

Master of Science in Engineering

Degree Codes: ES MSE ENGR

Concentration: Civil Engineering

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Overall requirements for the specific options are as follows:

Requirements for all degree types

| Course Category | Number | Course Name | | SCH | |
|---------------------|--|---|---|-----|--|
| Core Courses | ENGR 510 | Introduction to Engineering and Science Research Methods | 2 | 5 | |
| | Engineering Mathematics: select one of the following two courses | | | | |
| | ENGR 541 | Advanced Mathematical Methods for Engineering and Physics | 3 | | |
| | ENGR 592 | Engineering Computational Methods | 3 | | |
| Total | | | | 5 | |

Thesis Option (in addition to above)

| Course Category | Number | Course Name | | SCH |
|------------------------------|--|--|---|-----|
| Core Course | ENGR 511 | Eng. And Science Research Proposal Development | 1 | 1 |
| Concentration Course* | Four courses (12 SCH) from the list given below* | | | 12 |
| Electives** | Two courses (6 SCH) approved by the Advisory** | | | 6 |
| Thesis | CVEN 551 | Research & Thesis (taken twice) | | 6 |
| Total | | | | 30 |

Practicum Option (in addition to above)

| Course Category | Number | Course Name | | SCH |
|------------------------------|--|--|---|-----|
| Core Course | ENGR 511 | Eng. And Science Research Proposal Development | 1 | 1 |
| Concentration Course* | Five courses (15 SCH) from the list given below* | | | 15 |
| Electives** | Four courses (12 SCH) approved by the Advisory Committee** | | | 12 |
| Practicum | CVEN 555 | Practicum in Civil Engr. | | 3 |
| Total | | | | 36 |

Coursework Only Option (in addition to above)

| Course Category | Number | Course Name | | SCH |
|------------------------------|--|----------------|---|-----|
| Core Course | ENGR 589A | Special Topics | 1 | 1 |
| Concentration Course* | Five courses (15 SCH) from the list given below* | | | 15 |
| Electives** | Three courses (9 SCH) approved by the Advisory Committee** | | | 9 |
| MATH/STAT | One MATH and one STAT course | | | 6 |
| Total | | | | 36 |

*The concentration courses for the concentration in Civil Engineering from the list below.

Approved Concentration Courses

| CVEN | CVEN | MEMT |
|--|---|--|
| CVEN 425 Traffic Engineering CVEN 427 Design of Highway Pavements CVEN 440 Foundation Engineering CVEN 459 Introduction to Infrastructure Management CVEN 505 Buried Structures-Rehabilitation and Management CVEN 506 Above-ground Structures: Assessment and Rehabilitation | CVEN 510 Advanced Soil Mechanics CVEN 514 Bituminous Mixture Design CVEN 515 Advanced Cementitious Materials CVEN 557 [^] Introduction to Non-Destructive Testing Methods for Civil Engineers CVEN 557 [^] Topics in Bridge Engineering CVEN 580 Trenchless Technology | MEMT 508 Finite Element Analysis MEMT 511 Modern Engineering Materials MEMT 517 Advanced Durability of Materials MEMT 577 Advanced Mechanics of Materials MEMT 588 Inelastic Deformation |

[^]Special topics courses.

**The maximum number of variable credit Directed Study courses that can be applied towards the degree is 6 SCH.

Plan of Study Important Information: When entering information in the plan of study, it is important to note that only core courses and all core courses need to be put in section 1.1, while all others are put in section 1.2 (i.e. special topics, seminar, and research courses). See <http://coes.latech.edu/grad-programs/plan-of-study-instructions.pdf> for plan of study instructions.

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