# Mechanical Engineering Concentration Model Program (Starting Fall 2021)

## First Year
### Fall (16)
- 5 Chemistry 101 General Chemistry (F,S)
- 3 Engineering 101 Intro to Engineering Design (F)
- 1 Engineering 181 Graphical Communication Lab (F)
- 4 Mathematics 171 Calculus I (F,S)
- 3 Core Foundations Community and Commitments

### Spring (17)
- 3 Engineering 205 Material Science (S)
- 4 Mathematics 172 Calculus II (F,S)
- 4 Physics 133 Introductory Physics, Mechanics and Gravity (S)
- 3 Core Foundations Foundations of Christianity I
- 3 Core Comp and Skills Foundational Writing

## Second Year
### Fall (17)
- 4 Engineering 20X ★
- 3 Mathematics 270/271 Multivariable Calculus - Math 270 (3 SH Fall only), Math 271 (4 SH F,S)
- 4 Physics 235 Introductory Physics: Electricity and Magnetism (F)
- 2 Computer Science 104 Applied Computing (F) (CS 106 or 108 may be substituted but both are 4 SH)
- 3 Core Foundations Foundations of Christianity II
- 1 Core Comp and Skills Health and Movement
- 0 Engineering 295 Internship Workshop
- 1 Engineering 184 Sustainability Challenges (F) (Required for students seeking Sustainability Designation)

### Spring (17)
- 4 Engineering 20X ★
- 4 Engineering 20X ★
- 4 Mathematics 231 Differential Equations with Linear Algebra (F,S)
- 3 ECON 151/221/232/233 Core Knowledge and Understanding (see Core Options sheet)
- 2 Statistics 241 Engineering Statistics (S)
- 0 Engineering 294 Engineering Seminar (does not require registration in advance)

## Third Year
### Fall (19)
- 4 Engineering 305 Mechanics of Materials (F)
- 4 Engineering 319 Intro. To Thermal/Fluid Sciences (F)
- 4 Elective: Basic Science or Advanced Math (2 SH minimum)
- 4 Core Knowledge and Understanding (see Core Options sheet) - tagged
- 2 Interdisciplinary 102 Oral Rhetoric for Engineers
- 1 Engineering 384 Sustainability Analysis (S) (Required for students seeking Sustainability Designation)

### Spring (18)
- 4 Engineering 322 Machine Design with Finite Element Analysis (S)
- 4 Engineering 328 Intermediate Thermal/Fluid Sciences & Design (S)
- 4 Engineering 334 + 334L Dynamics of Machinery and Instrumentation (S)
- 4 Core Knowledge and Understanding (see Core Options sheet) - tagged
- 1 Core Comp and Skills Health and Movement

## Internship Experience (ENGR 385 Optional)

### Fall (16)
- 4 Engineering 333 Thermal Systems Designs (F)
- 2 Engineering 339 Senior Project (F) - core Contemp. Challenges
- 4 Engineering Elective ENGR 314, 315, or 342
- 4 Elective: Basic Science, Advanced Math, Engineering, or Technical
- 2 Business 357 Business Aspects for Engineers (F)

### Spring (14)
- 4 Engineering 324 + 324L Materials & Processes in Manufacturing (S)
- 4 Engineering 340 Senior Design Project (S)
- 2 Engineering Elective Typically ENGR 350 (2 SH minimum)
- 4 Core Knowledge and Understanding (see Core Options sheet) - tagged
- 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

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