MESA COMMUNITY COLLEGE

Associate in Science (AS) Degree
MCC/ASU Fulton Engineering Special Studies (Pre-medical) Advisement Flow Chart
2009-2010 Catalog Year

First Year Composition

FYC ENG 101 or 107
First-Year Comp (3)
Completed: _____

FYC ENG 102 or 108
First-Year Comp (3)
Completed: _____

Social & Behavioral Sciences

SB _____
3 Credits
Completed: _____

SB _____
3 Credits
Completed: _____

Humanities and Fine Arts

HU _____
3 Credits
Completed: _____

HU _____
3 Credits
Completed: _____

Reading and Communication

Oral Communication
COM 230 (0-3 Credits)
Completed: _____

Critical Reading
CRE 101 (0-3 Credits)
Completed: _____

Chem & Bio Requirements

Prerequisite

CHM 130/130LL
General Chem I (4)
Completed: _____

CHM 151/151LL
General Chem I (4)
Completed: _____

CHM 152/152LL
General Chem II (4)
Completed: _____

CHM 235/235LL
Organic Chem I (4)
Completed: _____

CHM 236/236LL
Organic Chem II (4)
Completed: _____

BIO 182
General Biology II (4)
Completed: _____

Note: Students who have not completed high school chemistry or completed high school chemistry more than two years prior to enrolling in CHM 151 should take CHM 130/130LL.

Physics Requirements

Program Prerequisites

PHY 111
General Physics I (4)
Completed: _____

PHY 112
General Physics 2 (4)
Completed: _____

SQ PHY 121
Univ Physics I (4)
Completed: _____

SQ PHY 131
Univ Physics II (4)
Completed: _____

Note: Students who have not completed high school physics or completed high school physics more than two years prior to enrolling in PHY 121 should take PHY 111.

Mathematics Requirements

Program Prerequisites

MAT 150, 151 or 152
College Algebra (3)
Completed: _____

MAT 182 or 187
Trig or PreCalc (3)
Completed: _____

MA MAT 221
Calculus I (4)
Completed: _____

MAT 225
Linear Algebra (3)
Completed: _____

MAT 231
Calculus II (4)
Completed: _____

MAT 262
Diff Equations (3)
Completed: _____

Engineering Requirements

CSC 100
Intro to Comp Sci (3)
Completed: _____

ECE 102
Engineering Anal (2)
Completed: _____

ECE 103
Engineering Design (2)
Completed: _____

ECE 214
Engineering Mech (4)
Completed: _____

EEE 202
Circuits & Devices (5)
Completed: _____

ASU ARIZONA STATE UNIVERSITY

Major Map: Engineering Special Studies (Pre-medical Engineering) – Bachelor of Science in Engineering (B.S.E.)

Ira A. Fulton School of Engineering, Tempe Campus
Catalog Year: 2009-2010

Mesa Community College courses shown in blue.

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					
ASU 101-FSE: The ASU Experience	1	☐	ECE 102/103		• **Complete BME 100 with a minimum grade of "C" or BIO 188** • **Complete MAT 265 with a minimum grade of "C"** • An SAT, ACT, Accuplacer, or TOEFL score determines placement into first-year composition courses • ASU Math Placement Exam score determines placement in Mathematics course ** If ENG 105 a 3 hr applicable elective must also be taken prior to graduation. See Advisor.
BME 100: Introduction to Bioengineering OR BIO 188: General Biology II (CS)	2 or 4	☐	ECE 102/103	Grade of C in BME 100	
MAT 265: Calculus for Engineers I	3	☐	MAT 221 *(4)*	Grade of C	
CHM 113: General Chemistry I (SQ)	4	☐	CHM 151/151LL		
ENG 101 or 102: First-Year Composition OR ENG 105: Advanced First-Year Composition** OR ENG 107 or 108: English for Foreign Students	3	☐	ENG 101/102 ENG 107/108	Grade of C	
TERM TWO: 16-30 CREDIT HOURS					
BME 100: Introduction to Bioengineering OR BIO 188: General Biology II (SQ)	2 or 4	☐	BIO 182 *(4)*	Grade of C in BME 100	• **Complete BIO 188; BME 100 with a minimum grade of "C"; CHM 116; MAT 266 with a minimum grade of "C"; PHY 121 & 122** • **Complete ASU101-FSE**
CHM 116: General Chemistry II (SQ)	4	☐	CHM 152/152LL		
MAT 266: Calculus for Engineers II	3	☐	MAT 231 *(4)*	Grade of C	
PHY 121/122: University Physics I/ Laboratory I (SQ)	3/1	☐	PHY 121 *(4)*		
ENG 101 or 102: First-Year Composition OR ENG 105: Advanced First-Year Composition** OR ENG 107 or 108: English for Foreign Students	3	☐	ENG 101/102 ENG 107/108	Grade of C	
TERM THREE: 31-45 CREDIT HOURS					
BME 235: Physiology for Engineers	4	☐		Grade of C	• **Complete PHY 131 & 132** • Complete First Year Composition requirement: ENG 101 & 102 or ENG 107 & 108 or ENG 105
PHY 131/132: University Physics II Electricity and Magnetism/Laboratory II (SQ)	3/1	☐	PHY 131 *(4)*		
CHM 233/237: General Organic Chemistry I/Laboratory I	3/1	☐	CHM 235/235LL		
CSE 100: Principles of Programming with C++ (CS)	3	☐	CSC 100 *(3)*		
TERM FOUR: 46-60 CREDIT HOURS					
BME 200: Conservation Principles in Bioengineering	3	☐		Grade of C	• **Complete BME 200, 235 each with a minimum grade of "C"**
EEE 202: Circuits I	4	☐	EEE 202 *(5)*		
MAE 212: Engineering Mechanics	4	☐	ECE 214 *(4)*		
MAT 275: Modern Differential Equations (MA)	3	☐	MAT 262 *(3)*		
CHM 234/238: General Organic Chemistry II/Laboratory II OR Humanities, Fine Arts & Design (HU) AND Cultural Diversity in the US (C), Global Awareness (G) or Historical Awareness (H)	4 or 3	☐	CHM 236 *(3)* CHM 236LL *(1)*		
TERM FIVE: 61-75 CREDIT HOURS					
# BME 318: Biomaterials	4	☒		Grade of C	# Designates Major Course: A minimum cumulative GPA of 2.0 required.
# BME 350: Signals and Systems for Bioengineering	3	☒		Grade of C	
# CHM 341: Elementary Physical Chemistry	3	☒			
# MAT 343: Applied Linear Algebra	3	☒			
Social & Behavioral Science (SB) AND Cultural Diversity in the US (C), Global Awareness (G) or Historical Awareness (H)	3	☐	SB Elective *(3)*		
TERM SIX: 76-90 CREDIT HOURS					
# BME 300: Bioengineering Product Design	3	☒		Grade of C	# Designates Major Course: A minimum cumulative GPA of 2.0 required.
# BME 331: Bioengineering Transport Phenomena	3	☒		Grade of C	
# BME 370: Microcomputer Applications in Bioengineering	3	☒		Grade of C	
CHM 234/238: General Organic Chemistry II/Laboratory II OR Humanities, Fine Arts & Design (HU) AND Cultural Diversity in the US (C), Global Awareness (G) or Historical Awareness (H) if CHM 234/238 completed	4 or 3	☐	HU Elective *(3)*		
# IEE 380: Probability and Statistics for Engineering Problem Solving	3	☐			
TERM SEVEN: 91-105 CREDIT HOURS					
# BME 413: Biomedical Instrumentation (BME 413 + 423 = L)	3	☒		Grade of C	# Designates Major Course: A minimum cumulative GPA of 2.0 required.
# BME 417: Biomedical Engineering Capstone Design I (L)	4	☒		Grade of C	
# BME 423: Biomedical Instrumentation Laboratory	1	☒		Grade of C	
# BME 434: Applications of Bioengineering OR # BME 416: Biomechanics OR # BME 419: Biocontrol Systems	3	☒		Grade of C	
Social & Behavioral Science (SB) AND Cultural Diversity in the US (C), Global Awareness (G) or Historical Awareness (H)	3	☐	SB Elective *(3)*		
TERM EIGHT: 106-120 CREDIT HOURS					
# BME 490: Biomedical Engineering Capstone Design II	4	☒		Grade of C	# Designates Major Course: A minimum cumulative GPA of 2.0 required.
Humanities, Fine Arts & Design (HU) AND Cultural Diversity in the US (C), Global Awareness (G) or Historical Awareness (H)	3	☒			
# Technical Elective	1	☒		Grade of C	
UD Humanities, Fine Arts & Design (HU) OR Social Behavioral Science (SB)	3	☒			

ASU ARIZONA STATE UNIVERSITY

Major Map: Engineering Special Studies (Pre-medical Engineering) – Bachelor of Science in Engineering (B.S.E.)

Ira A. Fulton School of Engineering, Tempe Campus
Catalog Year: 2009-2010

Graduation Requirements Summary:

Total Hours Regular Curriculum (120)	Total Hrs at ASU (30 min)	Hrs Resident Credit for Academic Recognition (56 min)	Major GPA (2.000 Min. CUM GPA)	Total UD Hrs (45 min)	Total Comm. College Hrs. (64 Max)

General University Requirements: Legend

- General Studies Core Requirements:
  - Literacy and Critical Inquiry (L)
  - 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)
- General Studies Awareness Requirements
  - Cultural Diversity in the US (C)
  - Global Awareness (G)
  - Historical Awareness (H)
- First-Year Composition

Additional Notes: