

## Master of Science in Engineering

**Degree Codes:** ES MSE ENGR

**Concentration:** Civil Engineering

**Contact:** Prof. Nazimuddin Wasiuddin

Overall requirements for the specific options are as follows:

### Requirements for all degree types

Course Category	Number	Course Name		SCH	
<b>Core Courses</b>	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		
<b>Total</b>				5	

### Thesis Option (in addition to above)

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

### Practicum Option (in addition to above)

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

### Coursework Only Option (in addition to above)

Course Category	Number	Course Name		SCH
<b>Core Course</b>	ENGR 589A	Special Topics	1	1
<b>Concentration Course*</b>	Five courses (15 SCH) from the list given below*			15
<b>Electives**</b>	Three courses (9 SCH) approved by the Advisory Committee**			9
<b>MATH/STAT</b>	One MATH and one [STAT course or INEN 514]			6
<b>Total</b>				36

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

**Approved Concentration Courses**

CVEN	CVEN	MEMT
CVEN 502 Infrastructure Management CVEN 505 Buried Structures-Rehabilitation and Management CVEN 506 Above-ground Structures: Assessment and Rehabilitation CVEN 510 Advanced Soil Mechanics CVEN 523 Advanced Asphalt Technology CVEN 542 Sustainable Construction CVEN 561 Traffic Engr Characteristics CVEN 562 Adv. Reinforced Concrete Design CVEN 566 Adv. Structural Steel Design	CVEN 514 Bituminous Mixture Design CVEN 515 Advanced Cementitious Materials CVEN 517 Advanced Pavement Design CVEN 540 Advanced Foundation Engineering CVEN 557 <sup>^</sup> Introduction to Non-Destructive Testing Methods for Civil Engineers CVEN 557 <sup>^</sup> 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

<sup>^</sup>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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