

**CIVIL ENGINEERING
UNDERGRADUATE AREAS OF CONCENTRATION**

<p>CONSTRUCTION ENGINEERING</p> <p>Required Construction Courses: CE 4332 Construction Equipment, Methods, & Management CE 4334 Construction Contracts & Specifications</p> <p>Required Design Course Outside Construction – 1 required: CE 4321 Foundation Engineering CE 4347 Reinforced Concrete Design</p> <p>Other Civil Engineering Technical Electives – 2 required: CE 4300 Construction Job Cost Control CE 4300 Infrastructure Evaluation & Maintenance Management CE 4300 Construction Estimating CE 4300 Construction Scheduling CE 4300 Trenchless Technology Methods CE 4300 Pipeline Asset Management CE 4336 Hot Mix Asphalt Design & Construction</p>	<p>ENVIRONMENTAL ENGINEERING</p> <p>Required Environmental Design Course – 1 required: CE 4356 Design of Municipal Water Supply Systems CE 4357 Design of Municipal Wastewater Treatment Systems CE 4300 Air Pollution Control System Design</p> <p>Required Design Course Outside Environmental: CE 4328 Water Systems Design</p> <p>Other Civil Engineering Technical Electives: (course(s) taken to fulfill requirement in another category will not count) 1 required from: CE 4350 Fundamentals of Air Pollution CE 4356 Design of Municipal Water Supply Systems CE 4357 Design of Municipal Wastewater Treatment Systems CE 4300 Physical Chemical Processes I CE 4300 Air Pollution Control System Design CE 4300 Hazardous Waste Management 2 required from: CE 4311 Urban Transportation and Infrastructure Planning CE 4347 Reinforced Concrete Design CE 4350 Fundamentals of Air Pollution CE 4356 Design of Municipal Water Supply Systems CE 4357 Open Conduit System CE 4358 Open Conduit System CE 4300 Physical Chemical Processes I CE 4300 Air Pollution Control System Design CE 4300 Landfill Design CE 4300 Hazardous Waste Management</p>	<p>GEOTECHNICAL ENGINEERING</p> <p>Required Geotechnical Design Course – 1 required: CE 4321 Foundation Engineering CE 4322 Applications with Geosynthetics</p> <p>Required Design Course Outside Geotechnical: CE 4347 Reinforced Concrete Design</p> <p>Other Civil Engineering Technical Electives: (course(s) taken to fulfill requirement in another category will not count) 3 required: CE 4321 Foundation Engineering CE 4322 Applications with Geosynthetics CE 4336 Hot Mix Asphalt Design and Construction CE 4337 Portland Cement Concrete Pavements CE 4300 Earth Structures CE 4300 Landfill Design</p>	<p>STRUCTURAL ENGINEERING</p> <p>Required Structural Design Courses: CE 4347 Reinforced Concrete Design CE 4348 Structural Design in Metals</p> <p>Required Design Course Outside Structural: CE 4321 Foundation Engineering</p> <p>Other Civil Engineering Technical Electives: 2 required: CE 4324 Mechanics of Materials II CE 4325 Introduction to Finite Element Method CE 4300 Advanced Reinforced Concrete Design CE 4300 Advanced Steel Design CE 4300 Fundamentals of Prestressed Concrete CE 4300 Cold Formed Steel Design CE 4300 Load Bearing Masonry CE 4300 Structural Wood Design CE 4300 Fundamentals of Fiber Reinforced Composites CE 4300 Bridge Structures CE 4300 Advanced Structural Analysis CE 4300 Loads on Structures</p>
<p>TRANSPORTATION ENGINEERING</p> <p>Required Transportation Courses – 2 required: CE 4311 Urban Transportation Infrastructure Planning CE 4312 Street and Highway Design CE 4313 Traffic Engineering</p> <p>Required Courses Outside Transportation: CE 4347 Reinforced Concrete Design</p> <p>Other Civil Engineering Technical Electives: (course(s) taken to fulfill requirement in another category will not count) 1 required from: CE 4311 Urban Transportation Infrastructure Planning CE 4312 Street and Highway Design CE 4313 Traffic Engineering CE 4336 Hot Mix Asphalt Design and Construction CE 4337 Portland Cement Concrete Pavements CE 4300 Design of Earth Structures</p>	<p>WATER RESOURCES ENGINEERING</p> <p>Required Water Resources Courses: CE 4328 Water Systems Design CE 4330 Hydraulic Design CE 4358 Open Conduit System</p> <p>Required Design Course Outside Water Resources – 1 required: CE 4356 Design of Municipal Water Supply Systems CE 4357 Design of Municipal Wastewater Treatment Systems</p> <p>Other Civil Engineering Technical Electives – 1 required: CE 4312 Street and Highway Design CE 4321 Foundation Design CE 4322 Applications with Geosynthetics CE 4347 Reinforced Concrete Design CE 4300 Landfill Design</p>	<p>DESIGN COURSES FOR GENERAL CIVIL ENGINEERING</p> <p>Construction Design Courses: CE 4332 Construction Equipment, Methods and Management</p> <p>Environmental Design Courses: CE 4356 Design of Municipal Water Supply Systems CE 4357 Design of Municipal Wastewater Treatment Systems</p> <p>Geotechnical Design Courses: CE 4321 Foundation Engineering CE 4322 Applications with Geosynthetics CE 4300 Landfill Design</p> <p>Structural Design Courses: CE 4347 Reinforced Concrete Design CE 4348 Structural Design in Metals</p> <p>Transportation Design Courses: CE 4312 Street and Highway Design CE 4313 Traffic Engineering</p> <p>Water Resources Design Courses: CE 4328 Water Systems Design</p>	