

**MS in Civil and Environmental Engineering (Non-Thesis, On Campus)**

**Curriculum Checklist**

Please refer to the program of study website below as your reference for course selection.

<https://engineering.uga.edu/degree/ms-civil-environmental-engineering/>

Student Name: \_\_\_\_\_

Student ID (810/811): \_\_\_\_\_ First Term of Enrollment: \_\_\_\_\_

**The MS degree in Civil and Environmental Engineering under a thesis option requires a minimum of 33 credit hours in the Program of Study.**

Subject/ Number		Hours	Title	Semester	Approved Electives (Y/N)	Graduate only course (Y/N)	Need Course Sub. (Y/N)
Required Courses	ENGR 8950	1	Graduate Seminar			Y	
	GRSC 7001	1	GradFIRST Seminar (UGA required)				
Civil/Envr Areas of Emphasis (9 -15 credit hours)							
Elective 6000 level or above (20 credit hours)							
Research Courses	ENGR 7010	3	Project-Focused Master Research	List Semesters and Credit Hours:			
Total Credit Hours			<b>Notes:</b> <ol style="list-style-type: none"> <li>A minimum of 30 semester hours of coursework, which must include:                             <ul style="list-style-type: none"> <li>9 credit hours from one of the Civil Engineering or Environmental Engineering Emphasis course lists.</li> <li>20 credit hours from UGA courses open only to graduate students</li> <li>1 hour of ENGR 8950, Graduate Seminar</li> </ul> </li> <li>3 hours of ENGR 7010, Project-Focused Masters Research</li> <li>A minimum of 15 hours of coursework must be in ECAM Civil Engineering Courses.</li> </ol>				

		If you need course substitution, please complete and attach course substitution form. Course substitute form can be found at: <a href="https://engineering.uga.edu/students/graduate/ms-milestones-and-forms/">https://engineering.uga.edu/students/graduate/ms-milestones-and-forms/</a>
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**Comments:**

Project Supervisor (sign and date): \_\_\_\_\_

Date

ECAM (Civil, Env) Graduate Coordinator (sign and date): \_\_\_\_\_

Date

# UGA CENGR M.S. in Civil and Environmental Engineering

## CIVIL ENGINEERING EMPAHSIS COURSE LIST

### Structural and Geotechnical Engineering

- CVLE 6330 Advanced Structural Analysis
- CVLE 6340 Design of Bridges
- CVLE(MCHE)(LAND) 6660 Sustainable Building Design
- CVLE(MCHE) 8350 Nonlinear Finite Element Analysis\*
- CVLE 8390 Earthquake Engineering and Dynamics of Structures\*
- CVLE 8420 Geomechanics\*
- CVLE 8460 Soil Improvement\*
- CVLE 8510 Advanced Concrete Materials\*
- CVLE 8550 Design of Prestressed Concrete Structures\*
- CVLE(MCHE) 8640 Advanced Strength of Materials \*
- ENGR 6350 Introduction to Finite Element Analysis
- ENGR 8103 Computational Engineering: Fundamentals, Elliptic, and Parabolic Differential Equations
- MCHE 4650/6650 HVAC Systems for Buildings and Industry
- MCHE 8380 Continuum Mechanics
- STAT 6315 Statistical Methods for Researchers

### Transportation and Pavement Engineering

- CVLE 4210/6210 Transportation Engineering
- CVLE 4220/6220 Highway Design and Traffic Safety
- CVLE 4470/6470 Pavement Design
- CVLE 8410 Inelastic Behavior of Construction Materials\*
- CVLE 8470 Advanced Pavement System Design\*
- ENGR 8990 Statistical Learning and Data Mining in Engineering
- ENGR 8990 Deep Learning & Engineering Applications\*

## EMPHASIS IN ENVIRONMENTAL ENGINEERING

### Energy Systems

- ENGR 6490 Renewable Energy Engineering
- ENGR 8103 Computational Engineering
- ENVE 6230 Energy in Nature Civilization and Engineering
- ENVE 6250 Energy Systems and the Environment
- ENVE 6530 Energy and Environmental Policy Analysis
- ENVE 8110 Ecological Energetics
- MIST 6550 Energy Informatics

### Environment and Water

- BCHE(ENVE) 6490 Environmental Engineering Remediation Design
- CRSS(GEOL) 8710 Watershed-Scale Modeling

- CVLE(MCHE)(LAND) 6660 Sustainable Building Design
- CVLE 8110 Environmental River Mechanics
- CVLE 8130 Mechanics of Jets and Plumes
- CVLE 8140 Transport and Mixing in Natural Flows
- CVLE(MCHE) 8160 Advanced Fluid Mechanics
- ENGR 8103 Computational Engineering: Fundamentals, Elliptic, and Parabolic Differential Equations (1 hour)
- ENGR 8220 Microfluidic Transport Phenomena
- ENVE 6430 Advanced Open Channel Design
- ENVE 6435 Natural Resources Engineering
- ENVE 6440 Computer Modeling in Water Resources
- ENVE 6450 Engineering Hydrology and Hydraulics
- ENVE 6460 Groundwater Hydrology for Engineers
- ENVE 6470 Environmental Engineering Unit Operations
- ENVE 6550 Environmental Life Cycle Analysis
- GEOL(WASR) 8740 Hydrologic Flow and Transport Modeling
- MCHE 6590 Fluid Mechanics II
- STAT 6315 Statistical Methods for Researchers (4 hours)
- WASR 8200 Hillslope Hydrology Seminar

### **Sustainable Coastal Engineering**

- CVLE 8130 Mechanics of Jets and Plumes
- CVLE 8140 Transport and Mixing in Natural Flows
- CVLE(MCHE) 8160 Advanced Fluid Mechanics
- ENGR 8103 Computational Engineering: Fundamentals, Elliptic, and Parabolic Differential equations
- ENGR 8220 Microfluidic Transport Phenomena
- ENVE 6435 Natural Resources Engineering
- MARS 8030 General Physical Oceanography
- MARS 8100 Estuarine and Coastal Oceanography
- MARS 7380 Quantitative Methods in Marine Science
- MARS 8150 Ocean Waves
- MARS 8510 Modeling Marine Systems
- MCHE 6590 Fluid Mechanics II

Note: \* indicates the course is taught less than "every academic year"