Civil Engineering

Archived Curriculum Fall 2017 – Summer 2018

Accredited by the Engineering Accreditation Commission of ABET, www.abet.org

1. University Requirements: (23-24)
   Writing, Rhetoric and American Cultures (WRA) 4
   Integrative Studies in Humanities, IAH 201-210 & IAH 211 or > 8
   Integrative Studies in Social Sciences, ISS 2XX & ISS 3XX 8
   Bioscience (one of the following): 3-4
   BS 161, ENT 205, IBIO 150, MMG 141,
   MMG 201, PLB 105, PSL 250

2. College Requirements: (30)
   *CEM 141  General Chemistry 4
   OR
   *CEM 151  General and Descriptive Chemistry 4
   *EGR 100  Introduction to Engineering Design 2
   *EGR 102  Introduction to Engineering Modeling 2
   *MTH 132  Calculus I 3
   *MTH 133  Calculus II 4
   MTH 234  Multivariable Calculus 4
   MTH 235  Differential Equations 3
   *PHY 183  Physics for Scientists & Engineers I 4
   PHY 184  Physics for Scientists & Engineers II 4
   *College Admission Requirement

3. Major Requirements: (67)
   a. Complete all of the following courses: (43)
      CE 221  Statics 3
      CE 273  Civil & Environmental Engineering Measurements 2
      CE 274  Graphics for Civil & Environmental Engineers 1
      CE 305  Introduction to Structural Analysis 3
      CE 312  Soil Mechanics 4
      CE 321  Introduction to Fluid Mechanics (W) 4
      CE 337  Civil Engineering Materials 4
      CE 341  Transportation Engineering (W) 3
      CE 371  Sustainable Civil & Environmental Egr Systems 3
      CE 372  Risk Analysis in Civil & Environmental Engineering 2
      CE 436  Senior Design in Civil & Environmental Engineering 4
      CEM 161  Chemistry Laboratory I 1
      ENE 280  Principles of Environmental Engineering & Science 3
      GLG 301  Geology of Continents and Oceans 3
      ME 222  Mechanics of Deformable Solids 3
   b. Complete one of the following courses: (3)
      CE 461  Computational Methods in Civil Engineering 3
      ME 361  Dynamics 3
   c. Complete one of the following courses: (3)
      BE 351  Thermodynamics for Biological Engineering 3
      ECE 345  Electronic Instrumentation and Systems 3
      ME 201  Thermodynamics 3
      MSE 250  Materials Science and Engineering 3
   d. Design-Intensive Electives: (12)
      Complete 12 credits of electives from the list below from at least four different areas (environmental, geotechnical, pavements, structures, transportation, and water resources).
   Environmental
      ENE 483  Water & Wastewater Engineering 3
      ENE 489  Air Pollution: Science & Engineering 3
   Geotechnical
      CE 418  Geotechnical Engineering 3
   Pavements
      CE 431  Pavement Design and Analysis I 3
   Structures
      CE 405  Design of Steel Structures 3
      CE 406  Design of Concrete Structures 3
   Transportation
      CE 444  Principles of Traffic Engineering 3
      CE 449  Highway Design 3
   Water Resources
      ENE 421  Engineering Hydrology 3
      ENE 422  Applied Hydraulics 3
   e. Technical Electives: (6) Complete six additional credits, courses may include those on above list and
      ENE 481  Environmental Chem: Equilibrium Concepts 3
      ENE 487  Microbiology for Environmental Sci & Eng 3
      CE 400  Structural Mechanics 3
      CE 407  Matls Eng: Properties, Selection & Processing 3
      CE 432  Pavement Rehabilitation 3
      CE 448  Transportation Planning 3
      CE 471  Construction Eng-Eqpt, Methods & Planning 3
   Other Electives (Variable)
   Total Credits Required for Degree 128

The requirements listed above apply to students admitted to the Department of Civil & Environmental Engineering (CEE) beginning Fall 2017. The Department of Civil & Environmental Engineering (CEE) constantly reviews program requirements and reserves the right to make changes as necessary. Consequently, each student is strongly encouraged to consult with his/her adviser to obtain assistance in planning an appropriate schedule of courses. Students who have questions about Civil Engineering should contact the Civil & Environmental Engineering Department Advising Office, 3579 Engineering Building, phone (517) 355-3274. For scheduling academic advising appointments https://msu.campus.eab.com

Last Revised May 2017
Civil Engineering

Sample Program

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<th>Credits</th>
<th>Spring</th>
<th>Credits</th>
<th>Sophomore Year</th>
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<tr>
<td>CEM 161</td>
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<td>CE 273</td>
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The general sample civil engineering course program above will satisfy the course requirements for a BS degree in civil engineering. Please note that it is strongly recommended that CE 221 and ME 222 be taken in the sophomore year.

PROGRAM EDUCATIONAL OBJECTIVES FOR CIVIL AND ENVIRONMENTAL ENGINEERING

Department of Civil and Environmental Engineering
Michigan State University
November 2013

The Department of Civil and Environmental Engineering has adopted the following program educational objectives (PEOs) which are shared by its baccalaureate programs in both civil and environmental engineering. Recent graduates (e.g., 3-5 years after graduation) of the programs will be enjoying career success and:

- have advanced in civil or environmental engineering practice and/or pursued advanced studies;
- be engaged in life-long learning;
- be engaged in professional practice consistent with the principles of sustainable development;
- have pursued continuing professional development and leadership; and
- have obtained licensure.