# Mechanical Engineering 1+3 Agreement with MSU Bozeman

The 1+3 Agreement with articulated coursework in Engineering and General Education is designed for students interested in a Bachelor of Science degree in Mechanical Engineering at Montana State University.

#### **Estimated Cost**

### **Estimated Resident Program Cost\***

Estimated costs are for the Great Falls College portion of this curriculum. Please contact the partnering school for information on the estimated cost of classes there.

Tuition and Fees	\$3,418	
Application Fee	\$30	
Lab Fees	\$85	
Books/Supplies	\$644	
Total	\$4,177	

\* Fall 2017 MUS Student Health Insurance Premiums will be changing. Please check the Health Insurance website (http:// students.gfcmsu.edu/insurance.html) and/or Student Central for confirmed premium rates. Students will be charged an additional fee of \$21 per credit for online/hybrid courses.

## **Program Requirements**

#### Year 1: Courses taken at GFC MSU

Many students need preliminary math, science, and writing courses before enrolling in the program requirements. These courses may increase the total

number of program credits. Students should review their math and writing placement before planning out their full program schedule.

Course First Year	Title	Credits	Grade/Sem	
Fall				
CHMY 141	College Chemistry I w/Lab **,+	4		
COMX 111	Intro to Public Speaking +	3		
M 171	Calculus I **,+	4		
WRIT 101	College Writing I **,+	3		
	ore Select one of the following:	3		
Art (IA and R.				
MUSI 101	Enjoyment of Music +	3		
MUSI 103	Fundamntls of Musical Creation +	3		
MUSI 203	American Popular Music +	3		
MUSI 207	World Music (equiv to 307) +	3		
PHOT 154	Exploring Digital Photography +	4		
ARTZ 105	Visual Language-Drawing +	3		
	H and RH) Options	· ·		
HSTA 101	American History I ((N)) +	3		
HSTA 102	American History II ((N)) +	3		
LIT 110	Intro to Lit +	3		
PHL 101	Introduction to Philosophy +	3		
PHL 110	Introduction to Ethics +	3		
Social Science (IS and SN) Options				
PSCI 210	Intro to American Government +	3		
PSYX 100	Introduction to Psychology +	3		
SOCI 101	Introduction to Sociology +	3		
Diversity (D)		3		
EDU 211	Multicultural Education +	3		
NASX 232	MT Ind Cltrs/Hstry/Iss (=332) ((N)) +	3		
SPNS 102	Elementary Spanish II *,+	4		
01110102	Credits	17		
Spring	Oreans	17		
M 172	Calculus II *,+	4		
PHSX 220	Physics I w/Lab **,+	4		
University Core not previously taken Art (IA and		6		
RA), Humanities (IH and RH), Social Science (IS				
and SN), or D	Diversity (D) Options listed above			
	Credits	14		
	Total Credits	31		

<sup>\*</sup> Key courses

### Years 2-4: Outline for Completion of the Bachelor of Science in Mechanical Engineering Degree at Montana State University

The following courses would be taken at MSU in Bozeman after transferring with Year 1 coursework from Great Falls College. These courses are all

<sup>\*\*</sup> Placement in course(s) is determined by placement assessment

<sup>\*\*\*</sup> Assumes COMX 111 transfers to MSU Bozeman with a US Core designation

<sup>+</sup> Indicates a course prerequisite

required for degree completion; the course sequencing indicated below is a general guide on when they can be taken.

Course	Title	Credits	Grade/Sem
Year 2 - Fall	Semester		
EGEN 201	Engineering Mechanics - Statics	3	
EMEC 100	Introduction to Mechanical Engineering	1	
EMEC 103	Engineering Graphics	3	
M 273Q	Multivariable Calculus	4	
PHSX 222	Physics II (w/calculus)	4	
University Co	ore (Art, Humanities, Social Science, or	3	
Diversity)			
Subtotal		18	
Year 2 - Spri	ing Semester		
EGEN 202	Engineering Mechanics - Dynamics	3	
EGEN 205	Mechanics of Materials	3	
EMAT 252	Materials Lab	1	
EMEC 203	Mechanical Engineering Computation	2	
EMEC 250	Mechanical Engineering Materials	3	
M 274	Intro to Differential Equations	4	
Subtotal		16	
Course	Title	Credits	Grade/Sem
Year 3 - Fall	Semester		
EGEN 335	Fluid Mechanics	3	
EGEN 350	Statistics	2	
ELEC 250	Circuits	4	
EMEC 320	Thermodynamics I	3	
EMEC 341	Advanced Mechanics of Materials	3	
ETME 215	Manufacturing Process	3	
ETME 217	Manufacturing Process Lab	1	
Subtotal	Wandacturing Frocess Lab	19	
	ing Semester	10	
EGEN 310	Multidisc Engineering Design	3	
EMEC 303	Systems Analysis	3	
EMEC 303	Thermodynamics II	3	
EMEC 326	Heat Transfer	3	
EMEC 342	Mechanical Component Design	3	
EMEC 342	Measurement and Instrumentation	3	
EMEC 361	Measurement and Instrumentation Lab	1	
Subtotal	Measurement and Instrumentation Lab	19	
Subtotal		19	
Course	Title	Credits	Grade/Sem
Year 4 - Fall			
EMEC 425	Advanced Thermal Systems	3	
EMEC 445	Mechanical Vibrations	3	
EMEC 489	Capstone I	2	
Professional Electives		6	
University Co	ore (Art, Humanities, or Diversity)	3	
Subtotal		17	
Year 4 - Spri	ing Semester		
EGEN 488	FE Exam	0	
EMEC 499	Capstone II	3	
Professional Electives		9	
University Core (Art, Humanities, or Diversity)		3	
, , , , , , , , , , , , , , , , , , , ,			

15

Subtotal

Electives must include: 15 credits of approved professional electives at the 300 level or above. The professional elective courses must comply with the Mechanical Engineering Professional Elective Policy. Students must successfully complete all key courses prior to taking any professional electives. A student may petition to include other senior or graduate level courses consistent with the degree program but not listed here (requires Academic Advisor and Department Head approval).

A minimum of 128 credits is required for graduation; 42 of those credits must be in courses numbered 300 and above.