Global Engineering Emphasis
The Master of Science degree in civil engineering, with an emphasis in global engineering is a unique program offered by the Mortenson Center at CU Boulder. This degree is a professional track of the MS program in civil engineering. It is designed to offer students exposure to a breadth of knowledge in relevant areas such as global health, development economics and impact evaluation, while also building technical skills and providing the opportunity for further study in a specific area of interest within global engineering. In addition to classroom-based learning, students are required to complete a field practicum, embedded for six weeks to six months with a global development organization. These practicum placements have taken place in over 50 countries, partnering with over 80 organizations. Learn more about our practicum partnerships on the Mortenson Center (https://www.colorado.edu/center/mortenson/education/practicum-placements/) website.

Our graduates are able to provide technical expertise to development agencies or other firms by recognizing the many facets of community development that are critical to sustainable solutions. Students gain skills in data analysis, project management and systems thinking so they can help create and implement solutions to address worldwide needs.

For more information, visit the Mortenson Center in Global Engineering (https://www.colorado.edu/center/mortenson/) webpage.

Distance Education Option
Students can take individual courses toward a master's degree or graduate certificate through distance education (online). For more information, connect with the individual graduate program directly.

Requirements
Course Requirements
The following course requirements are subject to change; for the most current information, visit the department's Water Engineering & Management webpage or the Mortenson Center in Global Engineering (https://www.colorado.edu/center/mortenson/) webpage.

The professional master's degree requires a total of 30 credit hours, at least 24 of which must be completed at the 5000 level or above. At least 18 credit hours must be from coursework in CVEN.

Areas of Emphasis
Water Engineering & Management Emphasis
This emphasis requires at least 30 credit hours from the following categories.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CVEN 5464</td>
<td>Environmental Engineering Processes</td>
<td>3</td>
</tr>
<tr>
<td>CVEN 5404</td>
<td>Water Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>CVEN 5484</td>
<td>Applied Microbiology and Toxicology</td>
<td>3</td>
</tr>
<tr>
<td>Choose one:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CVEN 5524</td>
<td>Drinking Water Treatment</td>
<td>3</td>
</tr>
<tr>
<td>CVEN 5534</td>
<td>Wastewater Treatment</td>
<td></td>
</tr>
<tr>
<td>CVEN 5474</td>
<td>Hazardous and Industrial Waste Management</td>
<td></td>
</tr>
</tbody>
</table>

Water Engineering & Management Core Courses

For more information, visit the department's Water Engineering and Management (https://www.colorado.edu/ceae/research/interdisciplinary-programs/water-engineering-management/) webpage.
CVEN 5564  Water Profession: Communication and Utility Finance  3
CVEN 5574  Water Utility Management: Current Issues and Future Challenges  3
CVEN 5584  Water Profession: Leadership and Management  3

Electives & Master's Report and Seminar Courses
Choose from the following for a total of 9 credits:

- Civil engineering electives (3-9 credits)
- Public affairs electives at CU Denver (0-3 credits)
- Master’s Report and Seminar (2 credits)
- Additional courses to fulfill 30-credit minimum, if necessary.

Total Credit Hours  30

Global Engineering Emphasis
This emphasis requires at least 30 credit hours distributed as follows.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CVEN 5919</td>
<td>Global Development for Engineers</td>
<td>3</td>
</tr>
<tr>
<td>CVEN 5939</td>
<td>Global Development Practicum</td>
<td>3</td>
</tr>
</tbody>
</table>

Global Engineering Series
MCGE offers courses as series of 5-week modules, with each module worth one credit-hour. In the Professional Master’s in Global Engineering, students are required to complete 12 credit-hours from the series:

- Principles
- Project Management
- Field Methods
- Water, Sanitation and Hygiene (WASH)
- Humanitarian Aid
- Household Energy

Option Area
Students work with their faculty advisor to determine which courses to take in order to fulfill the remaining 12 required credit-hours.

- Energy
- Environmental Health
- Construction
- Engineering Management Certificate
- Policy Issues

Total Credit Hours  30

1 Global Engineering Series course options can be found on the Mortenson Center (https://www.colorado.edu/center/mortenson/graduate-education/professional-masters-degrees/) website.

Time Limit
All degree requirements must be completed within four years of the date of commencing coursework.