

# Bachelor of Science in Mechanical Engineering

## Degree Map & Planning Information

### Admissions Information

This program is a capacity-constrained major. To be considered for admission, applicants must complete all prerequisite courses with a minimum grade of 2.0 in each course. Upon completion of all prerequisites, applicants may submit a major application through the UWB website. Please note that completion of prerequisite requirements does not guarantee admission to the major.

The Mechanical Engineering (ME) major admits students for entry in Autumn quarter.

Prerequisite courses for current UW Bothell students:

- B WRIT 134: Composition
- STMATH 124: Calculus I
- STMATH 125: Calculus II
- STMATH 126: Calculus III
- STMATH 207: Introduction to Differential Equations
- STMATH 224: Multivariable Calculus
- B PHYS 121: Mechanics
- B PHYS 122: Electromagnetism & Oscillatory Motion
- B CHEM 143 + 144: General Chemistry I with Lab
- B ME 221: Statics
- B ME 222: Mechanics of Materials
- B ME 223: Dynamics

### Curriculum Information

#### General Education

To be eligible for graduation from the University, with the baccalaureate degree, a student must complete a minimum of 180 academic credits and satisfy all other specific requirements. The University of Washington Bothell has established minimum general education requirements for baccalaureate degrees. These minimum requirements are:

English Composition – 5 credits (A minimum grade of 2.0 is required)

Additional Writing – 10 credits

Reasoning (RSN) – 5 credits

Natural Sciences (NSc) – 15 credits

Arts and Humanities (A&H) – 15 credits

Social Sciences (SSc) – 15 credits

Diversity – 5 credits (can overlap with General Education requirements above)

## Major Requirements

For the ME major, students must complete the following courses with a minimum grade of 2.0 in each course:

### ME Core Courses – 62 credits

- B ENGR 310: Computation Physical Modeling (4 credits)
- B ENGR 320: Fundamentals of Materials Science (4 credits)
- B ENGR 321: Materials Engineering Lab (2 credits)
- B ME 301: Introductory Seminar for ME (1 credit)
- B ME 315: Introduction to 3D Modeling, Design, & Analysis (4 credits; A&H)
- B ME 331: Thermodynamics (4 credits)
- B ME 332: Fluid Mechanics (4 credits)
- B ME 333: Heat Transfer (4 credits)
- B ME 334: Thermal Fluids Lab (2 credits)
- B ME 341: Mechanical Systems Design I (4 credits)
- B ME 342: Mechanical Systems Design II (4 credits)
- B ME 343: Mechanical Systems Design III (5 credits)
- B ME 410: Electric Power & Machinery (5 credits)
- B ME 481: Citizen Engineer (5 credits; Additional Writing, Diversity, & SSc)
- B ENGR 494: Engineering Design & Innovation (3 credits)
- B ENGR 495: Capstone Project in Engineering I (3 credits)
- B ENGR 496: Capstone Project in Engineering II (4 credits)

### ME Electives – 16 credits

### Math, Natural Science, General Education and Additional Courses – 19 credits

- B WRIT 135: Research Writing (5 credits)
- STMATH 390: Probability & Statistics in Engineering (5 credits)
- B PHYS 123: Waves (5 credits) - highly recommended to complete before starting the major
- CSS 112: Introduction to Programming for Scientific Applications (4 credits)

## Sample 4-year Course Plan

### Year 1

| Autumn                | Winter         | Spring         | Summer |
|-----------------------|----------------|----------------|--------|
| STMATH 124 (5)        | STMATH 125 (5) | STMATH 126 (5) |        |
| B PHYS 121 (5)        | B PHYS 122 (5) | B PHYS 123 (5) |        |
| B CORE (5-A&H or SSc) | B WRIT 134 (5) | B WRIT 135 (5) |        |

### Year 2

| Autumn         | Winter         | Spring         | Summer |
|----------------|----------------|----------------|--------|
| B ME 221 (4)   | B ME 222 (4)   | B ME 223 (4)   |        |
| B CHEM 143 (4) | STMATH 207 (5) | STMATH 224 (5) |        |
| B CHEM 144 (2) | A&H or SSc (5) | A&H or SSc (5) |        |
| A&H or SSc (5) |                |                |        |

### Year 3

| Autumn         | Winter       | Spring         | Summer |
|----------------|--------------|----------------|--------|
| B ENGR 320 (4) | B ME 332 (4) | B ENGR 310 (4) |        |
| B ENGR 321 (2) | B ME 341 (4) | B ME 333 (4)   |        |
| B ME 301 (1)   | CSS 112 (4)  | B ME 334 (2)   |        |
| B ME 315 (4)   |              | B ME 342 (4)   |        |
| B ME 331 (4)   |              |                |        |

### Year 4

| Autumn            | Winter            | Spring            | Summer |
|-------------------|-------------------|-------------------|--------|
| B ENGR 494 (3)    | B ENGR 495 (3)    | B ENGR 496 (4)    |        |
| B ME 343 (5)      | B ME 410 (5)      | B ME 481 (5)      |        |
| B ME elective (4) | B ME elective (4) | B ME elective (4) |        |
| STMATH 390 (5)    | B ME elective (4) |                   |        |

This is a sample schedule of courses based on degree requirements. The actual degree plan may differ depending on the course of study selected, the number of starting credits, or the starting admission point. This guide is not a substitute for academic advising. For more information, contact your academic advisor or visit [www.uwb.edu/advising](http://www.uwb.edu/advising).