

# B.S. in Engineering Management

Catalog Year 2024-25

**This program is not available for classes 2029 and beyond, please contact the EMG Program for details.**

Below is the *advised sequence* of courses for this degree program on Main Campus as of 10/16/2023.

Official degree requirements and course prerequisites are in the University General Catalog; prerequisites are subject to change.

| Course Number and Title   | Units | Prerequisites/Enrollment Requirements   |
|---|-------|---|
| <b>1<sup>st</sup> Semester</b>  |       |   |
| MATH 122A/B or MATH 125 Calculus I with Applications  | 5/3   | Appropriate Math Placement  |
| *CHEM 151 Chemical Thinking I or CHEM 161/163   | 4     | Appropriate Math Placement  |
| ENGL 101 or 107 or 109H First-Year Composition  | 3     |   |
| ENGR 102A/B Introduction to Engineering or ENGR 102   | 3     | <u>ENGR102A</u> ; MATH 112 <u>ENGR102B</u> ; Pre- or Co-requisite of MATH 112 or higher; First-Year Status; College of Engineering Major  |
| UNIV 101 Intro to the General Education Experience  | 1     |   |
| Semester Total  |       | <b>16/14</b>  |
| <b>2<sup>nd</sup> Semester</b>  |       |   |
| MATH 129 Calculus II  | 3     | MATH 122B or 125 with C or better   |
| *CHEM 152 General Chemistry II or CHEM 162/164 or MSE 110 Solid State Chemistry or MCB 181 R/L Into Biology I                                   | 4     | <u>CHEM 152 &amp; MSE 110</u> ; CHEM 151 or 141/143 or 161/163; <u>MCB 181R/L</u> ; Appropriate Math Placement  |
| ECE 101 Programming I or ECE 175 Computer Programming for Engr Applications or CSC 110 Intro to Computer Programming I                          | 3/4   | <u>ECE 101</u> ; Math 112; <u>ECE175</u> ; Concurrent Enrollment or completion of MATH 122B or 125; <u>CSC110</u> ; MATH 112 with C or better                                     |
| ENGL 102 or 108 First-Year Composition  | 3     | ENGL 101 or ENGL 107  |
| †General Education: Building Connections  | 3     |   |
| Semester Total  |       | <b>16/17</b>  |
| <b>3<sup>rd</sup> Semester</b>  |       |   |
| MATH 223 Vector Calculus or MATH 243 Discrete Math or MATH 254 Differential Equations   | 4/3   | MATH 129 with C or better   |
| *PHYS 141 Introductory Mechanics or PHYS 161H   | 4     | MATH 122B or 125 or Appropriate Math Placement Level  |
| SIE 265 Engineering Management I  | 3     | MATH 122B or 125  |
| General Education: Exploring Perspectives (Humanist)  | 3     |   |
| †General Education: Building Connections  | 3     |   |
| Semester Total  |       | <b>17/16</b>  |
| <b>4<sup>th</sup> Semester</b>  |       |   |
| CE 214 Statics  | 3     | PHYS 141 or 161H; MATH 129  |
| CHEE 201 Elements of Chemical & Environmental Engr I (Fall Only) or AME 230 Thermodynamics or BE 284 Biosystems Thermal Engineering (Fall Only) | 3     | <u>CHEE 201</u> ; MATH 122B or 125, concurrent enrollment or completion MATH 129 & CHEM152 or 162/164; <u>AME 230</u> ; PHYS 141 or PHYS 161H; <u>BE 284</u> ; MATH 129, PHYS 141 |
| PHYS 241 Introductory Electricity and Magnetism or PHYS 261H  | 4     | <u>PHYS 241 or 261H</u> ; PHYS 141 or 140 or 161H; MATH 129 or Appropriate Math Placement Level   |
| SIE 295S Systems & Industrial Engineering Sophomore Colloquium  | 1     | SIE 265 (concurrently enrolled)   |
| SIE 270 Mathematical Foundations of Systems & Industrial Engineering  | 3     | ECE 175 or 110; MATH 129, PHYS 141  |
| General Education: Exploring Perspectives (Artist)  | 3     |   |
| Semester Total  |       | <b>17</b>   |

\*Each of the following foundational science courses satisfies the requirements for General Education: Exploring Perspectives (Natural Scientist): CHEM 151 or 152 or 161 or 162; or PHYS 141 or 161H.

Advanced Standing is required for 300- and 400-level engineering courses (see your academic advisor for details).

| Course Number and Title   | Units | Comments   |
|---|-------|--|
| <b>5<sup>th</sup> Semester</b>  |       |  |
| SIE 305 Introduction to Engineering Probability and Statistics                          | 3     |  |
| SIE 340 Deterministic Operations Research   | 3     |  |
| ECE 207 Elements of Electrical Engineering or<br>ECE 220 Basic Circuits                 | 3/5   | If taking ECE 220, Consult advisor regarding class schedule  |
| Engineering Minor Course  | 3     |  |
| Engineering Minor Course  | 3     |  |
| Semester Total  |       | <b>15/17</b>   |
| <b>6<sup>th</sup> Semester</b>  |       |  |
| SIE 367 Engineering Management II   | 3     |  |
| SIE 431 Simulation Modeling and Analysis  | 3     |  |
| SIE 462 Production Systems Analysis   | 3     |  |
| SIE 457 Project Management  | 3     |  |
| Engineering Minor Course  | 3     |  |
| General Education: Exploring Perspectives (Social Scientist)                            | 3     |  |
| Semester Total  |       | <b>18</b>  |
| <b>7<sup>th</sup> Semester</b>  |       |  |
| SIE 415 Technical Sales and Marketing   | 3     |  |
| SIE 498A or ENGR 498A Interdisciplinary Capstone  | 2-3   | Senior Status: prerequisite: SIE 457; corequisite: SIE 406   |
| Engineering Minor Course  | 3     |  |
| **Technical Writing: CE 301 or ENGL 306 or 307 or 308                                   | 3     | Consult major advisor for course approval  |
| SIE 406 Quality Engineering   | 3     |  |
| Semester Total  |       | <b>14/15</b>   |
| <b>8<sup>th</sup> Semester</b>  |       |  |
| SIE 498B or ENGR 498B Interdisciplinary Capstone  | 3     | Senior Status  |
| SIE 414 Law for Engineers and Scientists  | 3     |  |
| BNAD 302 Human Side of Organizations or CE 483 Construction Cost Estimating (Fall only) | 3     |  |
| Engineering Minor Course  | 3     |  |
| Engineering Minor Course  | 3     |  |
| UNIV 301 General Education Portfolio  | 1     |  |
| Elective  | 0-1   | Depends on selection of General Education or 3 <sup>rd</sup> semester math course. Consult major advisor for course approval |
| Semester Total  |       | <b>16/17</b>   |

†Students should work closely with their academic advisor to select General Education: Building Connections courses; some course work in the major, such as some Technical Elective courses, may also fulfill General Education: Building Connections requirements

\*\*CE 301 or ENGL 307 or 308 (UWGEC Approved) will fulfill GE Building Connections if taken as a technical writing course.