

# College of Engineering and Computer Science

Mechanical Engineering

Fall 2018

Name \_\_\_\_\_

SUID \_\_\_\_\_

pr= prerequisite, co=corequisite

Minor/Second Major (if any): \_\_\_\_\_

	CREDIT GRADE	FIRST-YEAR		SOPHOMORE		JUNIOR		SENIOR		VAR +/-
		F	S	F	S	F	S	F	S	
<b>MATHEMATICS (15)</b>										
MAT295 Calculus 1	(4)	4								
MAT296 Calculus 2 (pr: MAT 295 min C-)	(4)		4							
MAT397 Calculus 3 (pr: MAT 296 min C-)	(4)			4						
MAT485 Diff Eqn & Matrix Algebra for Engrs (pr: MAT 397)	(3)				3					
<b>SCIENCES (12)</b>										
CHE106 General Chem for Engrs	(3)	3								
CHE107 General Chem Lab (co: CHE 150)	(1)	1								
PHY211 General Physics 1 (co: PHY 221, MAT 295)	(3)		3							
PHY221 General Physics Lab 1 (co: PHY 211)	(1)		1							
PHY212 General Physics 2 (pr: PHY 211, 221, co: PHY 222, MAT 296)	(3)			3						
PHY222 General Physics Lab 2 (co: PHY 212)	(1)			1						
<b>WRITING SKILLS/SOCIAL SCIENCE/HUMANITIES (12)</b>										
WRT105 Studio 1: Practices of Academic Writing	(3)	3								
WRT205 Studio 2: Critical Research and Writing (pr: WRT 105)	(3)		3							
ECN203 Economic Ideas & Issues	(3)	3								
SSH Elective _____	(3)		3							
<b>PROGRAM CUSTOMIZATION (18)</b>										
Course1 _____	(3)			3						
Course2 _____	(3)					3				
Course3 _____	(3)						3			
Course4 _____	(3)						3			
Course5 _____	(3)							3		
Course6 _____	(3)								3	
<b>ENGINEERING (26)</b>										
ECS101 Intro. to Engr. & Comp. Sci.	(3)	3								
ECS104 Engr. Comp Tools (co: MAT 295)	(3)		3							
ECS221 Statics (pr: PHY 211, co: MAT 296)	(3)			3						
ECS222 Dynamics (pr: ECS 221, MAT 296)	(3)				3					
ECS325 Mechanics of Solids (pr: ECS 221, co: MAT 397)	(4)				4					
ECS326 Engr. Materials, Prop. & Proc.	(3)			3						
ELE231 Elec. Engr. Fundamentals 1 (pr: MAT 295)	(3)					3				
ELE291 Elec. Engr. Laboratory 1 (co: ELE 231)	(1)					1				
MAE322 Control Systems for MAE (pr: MAT414 or 485, co: MAE321)	(3)						3			
<b>MECHANICAL ENGINEERING (45)</b>										
MAE284 Intro. to CAD (pr: ECS 101)	(3)			3						
MAE251 Thermodynamics (pr: PHY 211)	(4)			4						
MAE312 Engineering Analysis (pr: ECS 104, MAT 485)	(3)					3				
MAE315 Mech/Aero Lab I (pr: ECS 325, co: MAE 341)	(3)					3				
MAE321 Dynamics of Mech. Systems (pr: ECS 325, ECS 222, MAT 485)	(3)						3			
MAE341 Fluid Mechanics (pr: ECS 221, MAT 397, PHY 211)	(4)					4				
MAE355 Heat Transfer (pr: MAE 341, co: MAE 251)	(4)						4			
MAE333 Data Analysis for Engrs. (pr: MAT 397)	(3)					3				
MEE332 Intro. Machine Des. (pr: ECS 222, ECS 325)	(3)						3			
MEE416 Mechanical Engr. Lab (pr: MAE 251, MAE 315, MAE 341, MAE 355)	(3)							3		
MEE431 Manufacturing Processes (pr: MAE 284 and ECS 326)	(3)							3		
MEE471 Design Practice (pr: MEE 332, MAE 284, co: MEE472)	(2)								2	
MEE472 Syn. Mech. Systems II (pr: MAE 284, MAE 321, MAE 322, MAE 355, co: MEE 471)	(4)								4	
<b>Select One of the Following 3 Courses:</b>										
MAE530 Intro to Design Optimization (3) (pr: MAT 397, MAT 485)	(3)							3		
MAE571 Applic of Cmptn'l Fluid Dynmcs (3) (pr: MAE 341)										
MAE573 Applic of Finite Elemnt Anlsys (3) (pr: ECS 325, MAT 485)										
<b>TOTAL CREDITS</b>	<b>128</b>	<b>17</b>	<b>17</b>	<b>17</b>	<b>17</b>	<b>17</b>	<b>16</b>	<b>15</b>	<b>12</b>	

\*See reverse side for all notes

**MECHANICAL ENGINEERING**  
**Curriculum Notes**  
**2018-2019**

1. Mechanical Engineering students must take at least 3 credit hours in the Social Science/ Humanities in addition to ECN203. Further, they must take one Numerical Elective (3 credits), one of which must be either MAE530, MAE571, or MAE573, as well as complete one of the following two 18-credit options, for a total of eight (8) Electives (24 credit hours):

**Option 1:** A University Minor – typically 18 credits coordinated by the offering department; the minor must have fewer than 12 credits of overlap with required MEE courses. A second major also satisfies this option.

**Option 2:** A Distribution of Electives – an additional 6 credits of Social Sciences/Humanities, 9 credits of Technical Electives, and a 3-credit Free Elective.

2. Technical Electives are courses at the 300 level or higher taken within the Mechanical and Aerospace (MAE) department. Selected courses from other ECS departments, mathematics, or natural sciences may be accepted as Technical Electives, but no more than 3 credit hours of the Technical Electives can be taken outside the MAE department.
3. Many technical electives in the MAE Department are scheduled on a 2-year rotation, so students should check availability of Technical Electives starting in their third year.
4. Mechanical Engineering students seeking to complete a Mathematics Minor can take a mathematics course as a Free Elective but must still complete one of the 2 options listed above.
5. Mechanical Engineering students seeking to complete the Energy Systems Minor (15 credits) must take an additional 3-credit Social Sciences/Humanities Elective.
6. Students may bundle courses into free electives if desired. The bundled courses must be taken for a letter grade and either be at the 300-level or greater, or be a physical education course. AEW credit cannot be bundled.
7. Social science or humanities (SS/H) courses are to be selected from any foreign language course, the “Humanities List”, or the “Social Sciences List”, as published in the SU Course Catalog.