












## 2017 - 2018 Major Map





### Civil Engineering (Environmental Engineering), **BSE**

School/College: Ira A. Fulton Schools of Engineering  
ESCEEEBSE

ASU is no longer accepting new students to this program. Please explore Degree Search for other similar program options.

Term 1 0 - 16 Credit Hours <b>Critical course signified by</b> 	Hours	Minimum Grade	Notes
 FSE 100: Introduction to Engineering	2	C	<ul style="list-style-type: none"> <li>• An SAT, ACT, Accuplacer, IELTS, or TOEFL score determines placement into first-year composition courses</li> <li>• ASU Mathematics Placement Test score determines placement in mathematics course</li> <li>• ASU 101 or college-specific equivalent First-Year Seminar required of all freshman students and should be completed the first semester.</li> <li>• If ENG 105 is taken, then a 3 hr applicable elective must also be taken prior to graduation. See Advisor.</li> <li>• Prep for success using the <b>Freshman Guide</b>.</li> <li>• Join a <b>Fulton</b> community.</li> <li>• Explore <b>engineering and technical professions</b>.</li> </ul>
 MAT 265: Calculus for Engineers I (MA)	3	C	
ASU 101-CEE: The ASU Experience	1		
Humanities, Arts and Design (HU)	3		
ENG 101 or ENG 102: First-Year Composition OR ENG 105: Advanced First-Year Composition OR ENG 107 or ENG 108: First-Year Composition	3	C	
CHM 114: General Chemistry for Engineers (SQ) OR CHM 116: General Chemistry II (SQ)	4		
 Minimum 2.00 GPA ASU Cumulative.			
Term hours subtotal:	16		

Term 2 16 - 31 Credit Hours <b>Critical course signified by</b> 	Hours	Minimum Grade	Notes
 MAT 242: Elementary Linear Algebra	2	C	<ul style="list-style-type: none"> <li>• Create a <b>Handshake</b> profile.</li> <li>• Get involved with EPICS, the Generator Labs, and the <b>Fulton Start-Up Center</b>.</li> </ul>
 MAT 266: Calculus for Engineers II (MA)	3	C	
 PHY 121: University Physics I: Mechanics (SQ)	3	C	
 PHY 122: University Physics Laboratory I (SQ)	1	C	
Humanities, Arts and Design (HU) AND Global Awareness (G)	3		
ENG 101 or ENG 102: First-Year Composition OR ENG 105: Advanced First-Year Composition OR ENG 107 or ENG 108: First-Year Composition	3	C	
 Complete ENG 101 OR ENG 105 OR ENG 107 course(s).			
 Minimum 2.00 GPA ASU Cumulative.			
Term hours subtotal:	15		

Term 3 31 - 47 Credit Hours <b>Critical course signified by</b> 	Hours	Minimum Grade	Notes
 CEE 210: Engineering Mechanics I: Statics	3	C	<ul style="list-style-type: none"> <li>• Prep for success using the <b>Sophomore Guide</b>.</li> </ul>
 MAT 267: Calculus for Engineers III (MA)	3	C	
 MAT 275: Modern Differential Equations (MA)	3	C	

⚠ PHY 131: University Physics II: Electricity and Magnetism (SQ)	3	C
⚠ PHY 132: University Physics Laboratory II (SQ)	1	C
ECN 211: Macroeconomic Principles (SB) OR ECN 212: Microeconomic Principles (SB)	3	
⚠ Minimum 2.00 GPA ASU Cumulative.		
Complete Mathematics (MA) requirement.		
Term hours subtotal:	16	

- Consult the [Resume, Presentation, and Resource Library](#) for tips on how to create a technical resume, job shadow, do informational interviews and mentor with alumni.

Term 4 47 - 62 Credit Hours <b>Critical course signified by</b> ⚠	Hours	Minimum Grade	Notes
⚠ CEE 212: Engineering Mechanics II: Dynamics	3	C	
⚠ CEE 213: Introduction to Deformable Solids	3	C	
BIO 181: General Biology I (SQ) OR BIO 182: General Biology II (SG) OR CHM 231: Elementary Organic Chemistry (SQ) OR GLG 101: Introduction to Geology I (Physical) (SQ)	3		
IEE 380: Probability and Statistics for Engineering Problem Solving (CS)	3		
Social-Behavioral Sciences (SB) AND Cultural Diversity in the U.S. (C)	3		
Term hours subtotal:	15		

- Pursue an [undergraduate research experience](#).
- Apply for [internships](#).
- Attend [career fairs and events](#).

Term 5 62 - 77 Credit Hours <b>Necessary course signified by</b> ★	Hours	Minimum Grade	Notes
★ CEE 341: Fluid Mechanics for Civil Engineers	4		
CEE 353: Civil Engineering Materials	4		
CEE 361: Introduction to Environmental Engineering	4		
CEE 384: Numerical Methods for Engineers (CS)	3		
Term hours subtotal:	15		

- Pursue an [undergraduate research experience](#).
- Apply for [internships](#).
- Attend [career fairs and events](#).

Term 6 77 - 92 Credit Hours <b>Necessary course signified by</b> ★	Hours	Minimum Grade	Notes
★ CEE 321: Structural Analysis and Design	4		
CEE 351: Geotechnical Engineering	4		
CEE 372: Transportation Engineering	3		
MAE 241: Introduction to Thermodynamics	3		
Elective	1		
Term hours subtotal:	15		

- Plan for success using the [Junior Guide](#).
- Network at [student organization](#) competitions or professional societies.

Term 7 92 - 107 Credit Hours <b>Necessary course signified by</b> ★	Hours	Minimum Grade	Notes
★ CEE 467: Environmental Microbiology	3		
CEE 300: Engineering Business Practice (L)	3		
CEE 440: Hydrology	3		
CEE 466: Urban Water System Design	3		
Technical Elective	3		
Term hours subtotal:	15		

- Plan for success using the [Senior Guide](#).
- Apply for [full-time positions](#).
- Complete an in-person or [practice interview](#).

Term 8 107 - 120 Credit Hours <b>Necessary course signified by</b> ★	Hours	Minimum Grade	Notes
★ CEE 486: Integrated Civil Engineering Design (L)	4		
CEE 400: Earth Systems Engineering and Management ((L or HU) & H)	3		
CEE 441: Water Resources Engineering	3		

## Hide Course List(s)/Track Group(s)

## Technical Elective

BIO 320: Fundamentals of Ecology

CEE 281: Surveying

CEE 412: Pavement Analysis and Design

CEE 420: Steel Structures

CEE 421: Concrete Structures

CEE 452: Foundations

CEE 474: Transportation Systems Planning

CEE 475: Highway Geometric Design

CEE 481: Civil Engineering Project  
ManagementCEE 483: Highway Materials, Construction,  
and Quality

CEE 493: Honors Thesis (L)

CEE 499: Individualized Instruction

CHM 302: Environmental Chemistry

CHM 341: Elementary Physical Chemistry

CON 453: Construction Project Management  
I**Total Hours:** 120**Upper Division Hours:** 45 minimum**Major GPA:** 2.00 minimum**Cumulative GPA:** 2.00 minimum**Total hrs at ASU:** 30 minimum**Hrs Resident Credit for****Academic Recognition:** 56 minimum**Total Community College Hrs:** 64 maximum**General University Requirements Legend**

## General Studies Core Requirements:

- Literacy and Critical Inquiry (L)
- Mathematical Studies (MA)
- Computer/Statistics/Quantitative Applications (CS)
- Humanities, Arts and Design (HU)
- Social-Behavioral Sciences (SB)
- Natural Science - Quantitative (SQ)
- Natural Science - General (SG)

## General Studies Awareness Requirements:

- Cultural Diversity in the U.S. (C)
- Global Awareness (G)

- Historical Awareness (H)

#### First-Year Composition

General Studies designations listed next to courses on the major map were valid for the 2017 - 2018 academic year. Please refer to the course catalog for current General Studies designations at time of class registration. General Studies credit is applied according to the designation the course carries at the time the class is taken.