research Groups/Advisers or Departments**

Before any group/adviser change can be made the student must:

- a) Discuss any issues with their current adviser. Some adjustments to the research focus may resolve the problem
- b) Speak to another faculty member whose research interest may align with the student's focus. The adviser must also have funds to support a transferred student.
- c) When an alternate faculty member agrees to replace the student's current adviser the potential new adviser must obtain consent from the original adviser. The adviser change must also be approved by the department CHBE Graduate Studies Committee

#### **III.2 Transferring from a Research/Thesis Program to Professional Program**

Admission into a professional program is granted separately from admission into a research or thesis program. Students who wish to change from a thesis program to a professional degree program must petition the department in writing. Any program change request must be approved by the department and the dean of engineering. The request will then be sent to the Office of Graduate and Postdoctoral Studies for consideration and final approval. If approved, students who received tuition waivers while enrolled in the thesis program will be expected to repay the tuition for the completed terms before a professional degree is awarded. Professional degree programs terminate when the degree is awarded.

#### **III.3 Graduate Student Mentors**

Graduate students will have access to peer mentors. A peer mentor is another student who will provide support, encouragement and information to students in their department who are just beginning the graduate program. The Chemical and Biomolecular Engineering Graduate Student Association is dedicated to serving the needs of the graduate student population. GSA members serve as a resource to help graduate students navigate their way through the CHBE graduate program.

### **III.4 Leaves of Absence**

All graduate students are expected to maintain continuous enrollment, unless an official leave of absence has been granted. A leave of absence is granted only by the Office of Graduate and Postdoctoral Studies upon the recommendation of the department, and is granted only to students in good standing with the University. Leave must be approved in advance of the academic semester in question; it will not be granted after the student has registered for courses or after the registration period has passed. Normally, leave of absence is granted for no more than two consecutive semesters. No work toward a degree may be done at Rice or involve Rice faculty (or facilities) during a student's leave of absence.

Failure to register for any period without a leave of absence granted by the Associate Provost constitutes *de facto* withdrawal. If a student later wishes to resume study, reapplication is required. Readmission is given only on the recommendation of the department and the approval of the Associate Provost.

### **III.5 Guidelines for Dismissals, Petitions, Appeals, Grievances, and Problem Resolution.**

Rice University graduate students have guidelines to assure fairness in problem resolution. These policies strive to uphold standards and raise the quality of graduate programs. They provide graduate students with an environment that has high standards, clear assessments of the student's achievements and fair and transparent procedures for handling cases of inadequate academic progress. Please find the complete list of guidelines in the General Announcements for graduate students at [ga.rice.edu](http://ga.rice.edu). These guidelines are to be followed by all Rice graduate students. The CHBE Graduate Studies Committee will be the standing committee for all issues regarding these guidelines.

### **III.6 Title IX Sexual Misconduct Policy**

Rice encourages any student who has experienced an incident of sexual, relationship, or other interpersonal violence, harassment or gender discrimination to seek support. There are many options

available both on and off campus for all graduate students, regardless of whether the perpetrator was a fellow student, a staff or faculty member, or someone not affiliated with the university.

Students should be aware when seeking support on campus that most employees are required by Title IX to disclose all incidents of non-consensual interpersonal behaviors to Title IX professionals on campus who can act to support that student and meet their needs. The therapists at the Rice Counseling Center and the doctors at Student Health Services are confidential, meaning that Rice will not be informed about the incident if a student discloses to one of these Rice staff members. Rice prioritizes student privacy and safety, and only share disclosed information on a need-to-know basis. If you are in need of assistance or simply would like to talk to someone, please call Rice Wellbeing and Counseling Center, which includes Title IX Support: (713) 348-3311.

Policies, including Sexual Misconduct Policy and Student Code of Conduct, and more information regarding Title IX can be found at [safe.rice.edu](https://safe.rice.edu).

### **III.7 Time Boundaries for MS Degrees**

Graduate students who have exceeded their time boundaries for achieving candidacy, defending their thesis or being beyond their time to degree without prior approval will be assessed a \$125 reinstatement fee by the Office of Graduate and Postdoctoral Studies. Students who anticipate exceeding their time boundaries may petition for an extension of their time boundaries by submitting an extension request to Graduate and Postdoctoral Studies prior to the deadline in order to avoid the fee.