

## B.S. Mechanical Engineering 2017-18

Freshman Year							
Fall Semester	Course Title	Credit Hours	Semester(s) Offered	Spring Semester	Course Title	Credit Hours	Semester(s) Offered
PAGN1XX-2XX	Physical Ed	.5	F, Sp	PAGN1XX-2XX	Physical Ed	.5	F, Sp
LAIS100	Nature & Human Values	4	F, Sp, Su	CHGN122 or 125	Principles of Chemistry II <i>Pre: CHGN121</i>	4	F, Sp, Su
CSM101	Freshman Seminar	.5	F	PHGN100	Physics I <i>Pre: MATH111, Co: MATH112</i>	4.5	F, Sp, Su
DS Elective*	Dist. Science	4	F, Sp, Su	MATH112	Calculus II <i>Pre: MATH111 (≥C)</i>	4	F, Sp, Su
CHGN121	Principles of Chemistry	4	F, Sp, Su	EPIC151	Design I	3	F, Sp, Su
MATH111	Calculus I	4	F, Sp, Su				
<b>Total Credits</b>		<b>17</b>				<b>16</b>	
Sophomore Year							
Fall Semester				Spring Semester			
PAGN1XX-2XX	Physical Ed	.5	F, Sp	PAGN1XX-2XX	Physical Ed	.5	F, Sp
LAIS200	Human Systems <i>Pre: LAIS100</i>	3	F, Sp, Su	MTGN202	Engineering Materials Systems <i>Pre: CHGN122 or 125, MATH112, PHGN100</i>	3	F, Sp, Su
PHGN200	Physics II <i>Pre: PHGN100 (≥C-), Co: MATH213</i>	4.5	F, Sp, Su	MEGN312	Intro to Solid Mechanics <i>Pre: CEEN241 (≥C-), Pre/Co: MEGN200</i>	3	F, Sp, Su
MATH213	Calculus III <i>Pre: MATH112 (≥C)</i>	4	F, Sp, Su	EENG281	Intro to Circuits <i>Pre: PHGN200</i>	3	F, Sp, Su
CEEN241	Statics <i>Pre: PHGN100 Co: MATH112</i>	3	F, Sp, Su	MATH225	Differential Equations <i>Pre: MATH112 (≥C)</i>	3	F, Sp, Su
MEGN200	Intro to Mechanical Engineering <i>Pre: EPIC151</i>	3	F, Sp	MEGN361	Thermodynamics I <i>Pre: MATH213 (≥C-)</i>	3	F, Sp, Su
<b>Total Credits</b>		<b>18</b>				<b>15.5</b>	
Field Session							
Summer I							
MEGN201	Field Session <i>Pre: MEGN200 (≥C-)</i>	3	Su				
<b>Total Credits</b>		<b>3</b>					
Junior Year							
Fall Semester				Spring Semester			
MATH307	Intro to Scientific Computing <i>Pre: MATH213, MATH225</i>	3	F, Sp, Su	MEGN381	Manufacturing Processes <i>Pre: MTGN202, MEGN312, MEGN201</i>	3	F, Sp
MEGN315	Dynamics <i>Pre: CEEN241 (≥C-), MATH225 (≥C-)</i>	3	F, Sp, Su	EGGN350	MEL II <i>Pre: EGGN250 Pre/Co: MEGN351, MEGN312</i>	1.5	F, Sp
EBGN201	Principles of Economics	3	F, Sp, Su	MEGN471	Heat Transfer <i>Pre: MATH307, MEGN351 (≥C-), MEGN361 (≥C-)</i>	3	F, Sp
EGGN250	MEL I <i>Pre: PHGN200</i>	1.5	F, Sp	EENG307	Feedback Control <i>Pre: EENG281, MATH225</i>	3	F, Sp, Su
MEGN351	Fluid Mechanics <i>Pre: CEEN241 (≥C-)</i>	3	F, Sp, Su	MEGN481	Machine Design <i>Pre: MEGN424 (≥C-), MEGN315 (≥C-)</i>	4	F, Sp, Su
MEGN424	CAE <i>Pre: MEGN312 (≥C-)</i>	3	F, Sp, Su	H&SS Mid	LAIS/EBGN I	3	F, Sp, Su
<b>Total Credits</b>		<b>16.5</b>				<b>17.5</b>	

Senior Year							
Fall Semester				Spring Semester			
Free Elective		3	F, Sp, Su	Free Elective		3	F, Sp, Su
EGGN450	MEL III <i>Pre: EGGN350, MEGN351, MEGN312 Co:EENG307</i>	1	F, Sp	H&SS 400 Level	LAIS/EBGN III	3	F, Sp, Su
Adv. MECH Elective	Advanced Engineering Sciences Elective	3	F, Sp	MECH Elective	MECH Elective	3	F, Sp, Su
H&SS Mid	LAIS/EBGN II	3	F, Sp, Su	Free Elective		3	F, Sp, Su
MECH Elective	MECH Elective	3	F, Sp, Su	EGGN492	Senior Design II <i>Pre: EGGN491</i>	3	F, Sp
EGGN491	Senior Design I <i>Pre: MEGN201, MEGN481</i>	3	F, Sp				
<b>Total Credits</b>		<b>16</b>				<b>15</b>	

\*CBEN110 or GEGN101 may be taken for Distributed Science Elective.

**Total Credit Hours 134.5**

### Mechanical Engineering Electives

Course	Course Title	Credit Hours	Semesters(s) Offered			
<b>Advanced Engineering Sciences (choose 1)</b>						
MEGN412	Advanced Mechanics of Materials	3	F, Sp			
MEGN416	Engineering Vibrations	3	F, Sp			
MEGN451	Fluid Mechanics II	3	Sp			
MEGN461	Thermodynamics II	3	F, Sp			
<b>Mechanical Engineering Electives (choose 2)</b>						
CEEN405	Numerical Methods for Engineers	3	Sp	MEGN493 Engineering Design Optimization	3	Check Trailhead
CEEN406	Finite Element Methods for Engineers	3	Sp	MEGN498 Special Topics in ME	3	F, Sp, Su
EBGN321	Engineering Economics	3	F, Sp	MEGN5XX Any MEGN 500+level course	3	F, Sp
EENG389	Fund. of Electric Machinery	4	F, Sp	MTGN311 w/L Structure of Materials	4	F
EENG417	Modern Control	3	F	MTGN445 w/L Mechanical Behavior of Materials	4	F
EGGN401	Projects for People	3	F, Sp	MTGN450 Statistical Control of Material Processes	3	F
MEGN330	Introduction to Biomechanical Engineering	3	F	MTGN463 Polymer Engineering	3	Check Trailhead
MEGN425	Advanced CAE	3	Su	MTGN464 w/L Forging & Forming w/Lab	3	Sp
MEGN430	Musculoskeletal Biomechanics	3	Sp	MTGN475 w/L Metallurgy of Welding w/Lab	3	F
MEGN435	Modeling & Simulation of Human Movement	3	Sp	NUGN520 Reactor Thermal Hydraulics	3	Sp
MEGN436	Computational Biomechanics	3	F	PHGN300 Modern Physics I	3	F
MEGN441	Introduction to Robotics	3	F, Sp	PHGN350 Intermediate Mechanics	4	F
MEGN466	Intro to IC Engines	3	Sp	PHGN419 Principles of Solar Energy Systems	3	Sp
MEGN485	Manufacturing Optimization w/ Network Models	3	F			

*Semester(s) Offered based on Spring 2017, Summer 2017, and Fall 2017 course schedules. Future semester offerings are subject to change. Consult Trailhead prior to registration.*