Mechanical Engineering Concentration Model Program (Fall 2021 New Core)

First Year

- **Fall (16)**
  - 5 Chemistry 101: General Chemistry (F,S) - Core K&U 1
  - 3 Engineering 101: Intro to Engineering Design (F)
  - 1 Engineering 181: Graphical Communication Lab (F)
  - 4 Mathematics 171: Calculus I (F,S) - Core K&U 2
  - 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) - Core K&U 3
  - 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 K&U 4
  - 2 Statistics 241: Engineering Statistics (S)
  - 0 Engineering 294: Engineering Seminar (does not require registration in advance)

Third Year

- **Fall (17)**
  - 4 Engineering 305: Mechanics of Materials (F)
  - 4 Engineering 319: Intro. To Thermal/Fluid Sciences (F)
  - 4 Elective: Basic Science or Advanced Math
  - 3 Core Knowledge and Understanding (see Core Options sheet)
  - 2 Interdisciplinary 102: Oral Rhetoric for Engineers - Core K&U 5

- **Spring (16)**
  - 4 Engineering 322: Machine Design with Finite Element Analysis (S)
  - 4 Engineering 328: Intermediate Thermal/Fluid Sciences & Design (S)
  - 3 Engineering 334: Dynamics of Machinery (S)
  - 1 Engineering 382: Engineering Instrumentation Laboratory (S)
  - 3 Core Knowledge and Understanding (see Core Options sheet)
  - 1 Core Comp and Skills: Health and Movement
  - 1 Engineering 384: Sustainability Analysis (S) (Required for students seeking Sustainability Designation)

Internship Experience (ENGR 385 Optional)

Fourth Year

- **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: Materials & Processes in Manufacturing (S)
  - 4 Engineering 340: Senior Design Project (S)
  - 3 Engineering Elective: Typically ENGR 350
  - 0 Engineering 394: Engineering Seminar (does not require registration in advance)
  - 3 Core Knowledge and Understanding (see Core Options sheet)

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

Calvin Engineering

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