

2018-2019

**B.S in MECHANICAL ENGINEERING**



**GRACE CORE (39 credits; 2 APLs)**

The Grace Core is designed around four essential relationships. Though all courses engage most relationships, courses are organized according to the relationship that is their primary focus.

<b>Relationship to God</b>			<b>Relationship to Others</b>		
BIB 1050	Exploring the Bible	3	COM 1100	Public Speaking	3
@ BIB 2010	Scripture and Interpretation	3	ENG 1100	Effective Writing	3
@ BIB 3300	Essential Doctrinal Themes	3	PSY 1200	Essentials in Behavioral Science	3
<b>Relationship to Self</b>			<b>Relationship to the World and Environment</b>		
FYE 1010	Freshman Foundations	3	HIS 1380	Contemporary America and the World	3
ECN 3000	Consumer Economics	3	HUM 2000	Global Perspectives	3
@ PHI 3010	Christianity and Critical Thinking	3	HUM 2010-30	Cross-cultural Field Experience (2 APL)	0
			HUM 2100	Creative Arts and Culture	3
			SCI 2030	Faith, Science, and Reason	3

**ADDITIONAL GENERAL EDUCATION--B.A. or B.S. DEGREE (7 credits)**

**Satisfies B.S. Degree**

MAT 3130	Linear Algebra	3
CHM 1610	General Chemistry I	4
CHM 1620	General Chemistry I Lab (1 APL)	0

**THE MAJOR (91 credits; 12 APLs)**

<b>MATH AND SCIENCE REQUIREMENTS (25 Credits)</b>			<b>ENGINEERING FUNDAMENTALS (42 Credits)</b>		
MAT 1230	Calculus I	4	MEG 1200	Intro to Mechanical Engineering	4
MAT 1240	Calculus I Lab (1 APL)	0	MEG 1900	Engineering Modeling & Tolerancing	3
@ MAT 1250	Calculus II	4	MEG 1400	Intro to Programming MATLAB	2
@ MAT 1260	Calculus II Lab (1 APL)	0	MEG 3400	Intro to Finite Element Analysis	3
@ MAT 2250	Calculus III	3	MEG 2900	Machine Component Design	3
@ MAT 2280	Differential Equations	3	MEG 2800	Kinematic & Linkage Design	3
PHY 2240	University Physics I	4	MEG 3300	Advanced Manufacturing Processes	2
PHY 2250	University Physics I Lab (I APL)	0	MEG 3200	Control Systems	3
@ PHY 2260	University Physics II	4	MEG 3100	Experimental Methods (2 APL)	3
@ PHY 2270	University Physics II Lab (I APL)	0	MEG 1950	Industrial Machining & Measurements	3
MAT 3200	Probability and Statistics	3	MEG 4100	Senior Engineering Project (6 APL)	6
			MEG 2000	Engineering Internship	1
			MEG 1000	Engineering Service	0
<b>ENGINEERING SCIENCE REQUIREMENTS (24 Credits)</b>			<b>Technical Electives (6 Credits)</b>		
MEG 2100	Statics & Mechanic of Materials	4	<i>Choose six additional credits of MEG courses</i>		
MEG 2200	Dynamics	3			6
MEG 2300	Engineering Materials	3			
MEG 2400	Electrical Science (Circuits)	4			
MEG 2500	Thermodynamics	4			
MEG 2600	Heat Transfer	3			
MEG 2700	Fluid Mechanics	3			

**TOTAL CREDITS TO GRADUATE: 137 (12 APLs)**

To receive a degree, each student must satisfy checksheet requirements, earn 137 credit hours, fulfill 12 credits of Applied Learning, **have earned a grade of C- or better in major courses while maintaining a 2.2 GPA in major courses**, and a GPA of 2.0 overall. It is the student's responsibility to work with his/her advisor and monitor progress toward these goals. Some majors and/or minors may have more stringent guidelines.  
*It is strongly encouraged that a minimum of 6 Applied Learning credits be earned in experiential education taking place outside the traditional classroom setting.*

**IS A MINOR REQUIRED WITH THIS MAJOR? NO**

† Indicates a course taught by a partner college/university.  
 @ Indicates a course with prerequisites. Please review catalog for prereqs.