Master of Engineering (ME), Major: Chemical Engineering

The Chemical Engineering Program fosters a community of scholars, among its faculty members and graduate students, with the interest of advancing knowledge and contributing to the profession. The program offers a graduate program leading to the following degrees:

- Master of Engineering, major Chemical Engineering

The ME program will be open to students with a Bachelor of Engineering (BE) in Chemical Engineering, or other related disciplines.

The student must complete a minimum of 21 course credit hours and a 9 credit hours thesis for the ME option (30 credits in total), accomplished on a full or part-time basis as below. A minimum of one calendar year of residence is required for graduation from this program.

The required 30 course credit hours and thesis are distributed as follows:

A mandatory three-credit course in applied mathematics. The math course or math-oriented course offered by other departments must be approved by the graduate student advisor; acceptable courses include, but are not limited to the following:

- MATH 350: Discrete Models for Differential Equations
- MATH 351: Optimization and Non-Linear Problems
- ENMG 604: Deterministic Optimization Models
- MECH 630: Finite Element Methods in Mechanical Engineering
- MECH 663: Computational Fluid Dynamics

At least two (for ME degree) advanced fundamental chemical engineering three-credit courses from two different concentrations (students cannot receive credits for undergraduate courses taken during BE in chemical engineering). The following is a list of recommended courses by concentration:

**Reaction Engineering:** CHEN 517, CHEN 617
**Transport Phenomena:** CHEN 511, CHEN 613, CHEN 615
**Process Engineering:** CHEN 570, CHEN 571, CHEN 651

- Seminar Course: CHEN 797 (zero credit). Students must register for the course once per year.
- Thesis: CHEN 799 (equivalent to nine credit hours) based on independent research.

A mandatory six-credit courses from Chemical Engineering Electives:

- CHEN 531: Principles of Corrosion (3 cr.),
- CHEN 612: Desalination (3 cr.),
- CHEN 618: Colloid and Interface Science (3 cr.),
- CHEN 670: Advanced Process Flowsheeting (3 cr.),
- CHEN 672: Polymer Science (3 cr.),
- CHEN 673: Engineering of Drug Delivery Systems (3 cr.),
- CHEN 674: Process Operations and Diagnosis (3 cr.),
- CHEN 690: Reservoir Engineering (3 cr.),
- CHEN 796: Engineering Literature Critique (1 cr.),
- CHEN 798: Special Topics in Chemical Engineering I (3 cr.)

A mandatory six-credit courses from Non-Chemical Engineering Electives:

- CIVE 654: Solid Waste Management I (3 cr.),
- CIVE 656: Air Pollution and Control I (3 cr.),
- CIVE 753: Processes in Water and Wastewater Treatment (3 cr.),
- MECH 660: Advanced Fluid Mechanics (3 cr.),
- MECH 701: Principles of Combustion (3 cr.),
- MECH 761: Convective Heat Transfer (3 cr.)

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