

# M.S. in Environmental Engineering

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## Educational Objectives

- Students will demonstrate an ability to apply advanced science and engineering concepts to the solution of complex engineering problems.
- Students will demonstrate an ability to communicate effectively orally and in written form.
- Students will demonstrate an ability to research, analyze, and/or design complex engineering systems to meet a desired need.

## Admission Requirements

Applicants must have completed a bachelor's in civil engineering or another related engineering discipline. Candidates wishing to pursue acceptance into the program with a non-Civil/Environmental Engineering background are welcome to apply and should request specific detailed information regarding admission policy and possible leveling courses with the graduate advisor. Students need at least a 2.5 undergraduate grade point average to be considered for admission. Applicants who do not have degrees from English medium universities are required to submit scores from the Test of English as a Foreign Language (TOEFL). A score of 550 is required for admission.

**Recommendations for admission are made on the basis of the following:**

- Grade point average in upper-division or graduate work as appropriate.
- Resume or evidence of relevant personal or professional experience.
- Two letters of recommendation.

## Degree Requirements

For the Master of Engineering in Civil and Environmental Engineering degree, students are required a total of thirty-three (33) credit hours of coursework with grades of B or higher.

## Water Resources Engineering Management Track

Students have the option of completing the Water Resources Engineering Management Track within the MECEE program by completing 18 SCH of the MECEE program plus 15 SCH from the following list:

| Code     | Title                          | Hours |
|----------|--------------------------------|-------|
| CE 5340  | Surface Water Hydrology        | 3     |
| CE 5302  | Grndwtr Hydro & Polltn         | 3     |
| CE 6313  | Water Resources Mgmt           | 3     |
| CE 5345  | Adv Phy-Chem Water Treat       | 3     |
| CE 5313  | Water Reclamation & Reuse      | 3     |
| CE 5349  | Design-Filtrat'n/Membrane Proc | 3     |
| CE 5409  | Environmental Eng Chemistry    | 4     |
| ESE 6301 | Environmental Law and Policy   | 3     |
| CE 5344  | Biol Unit Operations/Processes | 3     |
| CE 5341  | Hydraulic Computer Application | 3     |

## Degree Plan

Required Credits: 30

| Code   | Title                        | Hours |
|--|------------------------------|-------|
| <b>MSENE in Environmental Engineering (All courses require a grade of C or better)</b> |                              |       |
| Required Courses:  |                              |       |
| CE 5398  | Thesis                       | 3     |
| CE 5399  | Thesis                       | 3     |
| Course Work:   |                              |       |
| Select twenty-four hours of the following:   |                              | 24    |
| CE 5302  | Grndwtr Hydro & Polltn       |       |
| CE 5304  | Adv Design of Struct Systms  |       |
| CE 5305  | Advanced Structural Analysis |       |
| CE 5307  | Finite Element Method (3-0)  |       |

|         |                                |
|---------|--------------------------------|
| CE 5310 | Risk/Reliability Anal-Engr Sys |
| CE 5312 | Environmental Processes        |
| CE 5313 | Water Reclamation & Reuse      |
| CE 5317 | Stats Methods for Civil Eng    |
| CE 5318 | Bridge Engineering             |
| CE 5320 | Advanced Geotechnical Eng.     |
| CE 5323 | Prestressed Concrete           |
| CE 5324 | Construction Management        |
| CE 5325 | Design for Dynamic Loads       |
| CE 5326 | Air Pollution Control          |
| CE 5332 | Methods Engineering Computatio |
| CE 5340 | Surface Water Hydrology        |
| CE 5341 | Hydraulic Computer Application |
| CE 5344 | Biol Unit Operations/Processes |
| CE 5345 | Adv Phy-Chem Water Treat       |
| CE 5349 | Design-Filtrat'n/Membrane Proc |
| CE 5351 | Mech Pavement Design/Analysis  |
| CE 5352 | Foundation Design II           |
| CE 5353 | Geotech. Site Investigation    |
| CE 5355 | Advanced Civil Eng. Materials  |
| CE 5356 | Sustainable Engr Design        |
| CE 5357 | Structural Loads Models        |
| CE 5358 | Traffic Engineering            |
| CE 5359 | Foundation Design I            |
| CE 5360 | Highway Geometric Design       |
| CE 5361 | Traffic Flow/Simulat Modeling  |
| CE 5362 | Urban Transportation Planning  |
| CE 5365 | Infrastrct Syst Design & Eval  |
| CE 5371 | Construction Dispute Resolutn  |
| CE 5382 | Adv Constr Cost Analysis & Bid |
| CE 5385 | Construction Internship        |
| CE 5386 | Adv Construction Law & Ethics  |
| CE 5387 | Adv Construction Scheduling    |
| CE 5388 | Advanced Construction Safety   |
| CE 5389 | Adv Constr Methods & Materials |
| CE 5390 | Special Topics Civil Engr      |
| CE 5391 | Individual Studies             |
| CE 5392 | Earth Construction             |
| CE 5394 | Graduate Research              |
| CE 5395 | Construction Claims            |
| CE 5396 | Graduate Projects              |
| CE 5397 | Graduate Projects              |
| CE 5409 | Environmental Eng Chemistry    |
| CE 5694 | Graduate Research              |
| CE 6195 | Civil Engineering Seminar      |
| CE 6296 | Doctoral Research              |
| CE 6301 | Infrastructure Management      |
| CE 6303 | Engineering Analysis (3-0)     |
| CE 6306 | Infrastructure Engineering     |
| CE 6313 | Water Resources Mgmt           |
| CE 6332 | Mod Methods/Engr Computation   |
| CE 6396 | Doctoral Research              |

|                    |              |           |
|--------------------|--------------|-----------|
| CE 6398            | Dissertation |           |
| CE 6399            | Dissertation |           |
| <b>Total Hours</b> |              | <b>30</b> |