

Major Map: Mechanical Engineering (Computational and Mathematical Mechanics) – Bachelor of Science in Engineering (B.S.E.) Ira A. Fulton School of Engineering, Tempe Campus Catalog Year: 2009-2010

			Completed ATP: Yes No		Completed AGEC: Yes No			
Course Subject and Title (courses in bold/shading are critical)	Hrs.	Upper Division	Transfer Course/Grade	Minimum Grade if Required	Additional Critical Requirement Notes			
TERM ONE: 0-15 CREDIT HOURS	1113.	Division	Course/ Grade	Required	Additional Critical Requirement Proces			
		_			• Complete CHM 114 or 116 or 115; MAT 265			
+ASU 101-FSE: The ASU Experience	1				each with a minimum grade of "C" + ASU 101-FSE and MAE 100 required for			
CHM 114: General Chemistry for Engineers (SQ) OR					freshmen and should be completed first semester.			
CHM 115: General Chemistry with Qualitative Analysis (SQ) OR CHM 116: General Chemistry II* (SQ)	4	l n		Grade of C	Non-freshmen see advisor for petitioning replacement electives.			
CHAIT ITO. General Chemistry II (5Q)	4			Grade of C	An SAT, ACT, Accuplacer, or TOEFL score			
+MAE 100: Introduction to Mechanical and Aerospace Engineering (or		_		Grade of C in	determines placement into first-year composition courses			
Department Approved Elective)	2			MAE 100	ASU Math Placement Exam score determines			
					placement in Mathematics course			
MAT 265: Calculus for Engineers I (MA) ENG 101 or 102: First-Year Composition OR	3			Grade of C	*CHM 113 is a prerequisite and does not apply towards degree credit			
ENG 105: Advanced First-Year Composition** OR					**If ENG 105 a 3 hr applicable elective must also be			
ENG 107 or 108: English for Foreign Students	3			Grade of C	taken prior to graduation. See Advisor.			
TERM TWO: 16-30 CREDIT HOURS CSE 100: Principles of Programming with C++(CS) OR					• Complete MAT 266; PHY 121, 122 with a			
CSE 110: Principles of Programming with Java (CS)	3			Grade of C	minimum grade of "C"			
MAT 266: Calculus for Engineers II	3			Grade of C				
PHY 121/122: University Physics I/ Laboratory I (SQ) ENG 101 or 102: First-Year Composition OR	3/1			Grade of C				
ENG 101 or 102: First-Year Composition OK ENG 105: Advanced First-Year Composition** OR								
ENG 107 or 108: English for Foreign Students	3			Grade of C	-			
Social & Behavioral Science (SB) AND Cultural Diversity in the US (C), Global Awareness (G), or Historical Awareness (H)	3							
TERM THREE: 31-45 CREDIT HOURS								
MAE 212: Engineering Mechanics	4			Grade of C	• Complete ENG 102 or 108 or 105; MAT 275;			
MAT 275: Modern Differential Equations	3			Grade of C	PHY 131, 132; MAE 212 each with a minimugrade of "C"			
PHY 131/132: University Physics II Electricity and Magnetism/		_			Complete First Year Composition requirement:			
Laboratory II (SQ)	3/1	 		Grade of C	ENG 101 & 102 or ENG 107 & 108 or ENG			
MAE 214: Computer-Aided Engineering I MAT 267: Calculus for Engineers III	3			Grade of C Grade of C				
TERM FOUR: 46-60 CREDIT HOURS	3			Grade of C				
MAE 213: Solid Mechanics	3			Grade of C	Complete MAE 213, 240 each with a minimum			
MAE 240: Thermofluids I	4			Grade of C	grade of "C"			
PHI 103: Principles of Sound Reasoning (HU)	3							
MAT 343: Applied Linear Algebra	3			Grade of C	_			
MSE 250: Structure and Properties of Materials	3			Grade of C				
TERM FIVE: 61-75 CREDIT HOURS	2	M		Condo of C				
MAE 340: Thermofluids II EEE 202: Circuits I	3			Grade of C Grade of C				
MAE 322: Structural Mechanics	4			Grade of C				
MAE 384: Numerical Methods for Engineers (CS)	3			Grade of C				
TERM SIX: 76-90 CREDIT HOURS								
BME 111: Engineering Perspectives on Biological Systems (or dept	3							
approved BIO) MAE 318: Sensors and Controls	5			Grade of C				
MAE 323 Computer-Aided Engineering II	2			Grade of C	1			
MAE 342: Principles of Mechanical Design	3			Grade of C				
Technical Elective	3	⊠		Grade of C				
TERM SEVEN: 91-105 CREDIT HOURS								
MAE 491: Experimental Mechanical Engineering (L)	3			Grade of C	-			
MAE 488: Mechanical Engineering Design I	3			Grade of C	-			
Technical Elective	3		-	Grade of C	-			
Technical Elective Humanities, Fine Arts & Design (HU) AND Cultural Diversity in the	3			Grade of C	1			
US (C), Global Awareness, (G), or Historical Awareness (H)	3							
TERM EIGHT: 106-120 CREDIT HOURS								
	3	\boxtimes		Grade of C	1			
	_							
MAE 489: Mechanical Engineering Design II	3			Grade of C	-			
MAE 489: Mechanical Engineering Design II Technical Elective	_			Grade of C Grade of C				
MAE 489: Mechanical Engineering Design II	3							

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Graduation Requirements Summary:

Total Hours Regular Curriculum (120)	Total UD Hrs (45 min)	Total Hrs at ASU (30 min)	Cumulative GPA (2.00 minimum)	Major GPA (2.00 minimum GPA)	Hrs Resident Credit for Academic Recognition (56 min)	Total Comm. College Hrs. (64 Max)

General University Requirements: Legend

- General Studies Core Requirements:
 - o Literacy and Critical Inquiry (L)
 - o Mathematical Studies (MA)
 - o Computer/Statistics/Quantitative applications (CS)
 - o Humanities, Fine Arts, and Design (HU)
 - Social and Behavioral Sciences (SB)
 - o Natural Science-Quantitative (SQ)
 - o Natural Science-General (SG)
- General Studies Awareness Requirements
 - o Cultural Diversity in the US (C)
 - o Global Awareness (G)
 - o Historical Awareness (H)
- First-Year Composition

Additional Notes:

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