

BSE: Mechanical Engineering Concentration Model Program (Starting Fall 2023 or Later)

First Year

Fall (16)	<input type="checkbox"/>	4	Chemistry 101 + 101L	General Chemistry I (F,S)
	<input type="checkbox"/>	4	Engineering 101 + 101L	Intro to Engineering Design (F)
	<input type="checkbox"/>	4	Mathematics 171	Calculus I (F,S)
	<input type="checkbox"/>	2	<i>Core Foundations</i>	<i>CORE 100: Community and Commitments</i>
	<input type="checkbox"/>	2	<i>Interdisciplinary 102</i>	<i>Oral Rhetoric for Engineers</i> (or CS 104)
Spring(17)	<input type="checkbox"/>	4	Engineering 205	Principles of Materials Science (S)
	<input type="checkbox"/>	4	Mathematics 172	Calculus II (F,S)
	<input type="checkbox"/>	4	Physics 133 + 133L	Introductory Physics: Mechanics and Gravity (S)
	<input type="checkbox"/>	4	<i>Core Comp and Skills</i>	<i>Foundational Writing (ENGL 101)</i>
	<input type="checkbox"/>	1	<i>Core Comp and Skills</i>	<i>Health and Movement (Personal Fitness)</i>

★ ENGR 20X - These courses are required but can be taken in any order (offered fall and spring):
 ENGR 202* - Statics and Dynamics
 ENGR 204 - Intro to Circuit Anal. and Electronics with Laboratory
 ENGR 209 - Intro to Cons. Laws & Fluid Mechanics
 * Course offered as part of the Summer Program in Germany.

* Possibly insert Summer Program in Germany

Second Year

Fall (16)	<input type="checkbox"/>	4	Engineering 20X ★	
	<input type="checkbox"/>	4	Mathematics 271	Multivariable Calculus (F,S)
	<input type="checkbox"/>	4	Physics 235 + 235L	Introductory Physics: Electricity and Magnetism (F)
	<input type="checkbox"/>	2	Comp Sci 104 + 104L	Applied Computing (F) (CS 106 or 108 may be substituted but both are 4 SH)
	<input type="checkbox"/>	2	<i>Core Knowledge and Understanding (see Core Options sheet) - tagged</i>	
	<input type="checkbox"/>	0	Engineering 295	Internship Workshop
		2	Interdisciplinary 184	Intro to Sustainability Challenges (F) (ES Tag, required for Sustainability Designation)

Spring (18)	<input type="checkbox"/>	4	Engineering 20X ★	
	<input type="checkbox"/>	4	Engineering 20X ★	
	<input type="checkbox"/>	4	Mathematics 231	Differential Equations with Linear Algebra (F,S)
	<input type="checkbox"/>	2	Statistics 241	Engineering Statistics (S)
	<input type="checkbox"/>	4	<i>Core Foundations</i>	<i>Foundations of Christianity I</i>
<input type="checkbox"/>	0	Engineering 294	Engineering Seminar (does not require registration in advance)	

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Third Year

Fall (16)	<input type="checkbox"/>	4	Engineering 305	Mechanics of Materials (F)
	<input type="checkbox"/>	4	Engineering 319	Intro. To Thermal/Fluid Sciences (F)
	<input type="checkbox"/>	4	Elective: Basic Science or Advanced Math (2 SH minimum)	
	<input type="checkbox"/>	2	<i>Core Foundations</i>	<i>Foundations of Christianity II</i>
	<input type="checkbox"/>	2	<i>Economics (2 SH min)</i>	<i>ECON 191 (2) or 233 (4, ES tag) - ECON 221, 222, or 232 can be added or substituted</i>

Spring(17)	<input type="checkbox"/>	4	Engineering 322	Machine Design with Finite Element Analysis (S)
	<input type="checkbox"/>	4	Engineering 328	Intermediate Thermal/Fluid Sciences & Design (S)
	<input type="checkbox"/>	4	Engineering 334 + 334L	Dynamics of Machinery and Instrumentation (S)
	<input type="checkbox"/>	4	<i>Core Knowledge and Understanding (see Core Options sheet) - tagged</i>	
	<input type="checkbox"/>	1	<i>Core Comp and Skills</i>	<i>Health and Movement (Leisure, Sport, and Skills)</i>

Pink listings (Calvin Core) may be taken in any semester. ECON should be taken prior to BUS 357.

Internship Experience (ENGR 385 Optional)

Fall (16)	<input type="checkbox"/>	4	Engineering 333	Thermal Systems Designs (F)
	<input type="checkbox"/>	2	Engineering 339	Senior Project (F)
	<input type="checkbox"/>	4	Engineering Elective	ENGR 314, 315, or 342
	<input type="checkbox"/>	4	Elective: Basic Science , Advanced Math , Engineering , or Technical	
	<input type="checkbox"/>	2	Business 357	Business Aspects for Engineers (F)
		1	Interdisciplinary 384	Sustainability Experience (F,S) (Required for students seeking Sustainability Designation)

See University Catalog or Elective Options sheet for courses allowed for the **green**, **red**, **orange**, **blue** and **purple** categories. Classes shaded in light brown are optional.

Fourth Year

Spring (16)	<input type="checkbox"/>	4	Engineering 324 + 324L	Materials & Processes in Manufacturing (S)
	<input type="checkbox"/>	4	Engineering 340	Senior Design Project (S)
	<input type="checkbox"/>	2	Engineering Elective	Typically ENGR 350 (2 SH minimum)
	<input type="checkbox"/>	4	<i>Core Knowledge and Understanding (see Core Options sheet) - tagged</i>	
	<input type="checkbox"/>	2	<i>Core Knowledge and Understanding (see Core Options sheet - 26 SH of total K&U minimum)</i>	
<input type="checkbox"/>	0	Engineering 394	Engineering Seminar (does not require registration in advance)	

Other Requirements

- 0-8 *Core Comp and Skills: World Languages I (3 years in HS with B or better)*
- 0-3 *Engaged Citizenship Commitment Tag: Diversity and Difference*
- 0-3 *Engaged Citizenship Commitment Tag: Environmental Sustainability*
- 0-3 *Engaged Citizenship Commitment Tag: Global Regions and Cultures*

Revised Mar 2024