MASTER OF CIVIL AND ENVIRONMENTAL ENGINEERING (MCEE) DEGREE IN THE FIELD OF ENVIRONMENTAL ENGINEERING

Program Learning Outcomes for the MCEE Degree in the field of Environmental Engineering

Upon completing the MCEE degree in the field of Environmental Engineering, students will be able to:

1. Demonstrate a solid foundation in civil and environmental engineering at the graduate level.
2. Demonstrate professional written and oral communication skills.

Requirements for the MCEE Degree in the field of Environmental Engineering

The MCEE degree is a non-thesis master's degree. For general university requirements, please see Non-Thesis Master's Degrees (ga.rice.edu/graduate-students/academic-policies-procedures-regulations-procedures-non-thesis-masters-degrees). For additional requirements, regulations, and procedures for all graduate programs, please see All Graduate Students (ga.rice.edu/graduate-students/academic-policies-procedures/regulations-procedures-all-degrees). Students pursuing the MCEE degree in the field of Environmental Engineering must complete:

• A minimum of 11 courses (30 credit hours) to satisfy degree requirements.
• A minimum of 30 credit hours of graduate-level study (coursework at the 500-level or above).
• A minimum of 24 credit hours must be taken at Rice University.
• A minimum residency enrollment of one fall or spring semester of part-time graduate study at Rice University.
• A minimum of one graduate seminar (CEVE 601 or CEVE 602).
• A final project (CEVE 590).
• A minimum overall GPA of 2.67 or higher in all Rice coursework.
• A minimum GPA of 3.00 or higher in all Rice coursework that satisfies requirements for the non-thesis master's degree.

The Master of Civil and Environmental Engineering (MCEE) degree is a professional non-thesis master's degree. Students who have a BS or BA degree in any field of engineering or related study may apply. Depending on their background, some students may need to fulfill prerequisites or take remedial engineering courses to earn the MCEE degree. For more information, see the department website (http://www.ceve.rice.edu).

The courses listed below satisfy the requirements for this degree program. In certain instances, courses not on this official list may be substituted upon approval of the program's academic advisor, or where applicable, the department or program's Director of Graduate Studies. Course substitutions must be formally applied and entered into Degree Works by the department or program's Official Certifier (https://registrar.rice.edu/facstaff/degreeworks/officialcertifier). Additionally, these must be approved by the Office of Graduate and Postdoctoral Studies. Students and their academic advisors should identify and clearly document the courses to be taken.

Summary

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Total Credit Hours for the MCEE Degree in the field of Environmental Engineering</td>
<td>30</td>
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Degree Requirements

Core Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>CEVE 501</td>
<td>CHEMISTRY FOR ENVIRONMENTAL ENGINEERING AND SCIENCE</td>
<td>18</td>
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<tr>
<td>CEVE 502</td>
<td>SUSTAINABLE DESIGN</td>
<td>11</td>
</tr>
<tr>
<td>CEVE 509</td>
<td>HYDROLOGY AND WATER RESOURCES ENGINEERING</td>
<td>11</td>
</tr>
<tr>
<td>CEVE 511</td>
<td>ATMOSPHERIC PROCESSES</td>
<td>11</td>
</tr>
<tr>
<td>CEVE 534</td>
<td>FATE AND TRANSPORT OF CONTAMINANTS IN THE ENVIRONMENT</td>
<td>11</td>
</tr>
<tr>
<td>CEVE 536</td>
<td>ENVIRONMENTAL BIOTECHNOLOGY AND BIOREMEDIATION</td>
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Seminar

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<tr>
<th>Code</th>
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<tr>
<td>CEVE 601</td>
<td>SEMINAR</td>
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<tr>
<td>CEVE 602</td>
<td>SEMINAR</td>
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Elective Requirements

Engineering Science and Technology

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<tr>
<td>CEVE 504</td>
<td>ATMOSPHERIC PARTICULATE MATTER</td>
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<tr>
<td>CEVE 508</td>
<td>INTRODUCTION TO AIR POLLUTION CONTROL</td>
<td>11</td>
</tr>
<tr>
<td>CEVE 510</td>
<td>PRINCIPLES OF ENVIRONMENTAL ENGINEERING</td>
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<tr>
<td>CEVE 518</td>
<td>ENVIRONMENTAL HYDROGEOLOGY</td>
<td>11</td>
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<tr>
<td>CEVE 520</td>
<td>ENVIRONMENTAL REMEDIATION RESTORATION</td>
<td>11</td>
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<tr>
<td>CEVE 533 / CHEM 533 / MSNE 534</td>
<td>NANOSCIENCE AND NANOTECHNOLOGY</td>
<td>11</td>
</tr>
<tr>
<td>CEVE 535</td>
<td>PHYSICAL CHEMICAL PROCESSES FOR WATER QUALITY CONTROL</td>
<td>11</td>
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<tr>
<td>CEVE 544</td>
<td>ENVIRONMENTAL MICROBIOLOGY AND MICROBIAL ECOLOGY</td>
<td>11</td>
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<tr>
<td>CEVE 550</td>
<td>ENVIRONMENTAL ORGANIC CHEMISTRY</td>
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<tr>
<td>CEVE 592</td>
<td>MODELING AND ANALYSIS OF NETWORKED SYSTEMS</td>
<td>11</td>
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<tr>
<td>STAT 685</td>
<td>ENVIRONMENTAL STATISTICS AND DECISION MAKING</td>
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Sustainable Resource Management  
Select 1 from the following:  

<table>
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<th>Course</th>
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<tr>
<td>ANTH 532</td>
<td>THE SOCIAL LIFE OF CLEAN ENERGY</td>
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<tr>
<td>CEVE 507</td>
<td>ENERGY AND THE ENVIRONMENT</td>
</tr>
<tr>
<td>CEVE 528 / ENGI 528</td>
<td>ENGINEERING ECONOMICS</td>
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<td>CEVE 529 / ENGI 529</td>
<td>ETHICS AND ENGINEERING LEADERSHIP</td>
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<td>EBIO 580</td>
<td>SUSTAINABLE DEVELOPMENT AND REPORTING</td>
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<tr>
<td>ECON 601</td>
<td>ENERGY ECONOMICS I</td>
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<tr>
<td>ENGI 501</td>
<td>WORKPLACE COMMUNICATION FOR PROFESSIONAL MASTER'S STUDENTS IN ENGINEERING</td>
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<tr>
<td>NSCI 511</td>
<td>SCIENCE POLICY, AND ETHICS</td>
</tr>
<tr>
<td>NSCI 610 / ENGI 610</td>
<td>MANAGEMENT FOR SCIENCE AND ENGINEERING</td>
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MCEE Final Project  
CEVE 590 | MCEE SPECIAL STUDY 1  
Total Credit Hours 30

Footnotes and Additional Information  
1 The professional masters final project is overseen by a Civil and Environmental Engineering department faculty member.

Policies for the MCEE Degree in the field of Environmental Engineering  

Department of Civil and Environmental Engineering Graduate Program Handbook  
The General Announcements (GA) is the official Rice curriculum. As an additional resource for students, the department of Civil and Environmental Engineering publishes a graduate program handbook, which can be found here: [https://gradhandbooks.rice.edu/2019_20/Civil_Environmental_Engineering_Graduate_Handbook.pdf](https://gradhandbooks.rice.edu/2019_20/Civil_Environmental_Engineering_Graduate_Handbook.pdf)

Admission  
Applicants pursuing graduate education in structural engineering, structural mechanics, and geotechnical engineering should have a BS in Civil Engineering with a significant emphasis on structural engineering, but students with other undergraduate degrees may apply if they have adequate preparation in mathematics, mechanics, and structural analysis and design.

Applicants pursuing graduate education in environmental engineering or hydrology should have a BS or BA in related areas of science and engineering and preparation in mathematics, science, and engineering or related courses. A BS degree in engineering or a degree in natural science is preferred.

Admission into a professional program is granted separately from admission into a research and thesis program. Professional degree programs terminate when the degree is awarded. Students who wish to continue graduate study after completing a professional program must apply for admission into a research program.

Transfer Credit  
For Rice University’s policy regarding transfer credit, see [Transfer Credit](ga.rice.edu/graduate-students/academic-policies-procedures/). Some departments and programs have additional restrictions on transfer credit. Students are encouraged to meet with their academic program’s advisor when considering transfer credit possibilities.

Departmental Transfer Credit Guidelines  
Students pursuing the MCEE degree in the field of Civil Engineering or Environmental Engineering should be aware of the following departmental transfer credit guidelines:

- No more than 2 courses (6 credit hours) of transfer credit from U.S. or international universities of similar standing as Rice may apply towards the degree.
- Request for transfer credit will be considered by the program director (and/or the program’s official transfer credit advisor) on an individual case-by-case basis.

Additional Information  
For additional information, please see the Civil and Environmental Engineering website: [https://ceve.rice.edu/](https://ceve.rice.edu/)

Opportunities for the MCEE Degree in the field of Environmental Engineering  

Fifth-Year Master’s Degree Option for Rice Undergraduate Students  
Rice students have an option to pursue the Master of Civil and Environmental Engineering (MCEE) degree by adding an additional fifth year to their four undergraduate years of science and engineering studies.

Advanced Rice undergraduate students in good academic standing may apply to the MCEE degree program during their junior or senior year. Upon acceptance, depending on course load, financial aid status, and other variables, they may then start taking some required courses of the master’s degree program. A plan of study will need to be approved by the student’s undergraduate advisor and the (MCEE) chair of the department graduate studies committee.

As part of this option and opportunity, Rice undergraduate students:

- must complete the requirements for their bachelor’s degree and the master’s degree independently of each other (i.e. no course may be counted toward the fulfillment of both degrees).
- should be aware of the financial aid implications, if the conversion of undergraduate coursework to that of graduate level reduces their earned undergraduate credit for any semester below that of full-time status (12 credit hours).
- more information on this Undergraduate - Graduate Concurrent Enrollment possibility, including specific information on the registration process can be found here ([ga.rice.edu/undergraduate-students/academic-opportunities/undergraduate-graduate-concurrent-enrollment](ga.rice.edu/undergraduate-students/academic-opportunities/undergraduate-graduate-concurrent-enrollment)).

George R. Brown School of Engineering Scholarships for Professional Master’s Degrees in Engineering  
The George R. Brown School of Engineering Scholarships for Professional Master’s Degrees in Engineering were established by the Dean of the School of Engineering to encourage outstanding Rice undergraduate engineering students to pursue a professional master’s degree at Rice.
Rice Global Forum (RGF)
The Rice Global Forum (RGF) is a group of industry professionals plus Rice faculty who gather regularly to discuss topics that define their interests. They sponsor the Engineering Competition each year and give out scholarships that are derived from membership dues. The scholarships are geared toward professional master's and terminal research master's (MS) students.

Additional Information
For additional information, please see the Civil and Environmental Engineering website: https://ceve.rice.edu/