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Construction Engineering, BSE



School/College: [Ira A. Fulton Schools of Engineering](#)
ESCONBSE

Term 1 0 - 16 Credit Hours Critical course signified by 	Hours	Minimum Grade	Notes
 CHM 114: General Chemistry for Engineers (SQ) OR CHM 116: General Chemistry II (SQ)	4		<ul style="list-style-type: none"> ASU 101 or college-specific equivalent First-Year Seminar required of all first-year students If ENG 105 is taken, a 3 credit hour applicable elective must also be taken prior to graduation. See advisor. Prep for success using the First-Year Student Guide. Join a Fulton community. Explore engineering and technical professions.
 FSE 100: Introduction to Engineering	2	C	
 MAT 265: Calculus for Engineers I (MA)	3	C	
ASU 101-CON: The ASU Experience	1		
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	
Social-Behavioral Sciences (SB) AND Cultural Diversity in the U.S. (C)	3		
 Minimum 2.00 GPA ASU Cumulative.			
Term hours subtotal:	16		
Term 2 16 - 31 Credit Hours Critical course signified by 	Hours	Minimum Grade	Notes
 MAT 242: Elementary Linear Algebra	2	C	<ul style="list-style-type: none"> Create a Handshake profile. Get involved with EPICS, the Generator Labs, and the Fulton Start-Up Center.
 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	
CON 101: Construction and Culture: a Built Environment (HU & H)	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 Critical course signified by 	Hours	Minimum Grade	Notes
 CNE 210: Engineering Mechanics I: Statics	3	C	<ul style="list-style-type: none"> Prep for success using the Sophomore Guide.

	CNE 243: Heavy Construction Equipment, Methods and Materials	3	
	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
	Minimum 2.00 GPA ASU Cumulative.		
Complete Mathematics (MA) requirement.			
Term hours subtotal:		16	

Term 4 47 - 62 Credit Hours Critical course signified by 		Hours	Minimum Grade	Notes
	CNE 212: Engineering Mechanics II: Dynamics	3	C	<ul style="list-style-type: none"> Pursue an undergraduate research experience. Apply for internships. Attend career fairs and events.
	CNE 213: Introduction to Deformable Solids	3	C	
	CNE 271: Construction Safety	3	C	
	BIO 181: General Biology I (SQ) OR BIO 182: General Biology II (SG) OR BME 111: Engineering Perspectives on Biological Systems OR GLG 101: Introduction to Geology I (Physical) (SQ)	3-4		
	ECN 211: Macroeconomic Principles (SB) OR ECN 212: Microeconomic Principles (SB)	3		
Term hours subtotal:		15-16		

Term 5 62 - 77 Credit Hours Necessary course signified by 		Hours	Minimum Grade	Notes
	CNE 321: Structural Analysis and Design	4		<ul style="list-style-type: none"> If students take MAE 241 they will need to make up 1 credit hour in a Civil, Construction, math or science course. Plan for success using the Junior Guide. Network at student organization competitions or professional societies.
	CNE 353: Civil Engineering Materials	4		
	EEE 202: Circuits I OR MAE 241: Introduction to Thermodynamics	4-3		
	IEE 380: Probability and Statistics for Engineering Problem Solving (CS)	3		
Term hours subtotal:		15-14		

Term 6 77 - 91 Credit Hours Necessary course signified by 		Hours	Minimum Grade	Notes
	CNE 383: Construction Estimating	4		<ul style="list-style-type: none"> Research and prepare for graduate school. Apply for an engineering 4+1 program. Develop a professional profile online.
	CNE 241: Surveying	3		
	CNE 351: Geotechnical Engineering	4		

CNE 400: Earth Systems Engineering and Management ((L or HU) & H) 3



Complete Cultural Diversity in the U.S. (C) AND Global Awareness (G) AND Historical Awareness (H) course(s).

Term hours subtotal: 14

Summer 6 91 - 92 Credit Hours	Hours	Minimum Grade	Notes
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CNE 484: Internship 1

Term hours subtotal: 1

Term 7 92 - 107 Credit Hours Necessary course signified by	Hours	Minimum Grade	Notes
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CNE 453: Construction Technology 3

CNE 495: Construction Planning and Scheduling (CS) 3

Upper Division Design Elective 3

Technical Elective 3

Humanities, Arts and Design (HU) AND Global Awareness (G) 3

Term hours subtotal: 15

- Design Elective requirements: complete a total of 2 design electives.
- Plan for success using the [Senior Guide](#).
- Use [Handshake](#) to apply for full-time positions.
- Complete an in person or virtual [practice interview](#).

Term 8 107 - 120 Credit Hours Necessary course signified by	Hours	Minimum Grade	Notes
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CNE 486: Integrated Civil Engineering Design (L) 4

CNE 455: Construction Project Management II 3

CNE 496: Construction Contract Administration (L) 3

Upper Division Design Elective 3

Term hours subtotal: 13

- Design Elective requirements: complete a total of 2 design electives.

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

Design Elective

CEE 420: Steel Structures

CEE 421: Concrete Structures

CEE 452: Foundations

Technical Elective

CEE 372: Transportation Engineering

CEE 412: Pavement Analysis and Design

CEE 420: Steel Structures

CEE 421: Concrete Structures

CEE 432: Developing Software for Engineering Applications

CEE 440: Hydrology

CEE 441: Water Resources Engineering

CEE 452: Foundations

CEE 462: Unit Operations in
Environmental Engineering

CEE 466: Urban Water System Design

CEE 467: Environmental Microbiology

CEE 474: Transportation Systems
Planning

CEE 475: Highway Geometric Design

CEE 481: Civil Engineering Project
Management

CEE 483: Highway Materials,
Construction, and Quality

CEE 493: Honors Thesis (L)

CEE 494: Concrete Canoe Design

CEE 494: Steel Bridge Design

CON 296: Summer Field Internship

CON 310: Testing of Materials for
Construction

CON 345: Mechanical Systems

CON 448: Sustainable Construction

CON 454: Trenchless Construction
Methods

CON 493: Honors Thesis (L)

FSE 301: Entrepreneurship and Value
Creation

Notes:

- First-Year Composition: All students are placed in ENG 101 unless submission of SAT, ACT, Accuplacer, IELTS, or TOEFL score, or college-level transfer credit or test credit equivalent to ASU's first-year composition course(s), determine otherwise. Students on Polytechnic, Downtown Phoenix and West Campuses are encouraged to complete the Directed Self-Placement survey to choose the first-year composition option they believe best suits their needs. Visit: <https://cisa.asu.edu/DSP>
- Mathematics Placement Assessment score determines placement in first mathematics course.

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 2021 - 2022 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.