

# Course Plan

## 2020-2021



**BOISE STATE  
UNIVERSITY**

### Bachelor of Science in Mechanical Engineering

#### FIRST YEAR

##### FIRST SEMESTER

CHEM 111	General Chemistry (FN)	3 cr
CHEM 111L	General Chemistry Lab (FN)	1 cr
ENGL 101	Writing and Rhetoric 1 (FW)	3 cr
<b>MATH 170</b>	<b>Calculus I (FM)</b>	<b>4 cr</b>
UF 100	Foundations of Intellectual Life	3 cr
<b>TOTAL CREDITS</b>		<b>14 cr</b>

##### SECOND SEMESTER

CS 117	C++ for Engineers (3 cr) <i>OR</i>	
CS 121†	Computer Science 1 (4 cr)	3-4 cr
ENGL 102	Writing and Rhetoric 2 (FW)	3 cr
<b>MATH 175</b>	<b>Calculus II</b>	<b>4 cr</b>
ME 187	Graphical Communication	2 cr
<b>PHYS 211</b>	<b>Physics 1 w/Calculus (FN)</b>	<b>4 cr</b>
PHYS 211L	Physics 1 w/Calculus Lab (FN)	1 cr
<b>TOTAL CREDITS</b>		<b>17-18 cr</b>

#### SECOND YEAR

##### FIRST SEMESTER

MATH 333	Differential Equations and Matrix Theory	4 cr
<b>ME 201</b>	<b>Engineering Mechanics 1</b>	<b>3 cr</b>
ME 215	Engineering Communication Lab w/Inspire ME seminar	1 cr
<b>ME 273</b>	<b>Introduction to Computation for Engineers</b>	<b>2 cr</b>
MSE 245	Introduction to Materials Science and Engineering	3 cr
FS	Foundations of Social Science	3 cr
<b>TOTAL CREDITS</b>		<b>16 cr</b>

##### SECOND SEMESTER

MATH 275	Multivariable and Vector Calculus	4 cr
<b>ME 203</b>	<b>Engineering Mechanics 2</b>	<b>3 cr</b>
ME 287	Design 1 w/Lab	2 cr
UF 200	Foundations of Ethics and Diversity	3 cr
SCI/MTH	Science/Math Elective	4 cr
<b>TOTAL CREDITS</b>		<b>16 cr</b>

#### THIRD YEAR

##### FIRST SEMESTER

ENGR 240	Electrical and Electronic Circuits	3 cr
MATH 360	Engineering Statistics <i>OR</i>	
MATH 361†	Probability and Statistics	3 cr
ME 301	Solid Mechanics 1	3 cr
ME 301L	Solid Mechanics 1 Lab	1 cr
ME 321	Thermal/Fluids 1	3 cr
FH	Foundations of Humanities	3 cr
<b>TOTAL CREDITS</b>		<b>16 cr</b>

##### SECOND SEMESTER

ME 303	Solid Mechanics 2	3 cr
ME 313	Experimental Methods Lab 1	2 cr
ME 323	Thermal/Fluids 2	3 cr
ME 360	System Modeling and Control	3 cr
ME 387	Design 2 w/Lab	2 cr
ELEC	Program Elective A	3 cr
<b>TOTAL CREDITS</b>		<b>16 cr</b>

#### FOURTH YEAR

##### FIRST SEMESTER

ME 401	Engineering Systems and Applications	3 cr
ME 413	Experimental Methods Lab 2	2 cr
ME 487	Senior Design Project 1 (FF)	2 cr
ELEC	Program Elective B	3 cr
FS	Foundations of Social Science 2nd Field	3 cr
<b>TOTAL CREDITS</b>		<b>13 cr</b>

##### SECOND SEMESTER

ME 489	Senior Design Project 2	2 cr
ELEC	Program Elective C	3 cr
ELEC	Program Elective D	3 cr
FA	Foundations of Arts	3 cr
FC	Foundations of Oral Communication	3 cr
<b>TOTAL CREDITS</b>		<b>14 cr</b>

# 20-21 Flowchart

## Bachelor of Mechanical Engineering

Semester 1	Semester 2	Semester 3	Semester 4	Semester 5	Semester 6	Semester 7	Semester 8
<p><b>CHEM 111</b> <sup>3</sup> General Chemistry I PR: MATH 143 CR: CHEM 111L</p>	<p><b>PHYS 211</b> <sup>4</sup> Physics I w/ Calculus PR: MATH 143 (144) CR: PHYS 211L MATH 170</p>	<p><b>MSE 245</b> <sup>3</sup> Intro to Materials Science and Engineering PR: CHEM 111 MATH 170</p>	<p><b>Science/Math Elective*</b> <sup>4</sup></p>	<p><b>MATH 360 (361)</b> <sup>3</sup> Engineering Statistics PR: MATH 175</p>	<p><b>ME 387</b> <sup>2</sup> Design II w/Lab PR: ME 287*</p>	<p><b>ME 487</b> <sup>2</sup> Senior Design Project I PR: ME 387 CR: ME 401 ME 413</p>	<p><b>ME 489</b> <sup>2</sup> Senior Design Project II PR: ME 487</p>
<p><b>CHEM 111L</b> <sup>1</sup> General Chemistry I Lab CR: CHEM 111</p>	<p><b>PHYS 211L</b> <sup>1</sup> Physics I w/ Calculus Lab CR: PHYS 211</p>	<p><b>ME 201</b> <sup>3</sup> Engineering Mechanics I PR: MATH 170 PHYS 211</p>	<p><b>ME 203</b> <sup>3</sup> Engineering Mechanics II PR: MATH 175 ME 201 (or ENGR 210)</p>	<p><b>ME 301*</b> <sup>3</sup> Solid Mechanics I PR: MATH 275 MATH 333 MSE 245 ME 187 (105) ME 203 (or ENGR 220) ME 273 (271)</p>	<p><b>ME 303</b> <sup>3</sup> Solid Mechanics II PR: MATH 360 (361) ME 301 (or 350)</p>	<p><b>ME 401</b> <sup>3</sup> Engineering Systems and Applications PR: MATH 360 (361) ME 302 (or ENGR 220) ME 303 (352) ME 321 (302) ME 323 (or ME 330 AND ME 320)</p>	<p><b>Foundations of Arts elective</b> <sup>3</sup></p>
<p><b>MATH 170</b> <sup>4</sup> Calculus I PR: MATH 143 (or MATH 149) CR: MATH 144</p>	<p><b>MATH 175</b> <sup>4</sup> Calculus II PR: MATH 170</p>	<p><b>MATH 333</b> <sup>4</sup> Differential Equations w/Matrix Theory PR: MATH 175</p>	<p><b>MATH 275</b> <sup>4</sup> Multivariable and Vector Calculus PR: MATH 175</p>	<p><b>ME 301L*</b> <sup>1</sup> Solid Mechanics Lab CR: ME 301</p>	<p><b>ME 313</b> <sup>2</sup> Experimental Methods Lab I PR: MATH 360 (361) ME 301L</p>	<p><b>ME 413</b> <sup>2</sup> Experimental Methods Lab II PR: ME 313 (310)</p>	<p><b>Foundations of Oral Communications elective</b> <sup>3</sup></p>
<p><b>UF 100</b> <sup>3</sup> Foundations of Intellectual Life</p>	<p><b>ME 187</b> <sup>2</sup> Graphical Communication PR: MATH 170</p>	<p><b>ME 215</b> <sup>1</sup> Engineering Communications Lab w/Inspire ME seminar</p>	<p><b>ME 287</b> <sup>2</sup> Design I w/Lab PR: ME 187 (105)</p>	<p><b>ENGR 240</b> <sup>3</sup> Electrical and Electronic Circuits PR: PHYS 211 CR: MATH 333</p>	<p><b>ME 360</b> <sup>3</sup> System Modeling and Control PR: ENGR 240 (ECE 212) MATH 333</p>	<p><b>Foundations of Social Sciences elective 2</b> <sup>3</sup></p>	<p><b>Elective C**</b> <sup>3</sup></p>
<p><b>ENGL 101</b> <sup>3</sup> Writing and Rhetoric I</p>	<p><b>ENGL 102</b> <sup>3</sup> Writing and Rhetoric II PR: ENGL 101</p>	<p><b>Foundations of Social Sciences elective</b> <sup>3</sup></p>	<p><b>UF 200</b> <sup>3</sup> Foundations of Ethics and Diversity PR: ENGL 102 UF 100</p>	<p><b>ME 321*</b> <sup>3</sup> Thermal/Fluids I PR: MATH 175 ME 203 (or ENGR 220) ME 273 (271)</p>	<p><b>ME 323</b> <sup>3</sup> Thermal/Fluids II PR: MATH 275 ME 321 (or ME 330 AND ME 302)</p>	<p><b>Elective B**</b> <sup>3</sup></p>	<p><b>Elective D**</b> <sup>3</sup></p>
	<p><b>CS 117 (or 121)</b> <sup>3/4</sup> C++ for Engineers PR: MATH 170</p>	<p><b>ME 273</b> <sup>2</sup> Introduction to Computation for Engineers PR: CS 117 or CS 121 CR: PHYS 211</p>		<p><b>Foundations of Humanities elective</b> <sup>3</sup></p>	<p><b>Elective A**</b> <sup>3</sup></p>		

\*change pending

Rev. 4/2/20

### KEY

