2017 - 2018 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	• An SAT, ACT, Accuplacer, TOEFL or IELTS score determines placement into first-year composition courses • ASU Mathematics Placement Test score determines placement into the first mathematics course • ASU 101 or college-specific equivalent First Year Seminar required of all students • If ENG 105 is taken, a three (3) semester hour elective course must also be taken prior to graduation • Prep for success using the Freshman Guide. • Join a Fulton community. • Explore engineering and technical professions.
MAT 265: Calculus for Engineers I (MA)	3	C	
FSE 100: Introduction to Engineering	2	C	
ASU 101-CSE: 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	
Humanities, Arts and Design (HU) AND Cultural Diversity in the U.S. (C)	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	• 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	
MAT 266: Calculus for Engineers II (MA)	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	
Humanities, Arts and Design (HU) AND Historical Awareness (H)	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 - 45 Credit Hours Critical course signified by	Hours	Minimum Grade	Notes
SER 232: Computer Systems Fundamentals I (CS)	3	C	• Prep for success using the Sophomore Guide. • Consult the Resume, Presentation, and Resource Library for tips on how to create a technical resume, job shadow, do
MAT 243: Discrete Mathematical Structures	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	

Social-Behavioral Sciences (SB)	3		informational interviews and mentor with alumni.
Complete Mathematics (MA) requirement.			
Minimum 2.00 GPA ASU Cumulative.			
Term hours subtotal:	15		

Term 4 45 - 61 Credit Hours Critical course signified by	**Hours**	**Minimum Grade**	**Notes**
SER 222: Design and Analysis of Data Structures and Algorithms	3	C	• Prep for success using the Sophomore Guide. • 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.
CSE 230: Computer Organization and Assembly Language Programming	3	C	
SER 216: Software Enterprise: Testing and Quality	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	
Minimum 2.00 GPA ASU Cumulative.			
Term hours subtotal:	16		

Term 5 61 - 77 Credit Hours Necessary course signified by	**Hours**	**Minimum Grade**	**Notes**
SER 315: Software Enterprise: Design and Process	3	C	• In addition to PHY 121 and PHY 122, two (2) lab science classes are required and should be from the same subject area or discipline. • For HU/SB courses, cultural and historical awareness areas are not semester-specific but must be taken prior to graduation. HST 318 is required for SE and fulfills upper division "SB" plus "Global" for ASU. • Plan for success using the Junior Guide. • Network at student organization competitions or professional societies.
SER 334: Operating Systems and Networks	3	C	
MAT 343: Applied Linear Algebra	3	C	
HST 318: History of Engineering ((L or SB) & G)	3		
Lab Science Sequence AND Natural Science - General (SG) or Natural Science - Quantitative (SQ)	4		
Term hours subtotal:	16		

Term 6 77 - 93 Credit Hours Necessary course signified by	**Hours**	**Minimum Grade**	**Notes**
SER 316: Software Enterprise: Construction and Transition	3	C	• In addition to PHY 121 and PHY 122, two (2) lab science classes are required and should be from the same subject area or discipline. • Consult with a Software Engineering academic advisor for secondary focus course options. • Research and prepare for graduate school. • Apply for an engineering 4+1 program. • Develop a professional profile online.
SER 321: Principles of Distributed Software Systems	3	C	
Upper Division Primary Focus Area	3	C	
Secondary Focus Area	3		
Lab Science Sequence AND Natural Science - General (SG) or Natural Science - Quantitative (SQ)	4		
Term hours subtotal:	16		

Term 7 93 - 108 Credit Hours Necessary course signified by	**Hours**	**Minimum Grade**	**Notes**
SER 415: Software Enterprise: Inception and Elaboration (L)	3	C	• Consult with a Software Engineering academic advisor for secondary focus course options. • Plan for success using the Senior Guide. • Apply for full-time positions. • Complete an in-person or practice interview.
SER 401: Computing Capstone Project I	3	C	
Upper Division Primary Focus Area	3	C	
Upper Division Secondary Focus Area	3		
Social-Behavioral Sciences (SB) OR Humanities, Arts and Design (HU)	3		
Term hours subtotal:	15		

Term 8 108 - 120 Credit Hours Necessary course signified by ★	Hours	Minimum Grade	Notes
★ SER 416: Software Enterprise: Project and Process Management	3	C	• Consult with a Software Engineering academic advisor for secondary focus course options.
SER 402: Computing Capstone Project II	3	C	
Upper Division Primary Focus Area	3	C	
Upper Division Secondary Focus Area	3		
Term hours subtotal:	12		

- Students select both a primary and a secondary focus area. The primary focus area is Web & Mobile Applications.

A secondary focus area is a group of courses comprised of 9 or more semester hours which form a coherent theme. Students may use a second primary focus area for the Secondary Focus Area requirement. Students should work with an academic advisor to identify the secondary focus area.

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)
GLG 101: Introduction to Geology I (Physical) (SQ) AND GLG 103: Introduction to Geology I-Laboratory (SQ) AND GLG 102: Introduction to Geology II (Historical) (SG & H) AND GLG 104: Introduction to Geology II-Laboratory (SG)
PHY 131: University Physics II: Electricity and Magnetism (SQ) AND PHY 132: University Physics Laboratory II (SQ)
Note: Students who want to take PHY121/122 and PHY131/132 for their Lab Science Sequence will need to select a different lab science course (4 hours) from the list.

Primary Focus Area: Web and Mobile Applications
SER 322: Principles of Database Management
SER 421: Web-Based Applications and Mobile Systems
SER 422: Web Application Programming or SER 423: Mobile Systems

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.