## ENGINEERING TECHNOLOGY - CIVIL - BACHELOR OF SCIENCE IN ENGINEERING TECHNOLOGY

CET (https://et.nmsu.edu/academics/civil-engineering-technology-cet) students learn to implement current civil engineering practices in design, construction, and project management. They may assist with design and/or supervise the construction of roads, buildings, airports, dams, bridges; and water supply and sewage systems. They take courses in properties of construction materials, blueprint reading, surveying, applied structural design, highway technology, land development, and hydraulics.

The Civil Engineering Technology program is accredited (https://et.nmsu.edu/accreditation-and-assessment/degree-accreditation-information) by the Technology Accreditation Commission (ETAC) of ABET, 111 Market Place, Suite 1050, Baltimore, MD21202-4012, telephone: (410) 347-7700. www.abet.org (http://www.abet.org)

### Requirements (123 credits)

#### General Education

**State of New Mexico Common Core**

**Area I: Communications**

- ENGL 111G Rhetoric and Composition 4
- Written Communications Elective (ENGL 218G Recommended) 3
- Oral Communications Elective (COMM 265G Recommended) 3

**Area II: Mathematics - see below**

**Area III: Laboratory Science**

- CHEM 110G Principles and Applications of Chemistry 4
- PHYS 211G General Physics I 3
  - or PHYS 215G Engineering Physics I
- PHYS 211GL General Physics I Laboratory 1
  - or PHYS 215GL Engineering Physics I Laboratory

**Areas IV & V: Social and Behavioral Sciences & Humanities and Fine Arts**

Select 15 total credits from Area IV and V, with at least 6 credits from each area: 1

- **Area IV: Social and Behavioral Sciences:**
  - Select 6-9 credits from Anthropology, Economics, Political Science, Psychology, and Sociology electives

- **Area V: Humanities and Fine Arts:**
  - Select 6-9 credits from History, Philosophy, Literature, Art, Music, Dance, Theater, and Religion electives

**Institution Specific General Education**

Viewing a Wider World Electives (must be taken from two different colleges) 1

**Program Specific Requirements**

**Mathematics**

- MATH 235 Calculus for the Technical Student I 3
  - or MATH 191G Calculus and Analytic Geometry I
- MATH 236 Calculus for the Technical Student II 3
  - or MATH 192G Calculus and Analytic Geometry II
  - Select one course (3-4 credits) from the following:
    - PHYS 212G General Physics II
    - or PHYS 216G Engineering Physics II
    - E T 190 Applied Circuits
    - E E 201 Electric Circuit Analysis

**Technical**

- A ST 311 Statistical Applications 3
- ENGR 100 Introduction to Engineering 3
- I E 451 Engineering Economy 3
- DRFT 109 Computer Drafting Fundamentals 3
- DRFT 143 Civil Drafting Fundamentals 3
- SUR 222 Plane Surveying 3
  - or DRFT 222 Surveying Fundamentals 3
- Geomatics/Surveying Elective - must come from pre-approved list (see advisor)

**Technical Electives - must come from pre-approved list (see advisor or list in ET office) 9**

**Engineering Technology**

- E T 154 Construction Methods and Communications 3
- E T 240 Applied Statics 3
- E T 241 Applied Dynamics 3
- E T 254 Concrete Technology 3
- E T 308 Fluid Technology 3
- E T 308 L Fluid Technology Lab 1
- E T 310 Applied Strength of Materials 3
- E T 310 L Applied Strength of Materials Lab 1
- E T 332 Applied Design of Structures I 4
- E T 354 Soil and Foundation Technology 4
- E T 355 Site/Land Development and Layout 3
- E T 410 Senior Seminar 1
- E T 412 Highway Technology 3
- E T 418 Applied Hydraulics 3
- E T 420 Senior Internship 3
  - or E T 421 Senior Project 3
- E T 432 Applied Design of Structures II 4

**Concentrations - students "may" choose to focus on a particular CET concentration (optional) 2**

The following optional concentrations are available:

- Construction Technology
- Geomatics (Surveying Engineering)
- Renewable Energy Technologies
- Transportation Technology
- Water/Wastewater Technology

**Total Credits** 123

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1 See the required courses (http://catalogs.nmsu.edu/nmsu/essential-information-students/general-education-courses) section of the catalog for a full list of courses
Concentrations are "optional" educational sequences that students may choose to focus on particular areas related to CET. Concentrations may often be done without additional credits by judicious use of electives and other optional course requirements.

### Concentration: Construction Technology

**Technical and Surveying Elective Requirements**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>E T 454</td>
<td>Advanced Construction Technology</td>
<td>3</td>
</tr>
<tr>
<td>E T 455</td>
<td>Cost Estimating and Scheduling</td>
<td>3</td>
</tr>
</tbody>
</table>
| SUR 328  | Construction Surveying & Automation
Technologies | 3       |

Select one from the following:

- MGT 453 Leadership and Motivation
- MGT 454 Work Teams in Organizations
- MGT 461 New Venture Creation

Total Credits: 12

### Concentration: Renewable Energy Technologies

**Technical and Survey Elective Requirements**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>E T 381</td>
<td>Renewable Energy Technologies</td>
<td>3</td>
</tr>
<tr>
<td>E T 382</td>
<td>Solar Energy Technologies</td>
<td>3</td>
</tr>
<tr>
<td>or E T 384</td>
<td>Wind and Water Energy Technologies</td>
<td></td>
</tr>
</tbody>
</table>
| E T 386  | Sustainable Construction and Green
Building Design | 3       |
| SUR 328  | Construction Surveying & Automation
Technologies | 3       |

Total Credits: 12

### Concentration: Transportation Technology

**Technical and Survey Elective Requirements**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>C E 479</td>
<td>Pavement Analysis and Design</td>
<td>3</td>
</tr>
<tr>
<td>E T 455</td>
<td>Cost Estimating and Scheduling</td>
<td>3</td>
</tr>
<tr>
<td>E T 472</td>
<td>Intelligent Transportation Systems (ITS)</td>
<td>3</td>
</tr>
</tbody>
</table>
| SUR 328  | Construction Surveying & Automation
Technologies | 3       |

Total Credits: 12

### Concentration: Water/Wastewater Technology

**Technical and Survey Elective Requirements**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>C E 256</td>
<td>Environmental Engineering and Science</td>
<td>3</td>
</tr>
<tr>
<td>C E 356</td>
<td>Fundamentals of Environmental Engineering</td>
<td>3</td>
</tr>
</tbody>
</table>
| SUR 328  | Construction Surveying & Automation
Technologies | 3       |
| ENVE 456 | Environmental Engineering Design           | 3       |

Total Credits: 12

### Concentration: Geomatics (Surveying Engineering)

**Technical and Survey Elective Requirements**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
</table>
| SUR 328  | Construction Surveying & Automation
Technologies | 3       |
| SUR 312  | Legal Principles and Boundary Law I        |         |
| SUR 351  | Introductory Spatial Data Adjustment I     |         |
| SUR 285  | Precise Digital Mapping                    |         |

Total Credits: 12