COLORADOSCHOOLOFMINES
EARTH • ENERGY • ENVIRONMENT

DEPARTMENT OF **MECHANICAL ENGINEERING**

COLLEGE OF ENGINEERING & COMPUTATIONAL SCIENCES

B.S. Mechanical Engineering 2018-19

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, Su	PAGN1XX-2XX	Physical Ed	.5	F, Sp, Su
HASS100	Nature & Human Values	4	F, Sp, Su	CHGN122 or 125	Principles of Chemistry II *Pre: CHGN121*	4	F, Sp, Su
CSM101	Freshman Seminar	.5	F, Sp	PHGN100	Physics I *Pre: MATH111, Co: MATH112*	4.5	F, Sp, Su
DS Elective*	Dist. Science	4	F, Sp, Su	MATH112	Calculus II *Pre: MATH111 (≥C)*	4	F, Sp, Su
CHGN121	Principles of Chemistry	4	F, Sp, Su	EDNS151	Intro to Design	3	F, Sp, Su
MATH111	Calculus I	4	F, Sp, Su				
Total Credits		**17**				**16**	
Sophomore Year							
Fall Semester				**Spring Semester**			
PAGN1XX-2XX	Physical Ed	.5	F, Sp, Su	MTGN202	Engineering Mat. Systems *Pre: CHGN122 or 125, MATH112, PHGN100*	3	F, Sp
HASS200	Global Studies *Pre: HASS100*	3	F, Sp, Su	MEGN312	Intro to Solid Mechanics *Pre: CEEN241 (≥C-), Pre/Co: MEGN200*	3	F, Sp, Su
PHGN200	Physics II *Pre: PHGN100 (≥C-), Co: MATH213*	4.5	F, Sp, Su	EENG281	Intro to Circuits *Pre: PHGN200*	3	F, Sp, Su
MATH213	Calculus III *Pre: MATH112 (≥C)*	4	F, Sp, Su	MATH225	Differential Equations *Pre: MATH112 (≥C)*	3	F, Sp, Su
CEEN241	Statics *Pre:PHGN100, Co:MATH112*	3	F, Sp, Su	MEGN361	Thermodynamics I *Pre: MATH213 (≥C-)*	3	F, Sp, Su
MEGN200 or MEGN201	Intro to ME: Programming & Hardware Interface Or Intro to ME: Field Session *Pre: EDNS151*	3	F, Sp, (MEGN201-Su)	MEGN200 or MEGN201	Intro to ME: Programming & Hardware Interface Or Intro to ME: Field Session *Pre: EDNS151*	3	F, Sp, (MEGN201-Su)
Total Credits		**18**				**18**	
Junior Year							
Fall Semester				**Spring Semester**			
PAGN1XX-2XX	Physical Ed	.5	F, Sp, Su	MEGN301	Mechanical Integration & Design *Pre: MEGN300*	2	F, Sp
MATH307	Intro to Scientific Computing *Pre: MATH213, Co: MATH225*	3	F, Sp, Su	MEGN381	Manufacturing Processes *Pre: MTGN202, MEGN312,*	3	F, Sp
MEGN315	Dynamics *Pre: CEEN241 (≥C-), MATH225 (≥C-)*	3	F, Sp, Su	MEGN351	Fluid Mechanics *Pre: CEEN241 (≥C-)*	3	F, Sp, Su
EBGN201	Principles of Economics	3	F, Sp, Su	EENG307	Feedback Control *Pre: EENG281, MATH225*	3	F, Sp, Su
MEGN300	Instrumentation & Automation *Pre:MEGN200, MEGN201*	3	F, Sp	MEGN481	Machine Design *Pre: MEGN424 (≥C-), MEGN315 (≥C-)*	3	F, Sp, Su
MEGN424	CAE *Pre: MEGN312 (≥C-)*	3	F, Sp, Su	HASS/EBGN Mid	HASS/EBGN I	3	F, Sp, Su
Total Credits		**15.5**				**17**	

Senior Year							
Fall Semester				**Spring Semester**			
MEGN471	Heat Transfer *Pre: MATH307 (≥C-), MEGN351 (≥C-), MEGN361 (≥C-)*	3	F, Sp	Free Elective		3	F, Sp, Su
Free Elective		3	F, Sp, Su	HASS/EBGN 400 Level	HASS/EBGN III	3	F, Sp, Su
Adv. MECH Elective	Advanced Engineering Sciences Elective	3	F, Sp	MECH Elective	MECH Elective	3	F, Sp, Su
HASS/EBGN Mid	HASS/EBGN II	3	F, Sp, Su	Free Elective		3	F, Sp, Su
MECH Elective	MECH Elective	3	F, Sp, Su	EDNS492	Senior Design II *Pre: EGGN491*	3	F, Sp
EDNS491	Senior Design I *Pre: MEGN301* *Pre/Co:MEGN481*	3	F, Sp				
Total Credits		**18**				**15**	

*CBEN110, GEGN101, or CSCI101&102 may be taken for Distributed Science Elective. **Total Credit Hours 134.5**

Mechanical Engineering Electives

Course	Course Title	Credit Hours	Semesters(s) Offered				
	Advanced Engineering Sciences	*(choose 1)*					
MEGN412	Advanced Mechanics of Materials	3	F, Sp				
MEGN416	Engineering Vibrations	3	F, Sp				
MEGN451	Fluid Mechanics II	3	F, Sp				
MEGN461	Thermodynamics II	3	F, Sp				
	Mechanical Engineering Electives	*(choose 2)*					
CEEN405	Numerical Methods for Engineers	3	Check Trailhead	MEGN487	Nonlinear Optimization	3	F
CEEN406	Finite Element Methods for Engineers	3	Sp	MEGN488	Integer Optimization	3	F
EBGN321	Engineering Economics	3	F, Sp	MEGN493	Engineering Design Optimization	3	Check Trailhead
EENG389	Fund. of Electric Machinery	4	F, Sp	MEGN498	Special Topics in ME	3	F, Sp, Su
EENG390	Energy & Electricity	4	F	MEGN5XX	Any MEGN 500+level course	3	F, Sp
EENG417	Modern Control	3	F	MTGN311 w/L	Structure of Materials	4	F
EDNS401	Projects for People	3	F, Sp	MTGN445 w/L	Mechanical Behavior of Materials	4	F
MEGN330	Introduction to Biomechanical Engineering	3	F	MTGN450	Statistical Control of Material Processes	3	F
MEGN425	Advanced CAE	3	Check Trailhead	MTGN463	Polymer Engineering	3	Check Trailhead
MEGN430	Musculoskeletal Biomechanics	3	Sp	MTGN464 w/L	Forging & Forming w/Lab	3	Sp
MEGN435	Modeling & Simulation of Human Movement	3	Sp	MTGN475 w/L	Metallurgy of Welding w/Lab	3	F
MEGN436	Computational Biomechanics	3	F	NUGN520	Reactor Thermal Hydraulics	3	Check Trailhead
MEGN441	Introduction to Robotics	3	F, Sp	PHGN300	Modern Physics I	3	F
MEGN466	Intro to IC Engines	3	Sp	PHGN350	Intermediate Mechanics	4	F
MEGN469	Fuel Cell Science & Technology	3	F	PHGN419	Principles of Solar Energy Systems	3	Sp
MEGN485	Manufacturing Optimization w/ Network Models	3	F				
MEGN486	Linear Optimization	3	F				

Semester(s) Offered based on Summer 2017, Fall 2017, and Spring 2018 course schedules. Future semester offerings are subject to change. Consult Trailhead prior to registration. This chart is a quick reference guide. Should there be a discrepancy between it and Mines' 2018-19 Catalog, the Catalog is the final authority.