**Mechanical Engineering (BSME)**

Freshman Year Fall Semester 2019

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| --- | --- | --- | --- | --- |
| Course | Credit  Hours | Semester & Year taken | Grade | Advanced standing or Substitute course |
| PHYS1250 - Engineering Physics I  *Coreq: MATH1750 Engineering Calculus I* | 3/2/4 |  |  |  |
| ENGL1100 - English I  *Prereq: English Placement Test* | 4/0/4 |  |  |  |
| *ENGR1000 - Introduction to Engineering*  *Prereq: Enrollment in Engineering.* | 1/4/3 |  |  |  |
| *ENGR1600 - Fundamentals of CAD & CAM or*  *ENGR1800 – Introduction to Matlab*  *Prereq: Enrollment in Engineering.* | 0/2/1 |  |  |  |
| MATH1750 - Engineering Calculus I  *Prereq:* | 4/0/4 |  |  |  |
| First Year Seminar | 0 |  |  |  |

Freshman Year Spring Semester 2020

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| Course | Credit  Hours | Semester & Year taken | Grade | Advanced standing or Substitute course |
| ENGL2200 - English II  *Prereq: ENGL1100 English* I | 4/0/4 |  |  |  |
| MATH1850 - Engineering Calculus II  *Prereq: MATH1750 Engineering Calculus I* | 4/0/4 |  |  |  |
| *ENGR1500 - Introduction to Engineering Design*  *Prereq: Enrollment in Engineering.* | 1/4/3 |  |  |  |
| *ENGR1600 - Fundamentals of CAD & CAM or*  *ENGR1800 - Introduction to Matlab*  *Prereq: Enrollment in Engineering.* | 0/2/1 |  |  |  |
| PHYS1750 - Engineering Physics II  *Prereq: PHYS1250 Engineering Physics I &*  *MATH1750 Engineering Calculus I* | 3/2/4 |  |  |  |

Sophomore Year Fall Semester 2020

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| --- | --- | --- | --- | --- |
| Course | Credit  Hours | Semester & Year taken | Grade | Advanced standing or Substitute course |
|  |  |  |  |  |
| MATH2025 - Multivariable Calculus  *Prereq: MATH1850 Engineering Calculus II* | 4/0/4 |  |  |  |
| *MECH2300 - Engineering Graphics*  *Prereq: ENGR1600 Fundamentals of CAD & CAM* | 1/4/3 |  |  |  |
| *MECH2000 - Engineering Statics¹*  *Prereq: MATH1850 Engineering Calculus II &*  *PHYS1250 Engineering Physics I* | 4/0/4 |  |  |  |
| HSSXXXX - Humanities or Social Science\*  *Prereq: Successful completion of English Sequence* | 4/0/4 |  |  |  |
| *ELEC2799 - Circuit Theory and Applications¹*  *Prereq: MATH1750 Engineering Calculus II &*  *PHYS1250 Engineering Physics I* | 2/2/3 |  |  |  |

Sophomore Year Spring Semester 2021

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| --- | --- | --- | --- | --- |
| Course | Credit  Hours | Semester & Year taken | Grade | Advanced standing or Substitute course |
| *MECH2250 - Engineering Thermodynamics I¹*  *Prereq: MATH1850 Calculus II &*  *PHYS1750 Engineering Physics II* | 3/2/4 |  |  |  |
| *MECH2500 - Mechanics of Materials¹*  *Prereq: MECH2000 Engineering Statics* | 3/2/4 |  |  |  |
| MATH2500 - Differential Equations  *Prereq: MATH1850 Engineering Calculus II* | 4/0/4 |  |  |  |
| HSSXXXX - Humanities or Social Science\*  *Prereq: Successful completion of English Sequence* | 4/0/4 |  |  |  |
| CHEM1100 - General Chemistry  *Prereq: None* | 3/2/4 |  |  |  |

Summer Semester 2021

**COOP3000** Pre-Cooperative Work Term (Optional)

*Prereq: Successful completion of freshman and sophomore program requirements; 2.0 or higher Cumulative GPA.*

Junior Year Fall Semester 2021

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| --- | --- | --- | --- | --- |
| Course | Credit  Hours | Semester & Year taken | Grade | Advanced standing or Substitute course |
| *MECH3100 - Engineering Fluid Mechanics¹*  *Prereq: MECH2250 Engineering Thermodynamics I*  *MATH2025 Multivariable Calculus* | 3/2/4 |  |  |  |
| *MECH3000 - Design of Machine Elements¹*  *Prereq: MECH2500 Mechanics of Materials* | 4/0/4 |  |  |  |
| HSSXXXX - Humanities or Social Science\*  *Prereq: Successful completion of English Sequence* | 4/0/4 |  |  |  |
| ELECTIVE - Technical Elective2 | 3 |  |  |  |
| *MECH2750 - Engineering Thermodynamics II¹*  *Prereq: MECH2250 Engineering Thermodynamics I* | 3/2/4 |  |  |  |

Spring Semester 2022

**COOP3500** Cooperative Work Semester I

*Prereq: Junior status; 2.0 or higher Cumulative GPA.*

Junior Year Summer Semester 2022

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| --- | --- | --- | --- | --- |
| Course | Credit  Hours | Semester & Year taken | Grade | Advanced standing or Substitute course |
| *MECH3900 - Engineering Heat Transfer¹*  *Prereq: MECH3100 Engineering Fluid Mechanics &*  *MECH2250 Engineering Thermodynamics I &*  *MATH2500 Differential Equations* | 4/0/4 |  |  |  |
| *MECH3850 - Engineering Dynamics¹*  *Prereq: MECH2000 Engineering Statics &*  *MATH2500 Differential Equations* | 4/0/4 |  |  |  |
| MATH2100 - Probability and Statistics for Engineers  *Prereq: MATH1850 Engineering Calculus II* | 4/0/4 |  |  |  |
| *MECH3600 - Materials Science¹*  *Prereq: Junior Status*  *MECH2500 Mechanics of Materials* | 3/2/4 |  |  |  |

Fall Semester 2022

**COOP4500** Cooperative Work Semester II

*Prereq: Senior status; 2.0 or higher Cumulative GPA.*

Senior Year Spring Semester 2023

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| Course | Credit  Hours | Semester & Year taken | Grade | Advanced standing or Substitute course |
| *MECH4000 - Mechanical Vibrations¹*  *Prereq: MATH2500 Differential Equations &*  *MECH2500 Mechanics of Materials &*  *MECH3850 Engineering Dynamics* | 3/0/3 |  |  |  |
| HSSXXXX - Humanities or Social Science\*  *Prereq: Successful completion of English Sequence* | 4/0/4 |  |  |  |
| ELECTIVE - Technical Elective2 | 3 |  |  |  |
| *MECH4200 - Simulation Based Design¹*  *Prereq: MECH3000 Design of Machine Elements*  *MECH3100 Engineering Fluid Mechanics*  *MECH3900 Engineering Heat Transfer* | 2/4/4 |  |  |  |
| *MECH5000 - Mechanical Capstone Analysis¹*  *Prereq: Senior Status* | 1/4/3 |  |  |  |

Senior Year Summer Semester 2023

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| --- | --- | --- | --- | --- |
| Course | Credit  Hours | Semester & Year taken | Grade | Advanced standing or Substitute course |
| ELECTIVE - General Elective | 3 |  |  |  |
| HSSXXXX - Humanities or Social Science\*  *Prereq: Successful completion of English Sequence* | 4/0/4 |  |  |  |
| ELECTIVE - Technical Elective2 | 3 |  |  |  |
| *MECH5500 - Mechanical Capstone Project¹*  *Prereq: Senior Status*  *MECH4200 Simulation Based Design* | 1/6/4 |  |  |  |

**\*Please note that one of the five required Humanities and Social Science graduation requirements for BSME students must in the area of Economics and one must be in the area of Ethics. The remaining three can be any Humanities/Social Science of your choosing**

**¹**In addition to the general graduation requirements of the Institute, specific graduation requirements from the Mechanical Engineering (BSME) program with a Bachelor of Science degree include maintaining a minimum cumulative grade point average of 2.0 for all technical courses. The courses used to determine the cumulative grade point average for all BSME technical courses are shown *in italics*. If another Wentworth course is substituted for one of these listed courses, the substitute course will be calculated into this cumulative grade point average for all technical courses.

are selected after consultation with Faculty Advisor.