



Bachelor of Science

Major: Mechanical Engineering

2023-2024 Sample 4-Year Plan

Total Degree Requirements: 130 credits

Student _____ Student ID# _____ Student Phone # _____

Advisor _____ Minimum GPA 2.00* Minor/Career Interest(s) _____

Students are not limited to this plan; it is meant to be used as a guide for planning purposes in consultation with your advisor. The sample schedule is one possible path to completing your degree within four years. For official program requirements, please refer to the [Undergraduate Catalog](#).

First Year

Fall

| Prefix + Number | Course Title | Prerequisites/Comments | Credits | Semester | Grade |
|---------------------------|---|--|---------|----------|-------|
| CHEM 112 | General Chemistry I (SGR #6) | p. MATH 114 or higher | 3 | | |
| CHEM 112L | General Chemistry I Lab (SGR #6) | | 1 | | |
| GE 101 | Introduction to Engineering and Technical Professions | | 1 | | |
| MATH 123 | Calculus I (SGR #5) | p. Placement or MATH 115 Minimum grade of "C" required. | 4 | | |
| ME 121 | Production and Fabrication Processes | | 2 | | |
| ME 121L | Production and Fabrication Processes Lab | c. ME 121 | | | |
| SGR #2 | Oral Communication | | 3 | | |
| SGR #3 | Social Sciences | | 3 | | |
| Total Credit Hours | | | 17 | | |

Spring

| Prefix + Number | Course Title | Prerequisites/Comments | Credits | Semester | Grade |
|---------------------------|--|---|---------|----------|-------|
| EM 214 | Statics | p. MATH 123 Minimum grade of "C" required. | 3 | | |
| MATH 125 | Calculus II | p. MATH 123 Minimum grade of "C" required. | 4 | | |
| ME 212 | Mechanical Engineering Design Technologies | p. MATH 115 or consent | 1 | | |
| ME 212L | Mechanical Engineering Design Technologies Lab | c. ME 212 | 1 | | |
| PHYS 207 | Fundamentals of Physics I (SGR #6) | p. MATH 123 Minimum grade of "C" required. | 3 | | |
| PHYS 207L | Fundamentals of Physics I Lab | c. PHYS 207 | 1 | | |
| SGR #1 | Written Communication | p. Placement | 3 | | |
| Total Credit Hours | | | 16 | | |

Second Year

Fall

| Prefix + Number | Course Title | Prerequisites/Comments | Credits | Semester | Grade |
|---------------------------|--------------------------------|---|---------|----------|-------|
| EM 215 | Dynamics | p. EM 214 Minimum grade of "C" required. | 3 | | |
| EM 321 | Mechanics of Materials | p. EM 214 Minimum grade of "C" required | 3 | | |
| MATH 321 | Differential Equations | p. MATH 125 | 3 | | |
| ME 241 | Engineering Materials | p. MATH 123 and CHEM 112-112L | 3 | | |
| PHYS 209 | Fundamentals of Physics II | p. PHYS 207-207L and MATH 123 | 3 | | |
| PHYS 209L | Fundamentals of Physics II Lab | c. PHYS 209 | 1 | | |
| Total Credit Hours | | | 16 | | |

Spring

| Prefix + Number | Course Title | Prerequisites/Comments | Credits | Semester | Grade |
|-----------------|---------------------------------------|---|---------|----------|-------|
| ECON 201 | Principles of Microeconomics (SGR #3) | | 3 | | |
| ENGL 277 | Technical Writing in Engineering | p. ENGL 101 and GE 101 or GE 109 or PHYS 109 or PHYS 119, or consent | 3 | | |

Information Subject to Change. This is not a contract.

p. = Course Prerequisite; c. = Course Co-requisite
Semester: F = Fall, S = Spring, SU = Summer



| Prefix + Number | Course Title | Prerequisites/Comments | Credits | Semester | Grade |
|---------------------------|---|---|---------|----------|-------|
| GE 231 | Technology, Society, and Ethics | | 3 | | |
| MATH 331 or MATH 471 | Advanced Engineering Math or Numerical Analysis | p. MATH 321 or p. MATH 225 | 3 | | |
| ME 230 | Engineering Design Methods | p. EM 214 and ME 121-121L and ME 212-212L | 2 | | |
| ME 311 | Thermodynamics I | p. PHYS 207-207L and EM 215. Minimum grade of "C" required. | 3 | | |
| Total Credit Hours | | | 17 | | |

Third Year

Fall

| Prefix + Number | Course Title | Prerequisites/Comments | Credits | Semester | Grade |
|---------------------------|------------------------------------|--|---------|----------|-------|
| EE 300 | Basic Electrical Engineering I | p. MATH 125 and PHYS 209 | 2 | F | |
| EE 300L | Basic Electrical Engineering I Lab | | 1 | F | |
| EM 331 | Fluid Mechanics | p. EM 215. Minimum grade of "C" required. | 3 | | |
| MATH 225 | Calculus III | p. MATH 125 | 4 | | |
| ME 312 | Thermodynamics II | p. ME 311 and MATH 321. Minimum grade of "C" required. | 3 | | |
| ME 321 | Fundamentals of Machine Design | p. EM 215 | 3 | | |
| Total Credit Hours | | | 16 | | |

Spring

| Prefix + Number | Course Title | Prerequisites/Comments | Credits | Semester | Grade |
|---------------------------|--|---|---------|----------|-------|
| EE 302 | Basic Electrical Engineering II | p. EE 300-300L | 2 | S | |
| EE 302L | Basic Electrical Engineering II Lab | | 1 | S | |
| ME 376 | Measurements and Instrumentation | p. ENGL 277 and Co-requisites EM 321 and EM 331 | 2 | | |
| ME 415 | Heat Transfer | p. ME 311 and EM 331 and MATH 321 or consent | 3 | | |
| ME 421 | Design of Machine Elements | p. EM 321 and ME 321 | 3 | | |
| SGR #4 | Arts and Humanities | | 3 | | |
| STAT 381 | Introduction to Probability and Statistics | p. MATH 125 | 3 | | |
| Total Credit Hours | | | 17 | | |

Fourth Year

Fall

| Prefix + Number | Course Title | Prerequisites/Comments | Credits | Semester | Grade |
|---------------------------|-----------------------------|---|---------|----------|-------|
| ME 323 | Vibrations | p. EM 215 and EM 321 and MATH 331 or MATH 471 | 3 | | |
| ME 476 | Thermo-fluids Lab | p. ME 376-376L and EM 331 and ME 312 and ME 415 | 1 | | |
| ME 478 | Mechanical Systems Design I | p. ME 421 and MATH 331 or MATH 471 | 2 | | |
| ME 490 | Seminar | | 1 | | |
| Tech Electives | Choose from list | | 3 | | |
| Tech Electives | Choose from list | | 3 | | |
| Tech Electives | Choose from list | | 3 | | |
| Total Credit Hours | | | 16 | | |

Spring

| Prefix + Number | Course Title | Prerequisites/Comments | Credits | Semester | Grade |
|-----------------|----------------------------------|--|---------|----------|-------|
| ME 451 | Automatic Controls | p. EE 300-300L or consent and MATH 331 or MATH 471 | 3 | | |
| ME 452 | Dynamic Systems Lab | p. ME 323 | 1 | | |
| ME 479 | Mechanical Systems Design II | p. ME 478 | 1 | | |
| ME 479L | Mechanical Systems Design II Lab | | 1 | | |

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Semester: F = Fall, S = Spring, SU = Summer



| Prefix + Number | Course Title | Prerequisites/Comments | Credits | Semester | Grade |
|-----------------|---------------------|---------------------------|---------|----------|-------|
| SGR #4 | Arts and Humanities | | 3 | | |
| Tech Electives | Choose from list | | 3 | | |
| Tech Electives | Choose from list | | 3 | | |
| | | Total Credit Hours | 15 | | |

Comments/Notes

Students from all academic majors can pursue graduation with Fishback Honors College distinction. View the [Honors program requirements](#).

***Minimum overall GPA of 2.0 (C average) in Mathematics/Statistics courses required.**

***Minimum overall GPA of 2.0 (C average) in all ME-prefix courses required.**