



PE – Professional Engineer

While each state licensing board has its own laws regarding engineering licensure, there is a general three-step process for licensure candidates. PE candidates must possess a degree accredited by EAC or ABET. They must take two exams, the Fundamentals of Engineering (FE) exam and the Principles and Practice of Engineering (PE) exam. Most states require four years of acceptable, progressive, and verifiable work experience in the industry. Once students pass the FE exam, they earn an Engineering in Training certificate or an Engineering Intern (EI) certificate depending on the certifying organization.

Year 5-6



Master's Degree in Civil Engineering (Materials Emphasis)

Year 6: Students choose specific transportation engineering electives to round out their skill set. Examples include traffic operations, intelligent transportation systems, queuing theory, project management, or environmental impacts.

Year 5: During the first year, students take core courses.

Pavement Engineering Courses
 Flexible and Rigid Pavement Analysis
 Construction Materials Deterioration
 Repair of Civil Infrastructure
 Pavement Evaluation and Rehabilitation
 Soil Mechanics
 Slope and Soil Stabilization
 Material Characterization
 Concrete and Asphalt Mix Design

Mechanistic Design for New & Rehabilitated Pavements
 Infrastructure Management

Experiential learning includes internships, externships, co-ops and fieldwork

Year 3-4



Bachelor's Degree in Civil Engineering (Geotechnical and Transportation Emphasis)

Year 3 & 4: Students fulfill internship or co-op and fieldwork requirements. Elective courses provide knowledge of engineering behavior of soil, aggregates, and paving materials, the production of these materials, and how they will deteriorate under the combined effects of traffic and the environment.

Year 1 & 2: Students take several engineering courses to build a strong technical background.

GE Courses
 Chemistry, Geology, Calculus, Differential Equations, Statistics, Liberal Arts, and Communications

Civil Engineering Required Courses
 Fluid Mechanics, Structural Analysis, Environmental Engineering, Soil Mechanics, Internship, Senior Capstone Design

Pavement Engineering-Related Courses
 Materials for Constructed Facilities
 Pavement Design and Analysis
 Non-Destructive Testing & Evaluation
 Geosynthetics
 Geometric Design and Route Planning
 Construction Project Management

Experiential learning includes internships, externships, co-ops and fieldwork

Year 1-2



Associate Degree in Civil Engineering Technology

Year 2: Students continue to take GE courses and technical courses that can prepare them for a position as a technologist. Those intending to transfer to a 4-year program will take additional mathematics coursework.

Year 1: Students are required to take general education courses interspersed with technical coursework. Certifications are built into the curriculum.

GE Courses
 English Composition and Oral Comm.
 Intro to Psychology
 Trigonometry & Algebra w/Applications
 Physics
 Statics
 Economics

Pavement Related Courses
 Intro to Civil Engineering & Architecture
 Building Material & Construction Method
 Conflict Resolution
 AutoCAD for Construction Science

Soil and Materials Testing
 Structural Mechanics
 Construction Project Management
 3D CAD: Digital Terrain Modeling
 3D CAD: Building Information Modeling
 Surveying and GPS Fundamentals
 Geographical Information Systems
 Civil Engineering Drafting
 Construction Estimating
 Survey-Construction/Route/Highway
 3D Modeling and Virtualization
 Sewer & Storm Water Management
 Capstone: CET-Highway Technology

Year 0



High School Diploma

Transportation-related career academies.