

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

| Code | Title | Hours |
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| General Education Requirements | | |
| All General Education coursework requirements are satisfied upon completion of this degree plan | | |
| <i>English Composition</i> | | |
| See Academic Regulation 3.5 (http://catalog.okstate.edu/university-academic-regulations/#english-composition) | | |
| ENGL 1113 | Composition I | 3 |
| or ENGL 1313 | Critical Analysis and Writing I | |
| ENGL 3323 | Technical Writing | 3 |
| or ENGL 1213 | Composition II | |
| or ENGL 1413 | Critical Analysis and Writing II | |
| <i>American History & Government</i> | | |
| Select one of the following: | | |
| HIST 1103 | Survey of American History | |
| HIST 1483 | American History to 1865 (H) | |
| HIST 1493 | American History Since 1865 (DH) | |
| POLS 1113 | American Government | 3 |
| <i>Analytical & Quantitative Thought (A)</i> | | |
| MATH 2144 | Calculus I (A) | 4 |
| MATH 2153 | Calculus II (A) | 3 |
| <i>Humanities (H)</i> | | |
| Courses designated (H) | | |
| 6 | | |
| <i>Natural Sciences (N)</i> | | |
| 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 |
| <i>Social & Behavioral Sciences (S)</i> | | |
| SPCH 2713 | Introduction to Speech Communication (S) | 3 |
| Hours Subtotal | | 40 |
| 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 | | |
| <i>Basic Science</i> | | |
| Select one of the following options: ¹ | | |
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| PHYS 2114 & CIVE 2081 | University Physics II (LN) and Environmental Chemistry for Engineers ¹ | |
| or | | |
| CHEM 1515 | Chemistry II (LN) ¹ | |
| <i>Mathematics</i> | | |
| MATH 2163 | Calculus III | 3 |
| <i>Engineering</i> | | |
| ENGR 1111 | Introduction to Engineering | 1 |
| ENGR 1322 | Engineering Design with CAD | 2 |
| ENGR 1412 | Introductory Engineering Computer Programming | 2 |
| <i>Engineering Science</i> | | |
| ENSC 2113 | Statics | 3 |
| ENSC 2123 | Elementary Dynamics | 3 |
| ENSC 2143 | Strength of Materials | 3 |
| ENSC 2141 | Strength of Materials Lab | 1 |
| <i>Civil Engineering</i> | | |
| CIVE 2041 | Civil and Environmental Engineering Seminar | 1 |
| CIVE 3614 | Engineering Surveying | 4 |
| CIVE 3813 | Environmental Engineering Science | 3 |
| Hours Subtotal | | 31 |
| Major Requirements | | |
| <i>Mathematics</i> | | |
| MATH 2233 | Differential Equations | 3 |
| STAT 4033 | Engineering Statistics | 3 |
| or STAT 4073 | Engineering Statistics with Design of Experiments | |
| <i>Engineering Science</i> | | |
| ENSC 3233 | Fluid Mechanics | 3 |
| ENSC 3231 | Fluids and Hydraulics Lab | 1 |
| <i>Civil Engineering</i> | | |
| 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 |
| CIVE 4041 | Engineering Practice | 1 |
| CIVE 4043 | Senior Design | 3 |
| CIVE 4273 | Construction Engineering and Project Management | 3 |
| CIVE 4833 | Unit Operations in Environmental Engineering | 3 |
| <i>Industrial Engineering & Management</i> | | |
| IEM 3503 | Engineering Economic Analysis | 3 |
| Hours Subtotal | | 48 |
| Electives | | |
| Select 9 hours of the following: | | 9 |
| CIVE 4010 | Civil Engineering Research | |
| CIVE 4013 | Aquatic Chemistry | |

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| 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.

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| Hours Subtotal | 9 |
| Total Hours | 128 |

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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.