




















2015 - 2016 Major Map

Engineering (Automotive Systems), BSE

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

Term 1 0 - 14 Credit Hours Critical course signified by 	Hours	Minimum Grade	Notes
 ASU 101: The ASU Experience	1		<ul style="list-style-type: none"> • An SAT, ACT, Accuplacer, or TOEFL score determines placement into first-year composition courses • ASU Math Placement Exam score determines placement in Mathematics course • ASU 101 or College specific equivalent First Year Seminar required of all freshman students
 EGR 101: Foundations of Engineering Design Project I	3		
 MAT 265: Calculus for Engineers I (MA)	3	C	
CHM 113: General Chemistry I (SQ)	4		
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:	14		
Term 2 14 - 29 Credit Hours Critical course signified by 	Hours	Minimum Grade	Notes
 EGR 102: Foundations of Engineering Design Project II	3		<ul style="list-style-type: none"> • Please note that both PHY 121 and PHY 122 must be taken to secure SQ General Studies credit.
 MAT 266: Calculus for Engineers II (MA)	3	C	
EGR 104: Critical Inquiry in Engineering (L)	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	C	
PHY 121: University Physics I: Mechanics (SQ)	3		
 Complete CHM 113 course(s).			
 Complete ENG 101 OR ENG 105 OR ENG 107 course(s).			
Term hours subtotal:	15		
Term 3 29 - 44 Credit Hours Critical course signified by 	Hours	Minimum Grade	Notes
 EGR 201: Use-Inspired Design Project I	3		
 EGR 216: Engineering Electrical Fundamentals	3		
 EGR 218: Materials and Manufacturing Processes	3		
 MAT 267: Calculus for Engineers III (MA)	3	C	
EGR 280: Engineering Statistics (CS)	3		
 Complete PHY 121 course(s).			
Complete Mathematics (MA) requirement.			
Term hours subtotal:	15		
Term 4 44 - 59 Credit Hours Critical course signified by 	Hours	Minimum Grade	Notes
 EGR 202: Use-Inspired Design Project II	3		
 EGR 217: Engineering Mechanics Fundamentals	3		
 EGR 219: Computational Modeling of Engineering Systems	3		

MAT 275: Modern Differential Equations (MA)	3
Humanities, Arts and Design (HU) AND Historical Awareness (H)	3
❗ Complete EGR 280 course(s).	
Term hours subtotal:	15

Term 5 59 - 75 Credit Hours Necessary course signified by ★	Hours	Minimum Grade	Notes
★ EGR 306: Automotive Systems Project I	3		<ul style="list-style-type: none"> A secondary focus area is a group of courses comprising of 12 or more credit hours (at least 6 must be at the upper division level) which form a coherent theme. For example, all courses may share a common subject prefix. Students work with an academic success specialist to identify their secondary focus area.
★ EGR 340: Engineering Thermo-Fluids I	3		
Science Elective AND Natural Science - Quantitative (SQ)	4		
Secondary Focus Area	3		
Social-Behavioral Sciences (SB)	3		
Term hours subtotal:	16		

Term 6 75 - 90 Credit Hours Necessary course signified by ★	Hours	Minimum Grade	Notes
★ EGR 316: Automotive Systems Project II	3		<ul style="list-style-type: none"> A secondary focus area is a group of courses comprising of 12 or more credit hours (at least 6 must be at the upper division level) which form a coherent theme. For example, all courses may share a common subject prefix. Students work with an academic success specialist to identify their secondary focus area.
EGR 363: Automotive Powertrains and Thermal Systems	3		
HST 318: History of Engineering ((L or SB) & G)	3		
MAT 343: Applied Linear Algebra	3		
Secondary Focus Area	3		
Term hours subtotal:	15		

Term 7 90 - 105 Credit Hours Necessary course signified by ★	Hours	Minimum Grade	Notes
★ EGR 330: Design of Electrical Systems OR EGR 432: Engineering Thermo-Fluids II	3		<ul style="list-style-type: none"> A secondary focus area is a group of courses comprising of 12 or more credit hours (at least 6 must be at the upper division level) which form a coherent theme. For example, all courses may share a common subject prefix. Students work with an academic success specialist to identify their secondary focus area.
★ EGR 401: Professional Design Project I (L)	3		
PHY 321: Vector Mechanics and Vibration	3		
Humanities, Arts and Design (HU) AND Cultural Diversity in the U.S. (C)	3		
Upper Division Secondary Focus Area	3		
Term hours subtotal:	15		

Term 8 105 - 120 Credit Hours Necessary course signified by ★	Hours	Minimum Grade	Notes
★ EGR 402: Professional Design Project II	3		<ul style="list-style-type: none"> A secondary focus area is a group of courses comprising of 12 or more credit hours (at least 6 must be at the upper division level) which form a coherent theme. For example, all courses may share a common subject prefix. Students work with an academic success specialist to identify their secondary focus area.
EGR 463: Vehicle Electrical Systems and Hybrid Systems	3		
EGR 465: Ground Vehicle Dynamics	3		
Upper Division Secondary Focus Area	3		
Upper Division Humanities, Arts and Design (HU) OR Upper Division Social-Behavioral Sciences (SB)	3		
Term hours subtotal:	15		

- Students must select 4 hours of Science Elective from the listed courses.
- Students must select 4 hours of Science Elective from the listed courses.

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

Science Elective

BIO 181: General Biology I (SQ)

CHM 116: General Chemistry II (SQ)

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

PHY 122: University Physics Laboratory I
(SQ)

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

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 2015 - 2016 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.