

## MASTER OF SCIENCE IN ENGINEERING DEGREE PROGRAM

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

Chemical Engineering

**Civil Engineering**

**Environmental Engineering**

Mechanical Engineering

The **Civil Engineering** and the **Environmental Engineering** concentrations are administered through the **Department of Civil and environmental Engineering**. The student must specify the concentration in the graduate school application.

### ADMISSION

The following are university admission requirements to the master's programs in the College of Engineering. Students will receive graduate degree status admission if they satisfy all the admission requirements.

1. Meet the requirements for admission to the graduate school.
2. Have an undergraduate degree from an ABET (or equivalent) accredited program.
3. Have a cumulative Grade Point Average (GPA) of 2.75 on a 4.00 scale.
4. Have previous educational background in the intended area of study.

Applicants who do not satisfy the above admission requirements may be awarded provisional graduate degree status with the minimum GPA of 2.50 on a 4.0 scale. An applicant with a Bachelor's degree who has acquired relevant experience that could contribute to ensuring their success in graduate study may be considered for conditional admission upon a holistic review and recommendation by the respective department head and dean.

Conditional students must petition the Dean of Engineering for full status to the graduate program during the term in which the first 12 graduate semester credit hours will be completed. To be considered for full degree status provisional students must have earned a minimum GPA of 3.0 in all courses recommended by the faculty advisor and the head of the graduate program.

Students may be awarded non-degree admission status if they satisfy the requirements as outlined in the catalog section "Types of Admission" under Admissions Information and Requirements.

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## CURRICULUM

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<sup>1</sup> ..... 12 SCH**

GNEG 5306 Engineering Analysis I  
GNEG 5307 Engineering Analysis II  
GNEG 5304 Engineering Probability and Statistics  
GNEG 5313 Numerical Methods in Engineering  
GNEG 5302 Operations Research  
GNEG 5319 Special Topics<sup>3</sup>

### Option (Select one below)

#### Thesis Option

**GNEG 5608 Thesis..... 6 SCH**

**Technical Electives ..... 12 SCH**

12 hours of graduate level courses identified based on concentration and in consultation with advisor

#### Non-Thesis Option

**General Requirements ..... 3 SCH**

GNEG 5330 Graduate Project<sup>2</sup> (or)  
GNEG 5320 Graduate Internship

**Technical Electives ..... 15 SCH**

15 hours of graduate level courses identified based on concentration and in consultation with advisor

**Total Degree Requirements ..... 30 SCH**

<sup>1</sup> The student must consult his/her academic advisor and take at least two courses in GNEG 5306, 5307, 5304, 5313 or 5302.

<sup>2</sup> Prior approval by the Degree Program Head is required for taking the Graduate Internship

<sup>3</sup> GNEG 5319 may be repeated when topic changes.

Some of the courses offered in Civil and Environmental Engineering areas in the last few years include

### **Civil Engineering Area**

CVEG 5303 - Finite Element Analysis

CVEG 5305 - Prestressed Concrete Design

CVEG 5322 - Design of Bridges

CVEG 5363 - Advanced Foundation Design

CVEG 5306 - Geospatial Information Management 6

CVEG 5307 - Water Resources Systems 5307

CVEG 5309 - Geosciences and Geospatial Information Concepts

GNEG 5319 - Special Topics (Offering of courses within the last few years)

- Advanced Steel Design
- Design of Highway Structures
- Seepage and Earth Dams

### **Environmental Engineering Area**

CVEG 5300 - Physical/Chemical Unit Operations in water and Wastewater Treatment

CVEG 5301 - Hazardous Waste Management

CVEG 5302 - Air Pollution Engineering

CVEG 5304 - Energy and Environmental Sustainability

CHEG 5303 - Environmental Processes

CHEG 5304 - Remediation Technologies

GNEG 5319 – Special Topics (Offering of courses within the last few years)

- Global Warming & Climate Change
- Energy Technologies
- Environmental Modeling
- Geo-Environmental Engineering

For more information, please visit the Roy G. Perry College of Engineering graduate program website at -

<https://catalog.pvamu.edu/academicprogramsanddegreeplans/roygperrycollegeofengineering/#graduatetext>