

Engineering, MS

Master of Science in Engineering Degree Program

The Master of Science Degree in Engineering is a general engineering program with four areas of concentration:

- Chemical Engineering
- Civil Engineering
- Environmental Engineering
- Mechanical Engineering

Each area of concentration has an option of a thesis or non-thesis degree plan. Each option includes 12 semester credit hours of graduate courses in general engineering with the remaining hours to be determined by the student and his academic advisor during the first semester of acceptance to the graduate program as a degree status student.

During the first semester of graduate degree status, the student should select an advisory committee consisting of at least three members, two of whom must come from the engineering faculty, and the chairman of the committee who shall be a full member of the graduate faculty in engineering.

Degree Program Requirements

General Engineering Requirements ¹

Select four of the following: 12

GNEG 5306	Engineering Analysis I
GNEG 5307	Engineering Analysis II
GNEG 5304	Engineering Probability and Statistics
GNEG 5313	Engineering Numerical Methods
GNEG 5319	Special Topics ³

Option (Select one below) 18

Thesis Option

GNEG 5608 Thesis

Technical Electives (12 hours of graduate level courses identified based on concentration and in consultation with advisor)

Non-Thesis Option

GNEG 5320 Graduate Internship ⁴
or GNEG 5330 Graduate Project

Technical Electives (15 hours of graduate level courses identified based on concentration and in consultation with advisor)

Total Hours 30

¹ The student must consult his/her academic advisor and take at least two courses in GNEG 5306, GNEG 5307, GNEG 5304, and GNEG 5313 .

² Prior approval by the Degree Program Head is required for taking the Graduate Internship.

³ GNEG 5319 may be repeated when topic changes.

⁴ Select either GNEG 5320 for an internship or GNEG 5330 for a project.

Master of Science in Engineering Degree Sequence

First Year

Fall - Semester 1	Hours	Spring - Semester 2	Hours
General Engineering Requirement		3 General Engineering Requirement	3
General Engineering Requirement		3 General Engineering Requirement	3
Technical Elective		3 Technical Elective	3
Total		9 Total	9

Total Hours: 18

Second Year

Fall - Semester 1	Hours	Spring - Semester 2	Hours
Technical Elective		3 Option	6
Technical Elective		3 Thesis Option	

	GNEG 5608	
	Non-Thesis Option	
	GNEG 5320	
	or GNEG 5330	
Total	6 Total	6

Total Hours: 12

Name	Unit
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Total Semester Credit Hours: 30

Marketable Skills

Marketable skills, as defined by the Texas Higher Education Coordinating Board's 60x30TX Plan (<http://www.60x30tx.com/>), include interpersonal, cognitive, and applied skill areas, are valued by employers, and can be either primary or complementary to a major. Marketable skills are acquired by students through education, including curricular, co-curricular, and extracurricular activities.

MSENGR Engineering

Degree Skills

1. Ability to use a logical and creative approach to solve complex engineering problems
2. Ability to plan, design, and organize complex projects
3. Advanced oral and written communication skills related to technical subject matter

Concentration Skills

1. Hypothesis-driven research formulation and execution
2. Ability to use or develop data science analytics tools
3. Advanced mathematical and analytical skills that are applicable to one or more of Chemical Engineering, Civil Engineering, Mechanical Engineering, or Electrical and Computer Engineering, and Computer Science

Co-curricular and Extracurricular Skills

1. Interpersonal skills that promote collaboration and emphasize behavior and conflict resolution
2. Industrial and practical experience through internships and sponsored projects
3. Experience with preparing and delivering results at technical and scientific conferences