CHEMICAL ENGINEERING

Requirements

Master of Chemical Engineering
Master of Science Chemical Engineering (p. 1)

Master of Chemical Engineering (MCHE) Requirements

- 12 credit hours of core course work
- 12 credit hours of course work in advisory committee approved concentration area
- 24 credit hours of elective course work

Core Coursework
(12 credit hours required)

- Transport Phenomena
  - (CHE 502 Transport Phenomena or approved equivalent)
- Advanced Reactor Design
  - (CHE 504 Advanced Reaction Engineering or approved equivalent)
- Advanced Thermodynamics
  - (CHE 513 Advanced Chemical Engineering Thermodynamics or approved equivalent)

Concentration Area
(12 credit hours required)

With the understanding that a graduate degree indicates that a student has shown the motivation and ability to pursue specialized study past the B.S. degree, the MCHE degree requires students to pursue **12 credit hours of course work in a committee-approved concentration area.**

Possible Options

1. Concentration area course work could be concentrated in a particular sub-discipline of Chemical Engineering (e.g. control theory) with relevant graduate courses from outside the department (e.g. EE) also qualifying for the program in relevant instances.
2. Concentration area course work could be performed in an engineering department different from the student's undergraduate degree to gain competency in a related engineering discipline (e.g. ABBE).
3. Concentration area course work could be performed in a non-technical business-related discipline such as economics, business, or finance.
4. Concentration area course work could include up to 8 hours of advisor-supervised project research resulting in a non-research Master's project report with the aim of reviewing and commenting upon a current topic area (advisory committee-approved) of relevance to the chemical engineering profession. Such a report would include literature, or literature and laboratory research, and would be written more in the style of a review article or project report rather than a scientific research document.

Electives

A minimum of 24 credit hours of electives approved by the advisory committee is required. Some suggested electives from the field of chemical engineering are listed below.

Code	Title	Hours
CHE 441	Polymer Engineering	4
CHE 465	Energy and the Environment	4
CHE 470	Safety, Health, and Loss Prevention	4
CHE 525	Process Analytics	4
CHE 530	Petrochemical Processes	4
CHE 540	Advanced Process Control	4
CHE 545	Introduction to Biochemical Engineering	4
CHE 546	Bioseparations	4

Master of Science (MS) in Chemical Engineering Requirements

- 36 credit hours of course work
- 12 credit hours of thesis work

Core Coursework
(12 credit hours required)

- An advanced engineering thermodynamics course (CHE 513 Advanced Chemical Engineering Thermodynamics or ME 501 Advanced Thermodynamics or equivalent)
- An advanced course in fluid flow and/or heat transfer (CHE 502 Transport Phenomena or equivalent)
- CHE 504 Advanced Reaction Engineering

Minor Coursework
(8 credit hours required)

- An area of concentration approved by the thesis advisory committee

Electives

A minimum of 16 credit hours of electives approved by the advisory committee is required. Some suggested electives from the field of chemical engineering are listed below:

Code	Title	Hours
CHE 441	Polymer Engineering	4
CHE 470	Safety, Health, and Loss Prevention	4
CHE 504	Advanced Reaction Engineering	4
CHE 525	Process Analytics	4
CHE 530	Petrochemical Processes	4
CHE 540	Advanced Process Control	4
CHE 545	Introduction to Biochemical Engineering	4
CHE 546	Bioseparations	4