Master of Science in Civil Engineering (MSCE) Program

<table>
<thead>
<tr>
<th>150 Enrollment (Spring 2020)</th>
<th>MSCE</th>
<th>27 Full-time Faculty</th>
</tr>
</thead>
<tbody>
<tr>
<td>28 MS Degree Awarded (2018-2019)</td>
<td>1:5.5 Faculty to Student Ratio</td>
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Mission Statement

1. Serve both full-time and part-time graduate students
2. Strengthen knowledge of principles and practices
3. Focus on the application of the principles and practices

Admission Requirements

1. BSCE degree (or equivalent) from an ABET accredited program (Admission criteria may vary depending on the degree option)
2. Overall GPA of at least 3.0 (out of 4.0) in all upper division courses
3. Preparatory course work GPA of at least 3.0 (out of 4.0)
4. Additional requirements by individual MSCE programs

Language Proficiency

All applicants with undergraduate education from a foreign country must provide proof of English language proficiency
1. TOEFL: a minimum of 80 (Internet-based test)
2. IELTS: a minimum of 6.5
3. GRE: All international applicants

How to Apply

- New students are accepted every semester
- Applications are accepted at the CSU Apply web site (www2.calstate.edu/apply)
- Use major code 09081 and indicate the desired emphasis area (program)
- Applicants with an undergraduate GPA of less than 3.0 (higher than 2.75) must also submit GRE scores and letter of recommendations
- The application deadline for Fall 2020 semester admission is July 1st, 2020.

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The program requires 30 units.

### Program Required Courses

**Construction Engineering and Management**
- Construction Productivity
- Construction Risk Analysis
- Advanced Construction Project Management
- Construction Project Delivery Methods

**Environmental and Water Resources**
- Municipal Hydraulic Systems
- Applied Hydrology
- Advanced Water Treatment
- Advanced Wastewater Treatment

**Geotechnical Engineering**
- Advanced Soil Mechanics I & II
- Subsurface Exploration and Characterization
- Engineering Geology II
- Engineering Geology II Laboratory

**Structural Engineering**
- Advanced Engineering Mathematics
- Structural Dynamics
- Finite Element Analysis
- Advanced Steel Design
- Advanced Structural Analysis
- Advanced Reinforced Concrete Design
- Seismic Design of Structures

**Transportation Engineering**
- Traffic Flow Analysis
- Transportation Systems Design & Operation
- Transportation Planning & Management

### Technical Electives Courses

**Construction Engineering and Management**
- Construction Financial Management
- Underground Const. & Trenchless Technology
- Temporary Construction Structure
- Construction Leadership and Ethics

**Environmental and Water Resources**
- Environmental Water Resources Seminar
- Environmental Chemistry
- Solid and Hazardous Waste Engineering
- Environmental Remediation
- Air Quality Engineering
- Unit Operations and Processes in Environmental Engineering
- River Mechanics
- Global Climate and Water Supply
- GIS Applications in Civil Engineering

**Geotechnical Engineering**
- Advanced Foundation Engineering
- Slope Stability and Earth Dams
- Rock Mechanics
- Earth Retaining Structures
- Geotechnical Earthquake Engineering
- Pavement Design and Construction

**Structural Engineering**
- Stability of Structures
- Theory of Plates and Shells
- Advanced Timber Design
- Geotechnical Earthquake Engineering
- Advanced Mechanics of Materials
- Advanced Finite Element Modeling
- Numerical Methods

**Transportation Engineering**
- Design of Transportation Facilities
- Public Transportation
- Transportation Administration and Policy
- Airport Engineering
- Transportation Systems Simulation
- Intelligent Transportation Systems
- Traffic Safety Analysis
- Advanced Computer Programming in Civil Eng.
- Multimodal Traffic Analysis
- Traffic Engineering

### Contact (Area coordinator)

- **Construction Engineering and Management**: Jinsung Cho, Ph.D. (jinsungcho@cpp.edu)
- **Environmental and Water Resources**: Monica Palomo, Ph.D., P.E., BCEE (mpalomo@cpp.edu)
- **Geotechnical Engineering**: Mehrad Kamalzare, Ph.D., P.E. (mkamalzare@cpp.edu)
- **Structural Engineering**: Lisa Y. Wang, Ph.D., P.E. (ylwang@cpp.edu)
- **Transportation Engineering**: Wen Cheng, Ph.D., P.E., PTOE (wcheng@cpp.edu)

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Information may be subject to change at any time without prior notice. Technical electives are typical and other courses may also be available.