

Proposal for a Non-Thesis M.S. Program in ChBE

Revised: 1/26/2007

Admission requirements

Admission requirements are the same as for the thesis-M.S. program: Students are required to have an undergraduate GPA of 3.0 or higher (4.0 scale). Although not required for domestic students applying for the M.S. program, applicants are encouraged to take the Graduate Record Exam (GRE) General Test prior to submitting their application. The GRE is required for international students and all students who apply to the Ph.D. program. There are no formal minimum scores requirements for the GRE. Average scores for recent applicants are verbal: 550/800, quantitative: 750/800, and, and analytical writing: 4.5/6.0.

International students for whom English is not their native language may be required to take an English proficiency exam, usually TOEFL.

Applications for graduate study are accepted throughout the year.

Course requirements

The total number of course credit hours is the same as for the thesis option; however, to increase flexibility there are fewer core courses and more elective hours.

1. ***Core courses (15 credit hours)***
 - a. ChBE 801 – Chemical Engineering Analysis
 - b. ChBE 808 – Advanced Thermodynamics
 - c. ChBE 812 – Advanced Kinetics and Reactor Design
 - d. ChBE 815.01 – Advanced Mass Transfer
 - e. ChBE 815.08 – Advanced Momentum Transfer
2. ***Chemical engineering electives (12 credit hours):*** Four three-credit ChBE technical elective courses.
3. ***Additional electives (12 credit hours):*** Three technical elective courses. These may be ChBE courses or graduate-level courses in mathematics, statistics, chemistry, biology, physics, or other engineering disciplines.
4. ***Independent study project (6 credit hours):*** Short term (1-2 quarters) project conducted under supervision of a faculty advisor on a topic of interest to the student. Project may be conducted at the student's work location. Project may be an in-depth study and analysis of technical literature on the topic of interest, or an original project involving experimental, computational, and/or theoretical work. The project is graded pass/fail.

Master's examination

The Master's Examination is taken after submitting the Application to Graduate form and during the quarter in which the student plans to graduate. A student must be registered for at least three graduate credit hours during the quarter this examination is taken. The student must successfully complete two activities that comprise the Master's examination: 1) preparation of a written report summarizing their independent study project; 2) oral presentation and defense of their project. The oral examination may also test the student's knowledge of engineering fundamentals. The exam committee is composed of at least two faculty members, including the project advisor.

Teaching experience requirement

There would not be a Teaching Associate (TA) requirement for non-thesis students.

Seminar

Non-thesis students would not be required to attend weekly Departmental seminars.

Time limitations

There is no time limit, although students are encouraged to complete the program within 5 years of admission.

Transfer credit

A maximum of nine quarter credit hours may be accepted for coursework taken at another institution. Transfer courses are evaluated on a case-by-case basis by the Department.

Policy for applicants with non-chemical engineering undergraduate degrees

Students entering the ChBE graduate program without a B.S. degree in chemical engineering must first successfully complete the following undergraduate courses or have equivalent coursework in these subject areas: ChBE 509 (Thermodynamics II), ChBE 520 (Momentum Transport), ChBE 522 (Mass Transport), ChBE 610 (Chemical Kinetics and Reactor Design), Math 255 or 415 (Differential Equations).