













2023 - 2024 Major Map

Software Engineering, BS


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



Some accelerated combinations are not available to ASU Online students. Interested students should contact their academic advisor for more information.

Term 1 0 - 15 Credit Hours Critical course signified by 	Hours	Minimum Grade	Notes
 CSE 110: Principles of Programming (CS)	3	C	<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 three credit hour elective course must also be taken prior to graduation Prep for success using the First-Year Student Guide. Join a Fulton community. Explore engineering and technical professions.
 MAT 265: Calculus for Engineers I (MA)	3	C	
ASU 101-CAI: 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	
FSE 100: Introduction to Engineering	2	C	
Social-Behavioral Sciences (SB)	3		
 Minimum 2.00 GPA ASU Cumulative.			
Term hours subtotal:	15		
Term 2 15 - 30 Credit Hours Critical course signified by 	Hours	Minimum Grade	Notes
 CSE 205: Object-Oriented Programming and Data Structures (CS)	3	C	<ul style="list-style-type: none"> Create a Handshake profile. Get involved with EPICS, the Generator Labs, and the Fulton Start-Up Center.
EGR 104: Critical Inquiry in Engineering (L)	3	C	
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	
MAT 266: Calculus for Engineers II (MA)	3	C	
Humanities, Arts and Design (HU) AND Cultural Diversity in the U.S. (C)	3		
 Complete ENG 101 OR ENG 105 OR ENG 107 course(s).			
 Minimum 2.00 GPA ASU Cumulative.			
Term hours subtotal:	15		
Term 3 30 - 46 Credit Hours Critical course signified by 	Hours	Minimum Grade	Notes


 MAT 243: Discrete Mathematical Structures	3	C
 SER 232: Computer Systems Fundamentals (CS)	3	C
CSE 240: Introduction to Programming Languages	3	C
MAT 267: Calculus for Engineers III (MA) OR MAT 275: Modern Differential Equations (MA)	3	C
Lab Science Sequence AND Natural Science - General (SG) OR Natural Science - Quantitative (SQ)	4	
 Minimum 2.00 GPA ASU Cumulative.		
Complete Mathematics (MA) requirement.		
Term hours subtotal:	16	


- Prep for success using the [Sophomore Guide](#).

Term 4 46 - 62 Credit Hours Critical course signified by 	Hours	Minimum Grade	Notes
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 SER 222: Design and Analysis of Data Structures and Algorithms	3	C
CSE 230: Computer Organization and Assembly Language Programming	3	C
EGR 280: Engineering Statistics (CS)	3	C
PHY 121: University Physics I: Mechanics (SQ)	3	C
PHY 122: University Physics Laboratory I (SQ)	1	C
SER 216: Software Enterprise: Personal Process and Quality	3	C
 Minimum 2.00 GPA ASU Cumulative.		
Term hours subtotal:	16	

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

Term 5 62 - 78 Credit Hours Necessary course signified by 	Hours	Minimum Grade	Notes
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 SER 334: Operating Systems and System Programming	3	C
MAT 343: Applied Linear Algebra	3	C
SER 315: Software Enterprise: Design and Process	3	C
SER 322: Principles of Database Management	3	C
Lab Science Sequence AND Natural Science - General (SG) OR Natural Science - Quantitative (SQ)	4	
Term hours subtotal:	16	

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

Term 6 78 - 93 Credit Hours Necessary course signified by 	Hours	Minimum Grade	Notes
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★ SER 316: Software Enterprise: Construction and Transition	3	C
★ SER 321: Principles of Distributed Software Systems	3	C
SER 335: Engineering Secure Software Systems	3	C
Humanities, Arts and Design (HU) AND Historical Awareness (H)	3	
Social-Behavioral Sciences (SB) AND Global Awareness (G)	3	
★ Complete Cultural Diversity in the U.S. (C) AND Global Awareness (G) AND Historical Awareness (H) course(s).		
Term hours subtotal:	15	

- Research and prepare for graduate school.
- Apply for an engineering 4+1 program.
- Develop a professional profile online.

Term 7 93 - 108 Credit Hours Necessary course signified by ★	Hours	Minimum Grade	Notes
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★ SER 401: Computing Capstone Project I	3	C
SER 415: Software Enterprise: Inception and Elaboration (L)	3	C
Technical Elective	3	C
SER 4** Elective	3	C
Upper Division Humanities, Arts and Design (HU) OR Upper Division Social-Behavioral Sciences (SB) (HST 318 recommended)	3	
Term hours subtotal:	15	

- Plan for success using the Senior Guide.
- Use Handshake to apply for full-time positions.

Term 8 108 - 120 Credit Hours Necessary course signified by ★	Hours	Minimum Grade	Notes
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★ SER 402: Computing Capstone Project II	3	C
SER 416: Software Enterprise: Project and Process Management	3	C
Complete 2 courses: SER 4** Elective	6	C
Term hours subtotal:	12	

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

Lab Science Sequence
BIO 181: General Biology I (SQ) AND BIO 182: General Biology II (SG)
BIO 201: Human Anatomy and Physiology I (SG) AND BIO 202: Human Anatomy and Physiology II (SG)
CHM 113: General Chemistry I (SQ) AND CHM 116: General Chemistry II (SQ)

Technical Elective
CPI Upper Division Elective
CSE Upper Division Elective
EEE Upper Division Elective
FSE 301: Entrepreneurship and Value Creation
FSE 404: EPICS Gold: EPICS in Action

GLG 101: Introduction to Geology I (Physical) (SQ) AND GLG 103: Introduction to Geology I: Laboratory (SQ)

IEE Upper Division Elective

IFT Upper Division Elective

MAE Upper Division Elective

SER Upper Division Elective

GLG 102: Introduction to Geology II (Historical) (SG & H) AND GLG 104: Introduction to Geology II-Laboratory (SG)

GLG 110: Dangerous World (SQ & G) AND GLG 111: Dangerous World Laboratory (SQ)

MIC 205: Microbiology (SG) AND MIC 206: Microbiology Laboratory (SG)

PHY 131: University Physics II: Electricity and Magnetism (SQ) AND PHY 132: University Physics Laboratory II (SQ)

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 2023 - 2024 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.