

# Transportation Workforce Development



## ITRE Educational Opportunities for Technicians and Engineers

### Fundamental Engineering Principles (FEP) Program

#### About the Program:

- 10 courses that introduce engineering fundamentals
- For technicians with little or no engineering background
- Live online virtual classroom
- Weekly graded tests
- 3-hour comprehensive final exam
- 7 to 12 weeks (varies by course)
- 3 hours per week (one half day)

#### Course Offerings:

##### Fall Semester

Mathematics  
Solid Statics/Strength of Materials  
Fluid Mechanics  
Horizontal & Vertical Alignment

##### Spring Semester

Physics/Geotechnical  
Structure Design  
Hydraulics  
Highway Design



**Cost:** \$400 to \$700 per participant per course (varies by course length)

Contact us for more information: [www.itre.ncsu.edu/training](http://www.itre.ncsu.edu/training)

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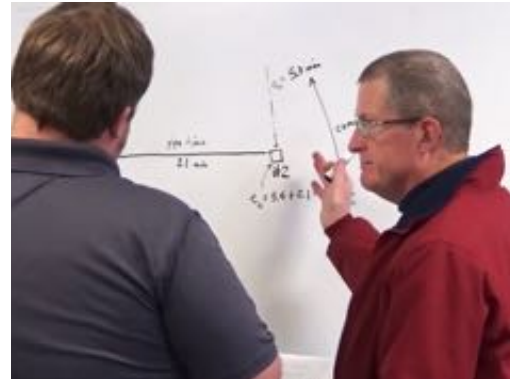
# Highway Engineering Concepts (HEC) Course Partnership

## About the Course Partnership:

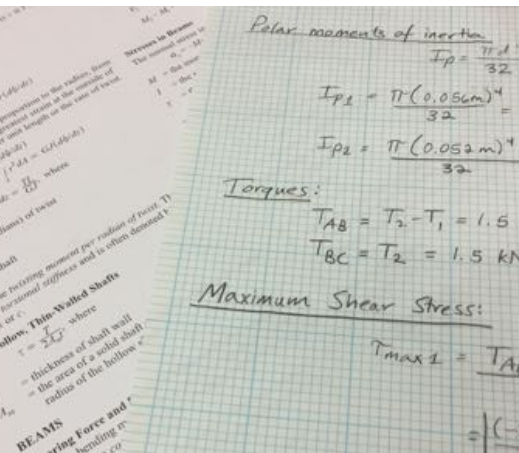
- Partner with ITRE to provide an HEC capstone project-based course on site
- For technicians with FEP prerequisites: Math, Physics, and Horizontal and Vertical Alignment
- Students apply FEP skills to real world transportation engineering situations
- Weekly graded tests and projects
- 18 weeks (typical course length)
- 8 hours per week (one full day)

**Course Topics:** Transportation Planning; Highway Alignment and Design; Geotechnical Engineering; Statics; Strength of Materials: Structure Design; Hydraulic Engineering; and Traffic Operations

**Cost:** Varies by individual contract - contact us for more information



## Fundamentals of Engineering (FE) Civil Engineering Review Course



### The Course:

- 40 classes reviewing topics covered in the FE Exam
- For Civil Engineers meeting state eligibility requirements for the FE Exam
- Live online virtual classroom (pre-recorded option also available)
- 20 weeks
- 3 to 6.5 hours per week (one morning and one evening)

**Course Topics:** Test strategy; Math and Statistics; Statics; Dynamics; Mechanics of Materials; Fluid Mechanics; Engineering Economics; Ethics and Professional Practice; Computational Tools; Construction; Materials; Surveying; Transportation Engineering; Geotechnical Engineering; Structural Engineering; Hydraulic Engineering; and Environmental Engineering.

**Cost:** \$905 per participant

## Professional Engineering (PE) Civil Engineering Review Course

### About the Course:

- 22 classes reviewing topics covered in the PE Exam
- For Civil Engineers who have at minimum four years post college experience and meet state eligibility requirements for the PE Exam
- Pre-recorded, self-paced
- 3 hours per class

**Course Topics:** Geotechnical Engineering; Water Resources; Structural Engineering; Construction and Materials; and Transportation Engineering.

**Cost:** \$745 per participant



Contact for more information: [www.itre.ncsu.edu/training](http://www.itre.ncsu.edu/training)

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