## Structural Design and Construction Engineering Technology, B.S.

**Begin Campus:** Any Penn State Campus  
**End Campus:** Harrisburg

### Degree Requirements

For the Bachelor of Science degree in Structural Design and Construction Engineering Technology, a minimum of 125 credits is required:

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education</td>
<td>45</td>
</tr>
<tr>
<td>Electives</td>
<td>0-8</td>
</tr>
<tr>
<td>Requirements for the Major</td>
<td>96-106</td>
</tr>
</tbody>
</table>

24 of the 45 credits for General Education are included in the Requirements for the Major. This includes: 9 credits of GN courses; 6 credits of GQ courses; 3 credits of GS courses; 3 credits of GWS courses; 3 credits of GHW courses.

### Requirements for the Major

To graduate, a student enrolled in the major must earn a grade of C or better in each course designated by the major as a C-required course, as specified by Senate Policy 82-44 ([https://senate.psu.edu/students/policies-and-rules-for-undergraduate-students/82-00-and-83-00-degree-requirements/](https://senate.psu.edu/students/policies-and-rules-for-undergraduate-students/82-00-and-83-00-degree-requirements/)).

### Common Requirements for the Major (All Options)

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
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</tr>
</thead>
<tbody>
<tr>
<td>CET 308</td>
<td>Construction Methods and Materials</td>
<td>3</td>
</tr>
<tr>
<td>CET 342</td>
<td>Civil Engineering Materials - Concrete and Bituminous</td>
<td>3</td>
</tr>
<tr>
<td>CET 343</td>
<td>Soils Mechanics</td>
<td>3</td>
</tr>
<tr>
<td>CET 434</td>
<td>Foundations</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 110</td>
<td>Chemical Principles I</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 111</td>
<td>Experimental Chemistry I</td>
<td>1</td>
</tr>
<tr>
<td>ET 200</td>
<td>Graphic Communications</td>
<td>3</td>
</tr>
<tr>
<td>SSET 295</td>
<td>Internship</td>
<td>1</td>
</tr>
</tbody>
</table>

**Prescribed Courses:** Require a grade of C or better

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>CE 254</td>
<td>Personal &amp; Occupational Safety</td>
<td>3</td>
</tr>
<tr>
<td>CE 333W</td>
<td>Construction Management I</td>
<td>3</td>
</tr>
<tr>
<td>CET 430</td>
<td>Structural Analysis</td>
<td>3</td>
</tr>
<tr>
<td>CET 431</td>
<td>Structural Design-Steel</td>
<td>3</td>
</tr>
<tr>
<td>CET 432</td>
<td>Structural Design-Reinforced Concrete</td>
<td>3</td>
</tr>
<tr>
<td>CET 435</td>
<td>Construction Estimating</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 202C</td>
<td>Effective Writing: Technical Writing</td>
<td>3</td>
</tr>
<tr>
<td>MATH 140</td>
<td>Calculus With Analytic Geometry I</td>
<td>4</td>
</tr>
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</table>

**Additional Courses:**

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<tbody>
<tr>
<td>CE 310</td>
<td>Surveying</td>
<td>3-4</td>
</tr>
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**Select 3 credits from the following:**

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<tr>
<td>ET 322</td>
<td>Strength of Materials</td>
<td>3</td>
</tr>
<tr>
<td>MET 213</td>
<td>Strength and Properties of Materials</td>
<td>3</td>
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### Requirements for the Option

**Construction Management Option (19-21 credits)**

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</thead>
<tbody>
<tr>
<td>CET 436</td>
<td>Planning and Scheduling</td>
<td>3</td>
</tr>
<tr>
<td>CE 458</td>
<td>Construction Management II</td>
<td>3</td>
</tr>
<tr>
<td>CE 488C</td>
<td>Capstone Project - Construction</td>
<td>4</td>
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ACCTG 211  Financial and Managerial Accounting for Decision Making
MGMT 100  Survey of Management
MGMT 301  Basic Management Concepts
Select 3 credits from the following: 3
AE 310  Fundamentals of Heating, Ventilating, and Air Conditioning
CE 321  Highway Engineering
ENVE 430  Sustainable Engineering
MET 435  Building Energy Systems

Supporting Courses and Related Areas
Select 3-4 credits from approved program list 3-4

General Option (25 credits)

Prescribed Courses
Prescribed Courses: Require a grade of C or better
CE 445  Advanced Structural Analysis 3
CE 449  Advanced Structural Design 3
CE 456  Planning and Scheduling 3
CE 458  Construction Management II 3

Additional Courses
ET 321  Dynamics 3
or EMCH 212  Dynamics 3
CE 360  Fluid Mechanics 3
or CET 361  Fluid Flow 3
Select 3 credits from the following: 3
AE 310  Fundamentals of Heating, Ventilating, and Air Conditioning
CE 321  Highway Engineering
ENVE 430  Sustainable Engineering
MET 435  Building Energy Systems

Supporting Courses and Related Areas
Select 3-4 credits from approved program list 3-4

General Education
Connecting career and curiosity, the General Education curriculum provides the opportunity for students to acquire transferable skills necessary to be successful in the future and to thrive while living in interconnected contexts. General Education aids students in developing intellectual curiosity, a strengthened ability to think, and a deeper sense of aesthetic appreciation. These are requirements for all baccalaureate students and are often partially incorporated into the requirements of a program. For additional information, see the General Education Requirements (https://bulletins.psu.edu/undergraduate/general-education/baccalaureate-degree-general-education-program/) section of the Bulletin and consult your academic adviser.

The keystone symbol appears next to the title of any course that is designated as a General Education course. Program requirements may also satisfy General Education requirements and vary for each program.

Foundations (grade of C or better is required and Inter-Domain courses do not meet this requirement.)
- Quantification (GQ): 6 credits
- Writing and Speaking (GWS): 9 credits

Breadth in the Knowledge Domains (Inter-Domain courses do not meet this requirement.)
- Arts (GA): 3 credits
- Health and Wellness (GHW): 3 credits
- Humanities (GH): 3 credits
- Social and Behavioral Sciences (GS): 3 credits
- Natural Sciences (GN): 3 credits

Integrative Studies
- Inter-Domain Courses (Inter-Domain): 6 credits

Exploration
- GN, may be completed with Inter-Domain courses: 3 credits
- GA, GH, GN, GS, Inter-Domain courses. This may include 3 credits of World Language course work beyond the 12th credit level or the requirements for the student’s degree program, whichever is higher: 6 credits

University Degree Requirements
First Year Engagement
All students enrolled in a college or the Division of Undergraduate Studies at University Park, and the World Campus are required to take 1 to 3 credits of the First-Year Seminar, as specified by their college First-Year Engagement Plan.

Other Penn State colleges and campuses may require the First-Year Seminar; colleges and campuses that do not require a First-Year Seminar provide students with a first-year engagement experience.

First-year baccalaureate students entering Penn State should consult their academic adviser for these requirements.

Cultures Requirement
6 credits are required and may satisfy other requirements
- United States Cultures: 3 credits
- International Cultures: 3 credits

Writing Across the Curriculum
3 credits required from the college of graduation and likely prescribed as part of major requirements.

Total Minimum Credits
A minimum of 120 degree credits must be earned for a baccalaureate degree. The requirements for some programs may exceed 120 credits.
Students should consult with their college or department adviser for information on specific credit requirements.

**Quality of Work**
Candidates must complete the degree requirements for their major and earn at least a 2.00 grade-point average for all courses completed within their degree program.

**Limitations on Source and Time for Credit Acquisition**
The college dean or campus chancellor and program faculty may require up to 24 credits of course work in the major to be taken at the location or in the college or program where the degree is earned. Credit used toward degree programs may need to be earned from a particular source or within time constraints (see Senate Policy 83-80 [https://senate.psu.edu/policies-and-rules-for-undergraduate-students/82-00-and-83-00-degree-requirements/#83-80]). For more information, check the Suggested Academic Plan for your intended program.