## BSE: Electrical & Computer Engineering Concentration Model Program
(Starting Fall 2023 or Later)

### First Year

**Fall (16)**
- 4 Chemistry 101 + 101L General Chemistry I (F,S)
- 4 Engineering 101 + 101L Intro to Engineering Design (F)
- 4 Mathematics 171 Calculus I (F,S)
- 2 Core Foundations CORE 100: Community and Commitments
- 2 Interdisciplinary 102 Oral Rhetoric for Engineers (or CS 104)

**Spring (17)**
- 4 Engineering 205 Principles of Materials Science (S)
- 4 Mathematics 172 Calculus II (F,S)
- 4 Engineering 201 + 201L Intro to Engineering Design (F)
- 4 Core Comp and Skills Foundational Writing (ENGL 101)
- 1 Core Comp and Skills Health and Movement (Personal Fitness)

### Second Year

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

**Spring (18)**
- 4 Engineering 20X
- 4 Engineering 20X
- 4 Mathematics 231 Differential Equations with Linear Algebra (F,S)
- 2 Statistics 241 Engineering Statistics (S)
- 4 Core Foundations Foundations of Christianity I
- 0 Engineering 294 Engineering Seminar (does not require registration in advance)

### Third Year

**Fall (16)**
- 4 Engineering 311 + 311L Electronic Devices and Circuits (F)
- 4 Engineering 307 Electrical Signals and Systems (F)
- 4 Comp Sci 112 + 112L Intro to Data Structures with C++ (F,S)
- 2 Core Foundations Foundations of Christianity II
- 2 Economics (2 SH min) ECON 191 (2) or 233 (4, ES tag) - ECON 221, 222, or 232 can be added or substituted
- 1 Core Comp and Skills Health and Movement (Leisure, Sport, and Skills)

**Spring (17)**
- 4 Engineering 304 + 304L Fundamentals of Digital Systems (S)
- 4 Engineering 332 + 332L Analog Circuits and Systems Design (S)
- 4 Elective: Basic Science, Advanced Math, Engineering, or Technical
- 4 Core Knowledge and Understanding (see Core Options sheet) - tagged
- 1 Core Comp and Skills Health and Movement (Leisure, Sport, and Skills)
- Internship Experience (ENGR 385 Optional)

### Fourth Year

**Fall (16)**
- 4 Engineering 325 + 325L Computer Architecture and Digital Systems Design (F)
- 2 Engineering 339 Senior Design Project (F)
- 4 Engineering Elective
- 2 Business 357 Business Aspects for Engineers (F)
- 4 Core Knowledge and Understanding (see Core Options sheet) - tagged
- 1 Interdisciplinary 384 Sustainability Experience (F,S) (Required for students seeking Sustainability Designation)

**Spring (16)**
- 4 Engineering 302 Engineering Electromagnetics (S)
- 4 Engineering 340 Senior Design Project (S)
- 4 Elective: Basic Science or Advanced Math (2 SH minimum)
- 2 Engineering Elective Typically ENGR 350 (2 SH minimum)
- 2 Core Knowledge and Understanding (see Core Options sheet - 26 SH of total K&U minimum)
- 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