













2024 - 2025 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 (QTRS OR 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 (MATH OR 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	
Humanities, Arts and Design (HUAD)	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 (QTRS OR 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.
MAT 266: Calculus for Engineers II (MATH OR 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 (HUAD)	3		
Social and Behavioral Sciences (SOBE)	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	<ul style="list-style-type: none"> Prep for success using the Sophomore Guide.


 SER 232: Computer Systems Fundamentals (QTRS OR CS)	3	C
CSE 240: Introduction to Programming Languages	3	C
MAT 267: Calculus for Engineers III (MATH OR MA) OR MAT 275: Modern Differential Equations (MATH OR MA)	3	C
Lab Science Sequence AND Scientific Thinking in Natural Sciences (SCIT)	4	
 Minimum 2.00 GPA ASU Cumulative.		
Complete Mathematics (MATH) requirement.		
Term hours subtotal:		16

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	<ul style="list-style-type: none"> Pursue an undergraduate research experience Apply for internships Attend career fairs and events
CSE 230: Computer Organization and Assembly Language Programming	3	C	
IEE 380: Probability and Statistics for Engineering Problem Solving (QTRS OR CS)	3	C	
PHY 121: University Physics I: Mechanics (SCIT OR SQ)	3	C	
PHY 122: University Physics Laboratory I (SCIT OR SQ)	1	C	
SER 216: Software Enterprise: Personal Process and Quality	3	C	
 Minimum 2.00 GPA ASU Cumulative.			
Term hours subtotal:		16	

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	<ul style="list-style-type: none"> Plan for success using the Junior Guide. Network at student organization competitions or professional societies.
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 Scientific Thinking in Natural Sciences (SCIT)	4		
Term hours subtotal:		16	


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	<ul style="list-style-type: none"> Research and prepare for graduate school. Apply for an engineering 4+1 program.
 SER 321: Principles of Distributed Software Systems	3	C	


SER 335: Engineering Secure Software Systems	3	C
American Institutions (AMIT)	3	
Governance and Civic Engagement (CIVI)	3	
Term hours subtotal:	15	


- 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
SER 4** Elective	3	C
Global Communities, Societies and Individuals (GCSI)	3	
Sustainability (SUST)	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
<i>Complete 2 courses:</i> SER 4** Elective	6	C
Term hours subtotal:	12	

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

Lab Science Sequence
BIO 181: General Biology I (SCIT OR SQ) AND BIO 182: General Biology II (SCIT OR SG)
BIO 201: Human Anatomy and Physiology I (SCIT OR SG) AND BIO 202: Human Anatomy and Physiology II (SCIT OR SG)
CHM 113: General Chemistry I (SCIT OR SQ) AND CHM 116: General Chemistry II (SCIT OR SQ)
GLG 101: Introduction to Geology I (Physical) (SCIT OR SQ) AND GLG 103: Introduction to Geology I: Laboratory (SCIT OR SQ)
GLG 102: Introduction to Geology II (Historical) (SCIT OR SG) AND GLG 104:

Introduction to Geology II: Laboratory
(SCIT OR SG)

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

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

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

- **Total Hours:** 120
- **Upper Division Hours:** 45 minimum
- [University Undergraduate Graduation Requirements](#)

Notes:

Mathematics Placement Assessment score determines placement in first mathematics course.

General Studies designations listed next to courses on the major map were valid for the 2024 - 2025 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.