2016 - 2017 Major Map

Electrical Engineering, BSE

School/College: Ira A. Fulton Schools of Engineering
ESEEEBSE

Term 1 - A 0 - 6 Credit Hours Critical course signified by	Hours	Minimum Grade	Notes
MAT 265: Calculus for Engineers I (MA)	3	C	• An SAT, ACT, Accuplacer, IELTS, or TOEFL score determines placement into first-year composition courses • ASU Mathematics Placement Test score determines placement in Mathematics course • ASU 101 or College specific equivalent First-Year Seminar required of all freshman students
ASU 101-UC: The ASU Experience	1		
FSE 100: Introduction to Engineering	2		
Term hours subtotal:	6		

Term 1 - B 6 - 12 Credit Hours Critical course signified by	Hours	Minimum Grade	Notes
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	
Term hours subtotal:	6		

Term 2 - A 12 - 20 Credit Hours Critical course signified by	Hours	Minimum Grade	Notes
PHY 121: University Physics I: Mechanics (SQ)	3	C	
PHY 122: University Physics Laboratory I (SQ)	1	C	
CHM 114: General Chemistry for Engineers (SQ) OR CHM 116: General Chemistry II (SQ)	4		
Term hours subtotal:	8		

Term 2 - B 20 - 26 Credit Hours Critical course signified by	Hours	Minimum Grade	Notes
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 267: Calculus for Engineers III (MA)	3	C	
Complete ENG 101 OR ENG 105 OR ENG 107 course(s).			
Term hours subtotal:	6		

Term 3 - A 26 - 33 Credit Hours Critical course signified by	Hours	Minimum Grade	Notes
PHY 131: University Physics II: Electricity and Magnetism (SQ)	3	C	
PHY 132: University Physics Laboratory II (SQ)	1	C	
EEE 120: Digital Design Fundamentals	3		
Term hours subtotal:	7		

Term 3 - B 33 - 39 Credit Hours Critical course signified by	Hours	Minimum Grade	Notes
MAT 275: Modern Differential Equations (MA)	3	C	
CSE 100: Principles of Programming with C++ (CS)	3		
Complete Mathematics (MA) requirement.			
Complete First-Year Composition requirement.			
Term hours subtotal:	6		

Term 4 - A 39 - 46 Credit Hours Critical course signified by	Hours	Minimum Grade	Notes
EEE 202: Circuits I	4		
Humanities, Arts and Design (HU) AND Global Awareness (G)	3		
Term hours subtotal:	7		

Term 4 - B 46 - 52 Credit Hours Critical course signified by	Hours	Minimum Grade	Notes
EEE 241: Fundamentals of Electromagnetics	3		
MAT 342: Linear Algebra OR MAT 343: Applied Linear Algebra	3	C	
Term hours subtotal:	6		

Term 5 - A 52 - 58 Credit Hours	Hours	Minimum Grade	Notes
PHY 241: University Physics III	3	C	
Humanities, Arts and Design (HU) AND Historical Awareness (H)	3		
Term hours subtotal:	6		

Term 5 - B 58 - 65 Credit Hours Necessary course signified by	Hours	Minimum Grade	Notes
EEE 334: Circuits II	4		
EEE 203: Signals and Systems I	3		
Term hours subtotal:	7		

Term 6 - A 65 - 72 Credit Hours Necessary course signified by	Hours	Minimum Grade	Notes
EEE 350: Random Signal Analysis	3		
Upper Division Area Pathway Course	4		
Term hours subtotal:	7		

Term 6 - B 72 - 78 Credit Hours	Hours	Minimum Grade	Notes
EEE 230: Computer Organization and Assembly Language Programming	3		
Social-Behavioral Sciences (SB) AND Cultural Diversity in the U.S. (C)	3		
Term hours subtotal:	6		

Term 7 - A 78 - 85 Credit Hours Necessary course signified by	Hours	Minimum Grade	Notes
Upper Division Area Pathway Course	4		
ECN 211: Macroeconomic Principles (SB) OR ECN 212: Microeconomic Principles (SB)	3		
Term hours subtotal:	7		

Term 7 - B 85 - 92 Credit Hours	Hours	Minimum Grade	Notes
Upper Division Area Pathway Course	4		

Upper Division Technical Elective	3		
Term hours subtotal:	7		

Term 8 - A 92 - 99 Credit Hours Necessary course signified by ★	Hours	Minimum Grade	Notes
★ EEE 488: Senior Design Laboratory I (L)	3		
Upper Division Area Pathway Course	4		
Term hours subtotal:	7		

Term 8 - B 99 - 105 Credit Hours	Hours	Minimum Grade	Notes
Upper Division Technical Elective	3		
BIO OR CHM OR PHY OR MAT OR AEE OR BME OR CEE OR CHE OR CPI OR CSE OR FSE OR IEE OR MAE OR MEE OR MSE Upper Division Elective OR Upper Division Technical Elective	3		
Term hours subtotal:	6		

Term 9 - A 105 - 111 Credit Hours Necessary course signified by ★	Hours	Minimum Grade	Notes
★ EEE 489: Senior Design Laboratory II (L)	3		
Upper Division Technical Elective	3		
Term hours subtotal:	6		

Term 9 - B 111 - 117 Credit Hours	Hours	Minimum Grade	Notes
Upper Division Technical Elective	3		
Upper Division Humanities, Arts and Design (HU) OR Upper Division Social-Behavioral Sciences (SB)	3		
Term hours subtotal:	6		

Term 10 - A 117 - 120 Credit Hours Necessary course signified by ★	Hours	Minimum Grade	Notes
★ Upper Division Technical Elective	3		
Term hours subtotal:	3		

- Major maps are built based on full-time enrollment, but can be adjusted as necessary for part-time attendance.

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

Technical Electives
EEE 404: Real-Time DSP Systems
EEE 407: Digital Signal Processing
EEE 425: Digital Systems and Circuits
EEE 433: Analog Integrated Circuits
EEE 434: Quantum Mechanics for Engineers
EEE 435: Fundamentals of CMOS and MEMS
EEE 436: Fundamentals of Solid-State Devices
EEE 443: Antennas for Wireless Communications

Area Pathway Course
EEE 304: Signals and Systems II
EEE 333: Hardware Design Languages and Programmable Logic
EEE 335: Analog and Digital Circuits
EEE 341: Engineering Electromagnetics
EEE 352: Properties of Electronic Materials
EEE 360: Energy Systems and Power Electronics

- EEE 445: Microwaves
- EEE 448: Fiber Optics
- EEE 455: Communication Systems
- EEE 459: Communication Networks
- EEE 460: Nuclear Power Engineering
- EEE 463: Electrical Power Plants
- EEE 470: Electric Power Devices
- EEE 471: Power System Analysis
- EEE 472: Power Electronics and Power Management
- EEE 473: Electrical Machinery
- EEE 480: Feedback Systems
- EEE 481: Computer-Controlled 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 2016 - 2017 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.