# Civil Focus Area: Transportation

## General Education (19 sh)
- ALL  
  - RHET:1030 Rhetoric
  - F/S  
  - Diversity & Inclusion
  - ALL  
  - Be Creative
  - ALL  
  - Approved Gen Ed Course
  - ALL  
  - Approved Gen Ed Course
  - ALL  
  - Approved Gen Ed Course

## Math & Basic Science Core (24 sh)
- F/S  
  - MATH:1550 Math I: Single Variable Calculus (P: ALEKS score ≥ 75 or MPT Level 3 score ≥ 9) 4
- ALL  
  - MATH:1560 Math II: Multivariable Calculus (P: MATH:1550) 4
- ALL  
  - MATH:2550 Math III: Matrix Algebra (P: MATH:1560) 2
- ALL  
  - MATH:2560 Math IV: Differential Equations (P: MATH:1560 & MATH:2550) 3
- F/S  
- ALL  
  - CHEM:1110 Principles of Chemistry I (P: ALEKS score ≥ 55 or MPT Level 3 score ≥ 9) 4
- ALL  
  - PHYS:1611 Introductory Physics I / Lab (C: MATH:1550) 4

## Engineering Core (7 sh)
- F  
  - ENGR:1000 Engineering Success for First-Year Students (First semester standing) 1
- F/S  
  - ENGR:1100 Intro to Engineering Problem Solving 3
- F/S  
  - ENGR:1300 Intro to Engineering Computing (C: MATH:1550) 3

## Civil Engineering Requirements (45 sh)
- ALL  
  - CHEM:1120 Principles of Chemistry II (P: CHEM:1110) 4 OR  
  - PHYS:1612 Introductory Physics II / Lab (P: PHYS:1611; C: MATH:1560) 4
- ALL  
  - ENGR:2110 Statics (P: MATH:1550; C: MATH:1560 & PHYS:1611) 2
- ALL  
  - ENGR:2130 Thermodynamics (P: CHEM:1110 & PHYS:2611; C: MATH:1560) 3
- F/S  
  - ENGR:2510 Fluid Mechanics (P: MATH:2560 & ENGR:2710; C: ENGR:2130) 4
- ALL*  
  - ENGR:2710 Dynamics (P: ENGR:2110 & MATH:1550) 3
- ALL*  
  - ENGR:2750 Mechanics of Deformable Bodies (P: ENGR:2110; C: MATH:2560) 3
- ALL  
  - CEE:1030 Intro to Earth Science (no lab required) 3
- F  
  - CEE:2015 Civil Engineering Tools 2
- S  
  - CEE:3155 Principles of Environmental Engineering (P: CHEM:1110) 4
- S  
  - CEE:3371 Principles of Hydraulics and Hydrology (P: ENGR:2510) 3
- F  
  - CEE:3530 Geomechanics (P: ENGR:2750) 4
- F  
  - CEE:3533 Principles of Structural Engineering (P: ENGR:2750) 4
- S  
  - CEE:3586 Civil Engineering Materials (P: ENGR:2750) 3
- S  
  - CEE:3763 Principles of Transportation Engineering (C: ENGR:1100) 3

## Capstone Design Courses (3 sh)
- F/S  
  - CEE:4850 Project Design & Management in CEE (P: final semester; C: CEE:3003) 3

## CEE Professional Skills (4 sh)
- S  
  - CEE:2010 Professional Practice and Ethics 1
- F  
  - CEE:3001 Leadership Skills for Engineers (Junior standing) 1
- S  
  - CEE:3002 Technical Communication in CEE (Junior standing) 1
- F  
  - CEE:3003 Project Management Skills (Senior standing) 1

## Required: Transportation (3 sh)
- F  
  - CEE:4762 Design of Transportation Systems (P: CEE:3763) 3

## Electives: Transportation (24 sh)
- sh
  - CEE Design Course*  
  - select one course from this list  
  - F  
    - CEE:4157 Environmental Engineering Design (P: CEE:3155) 3
  - F  
    - CEE:4374 Water Resource Design (P: CEE:3372) 3
  - F  
    - CEE:4506 Design of Concrete Structures (P: CEE:3533) 3
  - S  
    - CEE:4535 Design of Steel Structures (P: CEE:3533) 3

## Electives: Focus Area, Minor, Certificate, etc. (sh)
- sh
  - select 5 courses from the list below  
  - F  
    - CEE:3142 Quality Control (P: STAT:2020 or BAIS:9100 or (STAT:3100 & STAT:3101 & STAT:3200)) 3
  - S  
    - CEE:3783 Surveying & Remote Sensing (P: ENGR:1100) 3
  - S  
    - CEE:3790 Resilient Infrastructure and Operations 3
  - F/S  
    - CEE:3998 Individual Investigation in CEE 3
  - S  
    - CEE:4160 Introduction to Bridge Engineering (spring semester, even years) (P: CEE:3333) 3
  - S  
    - CEE:4176 Transportation Demand Analysis 3
  - F  
    - CEE:4560 Pavement Engineering (fall semester, odd years) (P: CEE:3763) 3
  - F  
    - CEE:4730 Transportation Infrastructure Construction and Management (fall semester, odd years) 3
  - F  
    - CEE:4763 Traffic Engineering (P: CEE:3763) 3
  - F  
    - CEE:6763 Application Simulation to Transportation (check MyUI for listings) (P: CEE:3763 or  

## Electives: Focus Area, Minor, Certificate, etc. (sh)
- sh
  - select 2 courses from the list below  
  - Any additional CEE Design Course(s) listed above  
  - Any additional elective course(s) in CEE  
  - S  
    - ISE:2500 Engineering Economy (P: STAT:2020) 3
  - F/S  
    - ENGR:2995 Intro to AI & Machine Learning in Engineering (P: ENGR:1300; C: MATH:2550) 3
  - F/S  
    - ENGR:2730 Computers in Engineering (P: ENGR:1300) 3
  - All other course(s) require approval for Focus Area credit  
  - (see CEE web site regarding the approval process)

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**Total Semester Hour Requirements:** 129