

## Emphasis - Chemical Engineering

- [M.S. in Engineering Science](#)
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### **M.S. in Engineering Science** **Description**

The M.S. in engineering science is offered in a number of emphasis areas: aeroacoustics, chemical engineering, civil engineering, computational hydroscience, computer science, electrical engineering, electromagnetics, environmental engineering, geology, geological engineering, hydrology, mechanical engineering, material science and engineering, and telecommunications.

#### **Minimum Total Credit Hours: 30** **Course Requirements**

A student must complete the requirements for an emphasis area. For most emphasis areas, the degree may be completed as a:

- Thesis option (30-hour program, to include 6 hours of thesis),
- Nonthesis option (30-hour program, to include a minimum of 3 hours of a design-oriented project course), or
- Coursework option (30-hour program, to include a final oral examination in front of a committee, but no written report)

### **Emphasis - Chemical Engineering** **Description**

A degree of M.S. in engineering science with an emphasis in chemical engineering prepares graduates to apply chemical engineering science (transport phenomena, thermodynamics, chemical reaction engineering, and applied mathematics). It enables them to independently execute complex projects and pursue successful careers in engineering, medicine, law, professional education, public policy, the military, management, and sales.

#### **Course Requirements**

The M.S. in engineering science with an emphasis in chemical engineering requires a minimum of 30 hours of graduate credit. The specific coursework is agreed upon by the student and his or her committee, but must include at least two of the following courses:

- Advanced Transport Phenomena I (Ch E 560)
- Advanced Transport Phenomena II (Ch E 561)
- Thermodynamics of Chemical Systems (Engr 665)
- Chemical Reaction and Reactor Analysis I (Engr 669)

Students pursuing the thesis option will also complete additional 500-/600- level courses to bring the total up to 21 hours of graded course work, plus 3 hours of Research Seminar (Ch E 515). In addition, students must complete no less than 6 hours of thesis (Engr 697) credit.

Students pursuing the nonthesis option require at least 27 hours of 500-/600-level graded course work, plus 3 hours or more of a project (Engr 693 and Engr 694).

#### **Other Academic Requirements**

A candidate must prepare and orally defend a thesis or project.

