

2014 - 2015 Major Map  
Civil Engineering (Environmental Engineering), BSE

Ira A. Fulton Schools of Engineering  
Tempe campus  
ESCEEEBSE

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"> <li>An SAT, ACT, Accuplacer, or TOEFL score determines placement into first-year composition courses</li> <li>ASU Math Placement Exam 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> </ul>
		⚠	FSE 100: Introduction to Engineering	2	
		⚠	MAT 265: Calculus for Engineers I (MA)	3	
			ASU 101-CEE: The ASU Experience	1	
			CEE 181: Introduction to Sustainable Engineering: Technological, Social, and Sustainable Systems (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	
		⚠	Minimum 2.00 GPA ASU Cumulative.		
Term hours subtotal:			16		

Mesa Community College	
Course	Hours
CHM 152 and CHM 152LL	4
ECE 102 and ECE 103	2
MAT 221 or MAT 220	4 5
ENG 101 or ENG 102 OR ENG 107 or ENG 108	3

\*\*\* ECE 102 and ECE 103 satisfy both ASU 101 and FSE 100

Term 2	17 - 31 Credit Hours	Critical course signified by	Hours	Minimum Grade	Notes
		⚠	MAT 242: Elementary Linear Algebra	2	<ul style="list-style-type: none"> <li>An SAT, ACT, Accuplacer, or TOEFL score determines placement into first-year composition courses</li> <li>ASU Math Placement Exam 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> </ul>
		⚠	MAT 266: Calculus for Engineers II (MA)	3	
		⚠	PHY 121: University Physics I: Mechanics (SQ)	3	
		⚠	PHY 122: University Physics Laboratory I (SQ)	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	
			Social and Behavioral Sciences (SB) AND Cultural Diversity in the U.S. (C) OR Social and Behavioral Sciences (SB) AND Global Awareness (G)	3	
		⚠	Complete ENG 101 OR ENG 105 OR ENG 107 course(s).		
		⚠	Minimum 2.00 GPA ASU Cumulative.		
Term hours subtotal:			15		

Mesa Community College	
Course	Hours
MAT 225	3
MAT 231 or MAT 230	4 5
PHY 121	4
ENG 101 or ENG 102 OR ENG 107 or ENG 108	3
General Studies (SB-C or SB-H)	3

Term 3	32 - 47 Credit Hours	Critical course signified by	Hours	Minimum Grade	Notes
		⚠	CEE 210: Engineering Mechanics I: Statics	3	<ul style="list-style-type: none"> <li>An SAT, ACT, Accuplacer, or TOEFL score determines placement into first-year composition courses</li> <li>ASU Math Placement Exam 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> </ul>
		⚠	MAT 267: Calculus for Engineers III (MA)	3	
		⚠	MAT 275: Modern Differential Equations (MA)	3	
		⚠	PHY 131: University Physics II: Electricity and Magnetism (SQ)	3	
		⚠	PHY 132: University Physics Laboratory II (SQ)	1	
			ECN 211: Macroeconomic Principles (SB) OR ECN 212: Macroeconomic Principles (SB)	3	
		⚠	Minimum 2.00 GPA ASU Cumulative.		
		⚠	Complete CSE 210 AND CHM 114 OR CHM 116 AND FSE 100 AND MAT 242 AND MAT 265 AND MAT 266 AND MAT 267 AND MAT 275 AND PHY 121 AND PHY 131 AND PHY 132 course(s).		
Term hours subtotal:			16		

Mesa Community College	
Course	Hours
ECE 201 and ECE 202 and ECE 203	6
MAT 241 or MAT 240	4 5
MAT 277	3
PHY 131	4
ECN 211 or ECN 212	3

\*\*\* ECE 201 and ECE 202 and ECE 203 satisfy both CEE 210 and CEE 212

Term 4	48 - 63 Credit Hours	Critical course signified by	Hours	Minimum Grade	Notes
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◆ 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 BME 111: Engineering Perspectives on Biological Systems OR CHM 231: Elementary Organic Chemistry (SQ) OR GLG 101: Introduction to Geology I (Physical) (SQ & G)	3	
IEE 380: Probability and Statistics for Engineering Problem Solving (CS)	3	
MAE 240: Thermofluids I	4	
Term hours subtotal:	16	

★ Term 5 64 - 77 Credit Hours Necessary course signified by	Hours	Minimum Grade	Notes
★ CEE 341: Fluid Mechanics for Civil Engineers	4	C	
CEE 353: Civil Engineering Materials	3	C	
CEE 361: Introduction to Environmental Engineering	4	C	
CEE 384: Numerical Methods for Engineers (CS)	3	C	
Term hours subtotal:	14		

★ Term 6 78 - 92 Credit Hours Necessary course signified by	Hours	Minimum Grade	Notes
★ CEE 321: Structural Analysis and Design	4	C	
CEE 300: Engineering Business Practice (L)	3	C	
CEE 351: Geotechnical Engineering	4	C	
CEE 372: Transportation Engineering	4	C	
Term hours subtotal:	15		

★ Term 7 93 - 107 Credit Hours Necessary course signified by	Hours	Minimum Grade	Notes
★ CEE 467: Environmental Microbiology	3	C	
CEE 400: Earth Systems Engineering and Management ((L or HU) & H)	3	C	
CEE 440: Hydrology	3	C	
CEE 466: Urban Water System Design	3	C	
Technical Elective	3	C	
Term hours subtotal:	15		

★ Term 8 108 - 120 Credit Hours Necessary course signified by	Hours	Minimum Grade	Notes
★ CEE 486: Integrated Civil Engineering Design (L)	4	C	
CEE 441: Water Resources Engineering	3	C	
CEE 462: Unit Operations in Environmental Engineering	3	C	
Humanities, Fine Arts and Design (HU) OR Social and Behavioral Sciences (SB)	3		
Term hours subtotal:	13		

Technical Elective
BCH 361: Advanced Principles of Biochemistry
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

Mesa Community College	
Course	Hours
ECE 201 and ECE 202 and ECE 203	6
ECE 215	3
BIO 181 OR BIO 182 OR CHM 230 OR GLG 101	3

\*\*\* ECE 201 and ECE 202 and ECE 203 satisfy both CEE 210 and CEE 212

Mesa Community College	
Course	Hours
General Studies (HU or SB)	3

CEE 475: Highway Geometric Design

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CEE 481: Civil Engineering Project Management

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CEE 483: Highway Materials, Construction, and Quality

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CEE 499: Individualized Instruction

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CHM 302: Environmental Chemistry

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CHM 341: Elementary Physical Chemistry

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PUP 442: Environmental Planning

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CON 453: Construction Project Management I

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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, Fine Arts and Design (HU)
- Social and 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 on the major map are current for the 2014 - 2015 academic year.