











2014 - 2015 Major Map
Engineering (Automotive Systems), BSE





College of Technology and Innovation
Polytechnic campus
TSEGRASBSE

Term 1	0 - 14 Credit Hours	Critical course signified by 	Hours	Minimum Grade	Notes
	CHM 113: General Chemistry I (SQ)		4		<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 CTI 101 required of all freshman students
	CTI 101: Success in Technology & Innovation		1		
	EGR 101: Foundations of Engineering Design Project I		3		
	MAT 265: Calculus for Engineers I (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:			14		




Mesa Community College	
Course	Hours
CHM 151 and CHM 151LL	4
ECE 102 and ECE 103	2 2
MAT 221 or MAT 220	4 5
ENG 101 or ENG 102 OR ENG 107 or ENG 108	3

Term 2	15 - 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	
	PHY 121: University Physics I: Mechanics (SQ)		3		
	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	
	Complete ENG 101 OR ENG 105 OR ENG 107 course(s).				
Term hours subtotal:			15		

Mesa Community College	
Course	Hours
MAT 231 or MAT 230	4 5
PHY 121	4
ENG 101 or ENG 102 OR ENG 107 or ENG 108	3

Term 3	30 - 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		
Term hours subtotal:			15		

Mesa Community College	
Course	Hours
MAT 241 or MAT 240	4 5

Term 4	45 - 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, Fine Arts and Design (HU) AND Cultural Diversity in the U.S. (C)		3		
Term hours subtotal:			15		

Mesa Community College	
Course	Hours
ECE 214	4
MAT 277	3
General Studies (HU-C OR HU-G OR HU-H)	3

Term 5	60 - 75 Credit Hours	Necessary course signified by 	Hours	Minimum Grade	Notes
	EGR 306: Automotive Systems Project I		3		
	EGR 340: Engineering Thermo-Fluids I		3		

HST 318: History of Engineering ((L or SB) & G)	3
Science Elective AND Natural Science - Quantitative (SQ)	4
Secondary Focus Area	3
Term hours subtotal:	16

Term 6 76 - 90 Credit Hours Necessary course signified by ★	Hours	Minimum Grade	Notes
★ EGR 316: Automotive Systems Project II	3		
EGR 363: Automotive Powertrains and Thermal Systems	3		
MAT 343: Applied Linear Algebra	3		
Secondary Focus Area	3		
Social and Behavioral Sciences (SB)	3		
Term hours subtotal:	15		

Term 7 91 - 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		
★ EGR 401: Professional Design Project I (L)	3		
PHY 321: Vector Mechanics and Vibration	3		
Upper Division Secondary Focus Area	3		
Humanities, Fine Arts and Design (HU) AND Historical Awareness (H)	3		
Term hours subtotal:	15		

Term 8 106 - 120 Credit Hours Necessary course signified by ★	Hours	Minimum Grade	Notes
★ EGR 402: Professional Design Project II	3		
EGR 463: Vehicle Electrical Systems & Hybrid Systems	3		
EGR 465: Ground Vehicle Dynamics	3		
Upper Division Secondary Focus Area	3		
Upper Division Social and Behavioral Sciences (SB) OR Upper Division Humanities, Fine Arts and Design (HU)	3		
Term hours subtotal:	15		

- A secondary focus area is a group of courses comprising of 12 or more credit hours 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.
- Students must select 4 hours of Science Elective from the listed courses.

Science Elective

BIO 181: General Biology I (SQ)

CHM 116: General Chemistry II (SQ)

GLG 101: Introduction to Geology I (Physical) (SQ)

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

PHY 122: University Physics Laboratory I (SQ)

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

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

General University Requirements Legend
General Studies Core Requirements:
• Literacy and Critical Inquiry (L)

General Studies Awareness Requirements:
• Cultural Diversity in the U.S. (C)
• Global Awareness (G)
• Historical Awareness (H)

Mesa Community College	
Course	Hours
BIO 181 or CHM 152 and CHM 152LL or PHY 131	4
See advisor for secondary focus area	3

Mesa Community College	
Course	Hours
See advisor for secondary focus area	3
General Studies (SB-C OR SB-G OR SB-H)	3

Mesa Community College	
Course	Hours
General Studies (HU-H)	3

Hrs Resident Credit for
Academic Recognition: 56
minimum
Total Community College Hrs: 64
maximum

- Mathematical Studies (MA)
- Computer/Statistics/Quantitative Applications (CS)
- Humanities, Fine Arts and Design (HU)
- Social and Behavioral Sciences (SB)
- Natural Science - Quantitative (SQ)
- Natural Science - General (SG)

First-Year Composition

General Studies designations listed on the major map are current for the 2014 - 2015 academic year.