CIVIL ENGINEERING, BSCV

Requirements for Students Matriculating in or before Academic Year 2023-2024. Learn more about University Academic Regulation 3.1 (http://catalog.okstate.edu/university-academic-regulations/#matriculation).

Minimum Overall Grade Point Average: 2.00
Total Hours: 128

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>ENGL 1113</td>
<td>Composition I</td>
<td>3</td>
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<tr>
<td>or ENGL 1313</td>
<td>Critical Analysis and Writing I</td>
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<tr>
<td>ENGL 3323</td>
<td>Technical Writing</td>
<td>3</td>
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<tr>
<td>or ENGL 1213</td>
<td>Composition II</td>
<td></td>
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<tr>
<td>or ENGL 1413</td>
<td>Critical Analysis and Writing II</td>
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American History & Government
Select one of the following: 3
- HIST 1103 Survey of American History
- HIST 1483 American History to 1865 (H)
- HIST 1493 American History Since 1865 (DH)
- POLS 1113 American Government

Analytical & Quantitative Thought (A)
- MATH 2144 Calculus I (A) 4
- MATH 2153 Calculus II (A) 3

Humanities (H)
Courses designated (H) 6

Natural Sciences (N)
Must include one Laboratory Science (L) course.
- CHEM 1414 General Chemistry for Engineers (LN) 1 4
  or CHEM 1314 Chemistry I (LN)
- BIOL 1114 Introductory Biology (LN) 4
  or BIOL 1113 Introductory Biology (N)
  & BIOL 1111 and Introductory Biology Laboratory (LN)
  or GEOL 1114 Physical Geology (LN)
- PHYS 2014 University Physics I (LN) 4

Social & Behavioral Sciences (S)
- SPCH 2713 Introduction to Speech Communication (S) 3

Diversity (D) & International Dimension (I)
May be completed in any part of the degree plan.
Select at least one Diversity (D) course
Select at least one International Dimension (I) course

College/Departmental Requirements
Basic Science
Select one of the following options: 1 5
- PHYS 2114 University Physics II (LN) 4
  & CIVE 2081 and Environmental Chemistry for Engineers 1

 or
- CHEM 1515 Chemistry II (LN) 1

Mathematics
- MATH 2163 Calculus III 3

Engineering
- ENGR 1111 Introduction to Engineering 1
- ENGR 1322 Engineering Design with CAD 2
- ENGR 1412 Introductory Engineering Computer Programming

Engineering Science
- ENSC 2113 Statics 3
- ENSC 2123 Elementary Dynamics 3
- ENSC 2143 Strength of Materials 3
- ENSC 2141 Strength of Materials Lab 1

Civil Engineering
- CIVE 2041 Civil and Environmental Engineering Seminar 1
- CIVE 3614 Engineering Surveying 4
- CIVE 3813 Environmental Engineering Science 3

Hours Subtotal 31

Major Requirements
Mathematics
- MATH 2233 Differential Equations 3
- STAT 4033 Engineering Statistics 3
  or STAT 4073 Engineering Statistics with Design of Experiments

Engineering Science
- ENSC 3233 Fluid Mechanics 3
- ENSC 3231 Fluids and Hydraulics Lab 1

Civil Engineering
- CIVE 3413 Structural Analysis 3
- CIVE 3513 Structural Steel Design 3
- CIVE 3523 Reinforced Concrete Design 3
- CIVE 3623 Engineering Materials Laboratory 3
- CIVE 3633 Transportation Engineering 3
- CIVE 3714 Introduction to Geotechnical Engineering 4
- CIVE 3833 Applied Hydraulics 3
- CIVE 3843 Hydrology I 3

Hours Subtotal 48

Electives
Select 9 hours of the following:
- CIVE 4010 Civil Engineering Research
- CIVE 4013 Aquatic Chemistry

Hours Subtotal 48
CIVE 4033 GIS Applications for Water Resources
CIVE 4050 Special Topics in Civil & Environmental Engineering
CIVE 4103 Construction Simulation
CIVE 4113 Construction Business Management
CIVE 4123 The Legal & Regulatory Environment of Civil Engineering
CIVE 4133 Construction Contracts and Specifications
CIVE 4153 Contract Administration
CIVE 4163 Construction Equipment Management
CIVE 4183 Construction Estimating
CIVE 4193 BIM for Construction
CIVE 4243 Use and Design of Geosynthetics
CIVE 4283 Numerical Methods in Geotechnical Engineering
CIVE 4293 Design and Analysis of Earth Retaining Structures
CIVE 4303 Systems Analysis for Civil Engineers
CIVE 4313 Highway Traffic Operations
CIVE 4323 Civil Infrastructure Systems
CIVE 4343 Urban Transportation Planning
CIVE 4363 Design and Planning of Airports
CIVE 4373 Design of Traffic Control Systems
CIVE 4383 Geometric Design of Highways
CIVE 4403 Advanced Strength of Materials
CIVE 4413 Classical and Matrix Methods of Structural Analysis
CIVE 4513 Advanced Reinforced Concrete Design
CIVE 4523 Advanced Steel Structure Design
CIVE 4533 Prestressed Concrete
CIVE 4563 Structural Dynamics
CIVE 4573 Timber Design
CIVE 4653 Asphalt Materials and Mix Design
CIVE 4673 Concrete Materials and Mix Design
CIVE 4693 Pavement Design and Analysis
CIVE 4723 Foundation Engineering
CIVE 4733 Soil Mechanics
CIVE 4773 Soil-Structure Interaction
CIVE 4743 Project Engineering and Management
CIVE 4753 Engineering Soil Stabilization
CIVE 4873 Air Pollution Control Engineering
CIVE 4863 Advanced Unit Operations in Environmental Engineering
CIVE 4913 Groundwater Hydrology
CIVE 4923 Environ Risk Assessment
CIVE 4933 Water Treatment
CIVE 4943 Risk and Failure Analysis of Dams
CIVE 4983 Residuals & Solid Waste Management
CIVE 4963 Open Channel Flow
CIVE 4973 Concrete Durability

ENGR 4043 or ENGR 4060 may be used as one of the CIVE electives.

<table>
<thead>
<tr>
<th>Hours Subtotal</th>
<th>9</th>
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<tbody>
<tr>
<td>Total Hours</td>
<td>128</td>
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Chem 1515 fulfills the requirements for both CHEM 1414 and CIVE 2081.

### Other Requirements

#### Graduation Requirements

1. A minimum 2.00 Technical GPA. The technical GPA is calculated from all courses counting in the curriculum with a prefix belonging to the degree program, or substitutions for these courses.
2. If “B” or higher is not earned in ENGL 1113 Composition I, then ENGL 1213 Composition II must be completed.
3. A “C” or better is required in all CIVE, ENSC, and Math prefixed courses required in the degree.
4. The major engineering design experience, capstone course, is satisfied by CIVE 4043 Senior Design.

### Additional State/OSU Requirements

- At least: 60 hours at a four-year institution; 30 hours completed at OSU; 15 of the final 30 or 50% of the upper-division hours in the major field completed at OSU.
- Limit of: one-half of major course requirements as transfer work; one-fourth of hours earned by correspondence; 8 transfer correspondence hours.
- Students will be held responsible for degree requirements in effect at the time of matriculation and any changes that are made, so long as these changes do not result in semester credit hours being added or do not delay graduation.
- Degrees that follow this plan must be completed by the end of Summer 2029.