**Mechanical Engineering (BSME)**

Freshman Year Fall Semester 2017

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 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 BME program.* | 1/4/3 |  |  |  |
| *ENGR1600- Fundamentals of CAD and CAM or*  *ENGR1800 Programming in Matlab*  *Prereq: Enrollment in BME program.* | 0/2/1 |  |  |  |
| MATH1750 – Engineering Calculus I | 4/0/4 |  |  |  |
| First Year Seminar | 0 |  |  |  |

Semester Credits 16 Total Credits: 16

Freshman Year Spring Semester 2017

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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- Engineering Design*  *Prereq: Enrollment in BME program.* | 1/4/3 |  |  |  |
| *ENGR1600- Fundamentals of CAD and CAM or*  *ENGR1800 Programming in Matlab*  *Prereq: Enrollment in BME program.* | 0/2/1 |  |  |  |
| PHYS1750 - Engineering Physics II  *Prereq: PHYS1250 Engineering Physics I & MATH1750 Calculus I Coreq: MATH1850 Engineering Calculus II* | 3/2/4 |  |  |  |

Semester Credits 16 Total Credits: 32

Sophomore Year Fall Semester 2018

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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 Fundumentals of CAD and CAM* | 1/4/3 |  |  |  |
| *MECH2000- Engineering Statics¹*  *Prereq: MATH1750 Engineering Calculus I &*  *PHYS1250 Engineering Physics I* | 4/0/4 |  |  |  |
| HSSxxx – Humanities or Social Science\*  *Prereq: Successful completion of English Sequence* | 4/0/4 |  |  |  |
| *ELEC2799 - Circuit Theory and Applications¹*  *Prereq:MATH1750 Engineering Calculus I &*  *PHYS1750 Engineering Physics II* | 2/2/3 |  |  |  |

Semester Credits 18 Total Credits: 50

Sophomore Year Spring Semester 2019

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| --- | --- | --- | --- | --- |
| Course | Credit  Hours | Semester & Year taken | Grade | Advanced standing or Substitute course |
| *MECH2250 -Engineering Thermodynamics I¹*  *Prereq: MATH1850 Calculus II &*  *PHYS1250 Engineering Physics I* | 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 |  |  |  |
| HSSxxx – Humanities or Social Science\*  *Prereq: Successful completion of English Sequence* | 4/0/4 |  |  |  |
| CHEM1100 – Engineering Chemistry  *Prereq: None* | 3/2/4 |  |  |  |

Semester Credits 20 Total Credits: 70

Summer Semester 2019

**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 2019

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Course | Credit  Hours | Semester & Year taken | Grade | Advanced standing or Substitute course |
| *MECH3100- Engineering Fluid Mechanics¹*  *Prereq: MATH2025 Multivariable Calculus* | 3/2/4 |  |  |  |
| *MECH3000- Design of Machine Elements¹*  *Prereq: MECH2500 Mechanics of Materials & MECH2300 Engineering Graphics* | 4/0/4 |  |  |  |
| HSSxxx – 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 & CHEM1100 Engineering Chemistry* | 3/2/4 |  |  |  |

Semester Credits 19 Total Credits: 89

Spring Semester 2020

**COOP3500** Cooperative Work Semester I

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

Junior Year Summer Semester 2020

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Course | Credit  Hours | Semester & Year taken | Grade | Advanced standing or Substitute course |
| *MECH3900 - Engineering Heat Transfer¹*  *Prereq: MECH3100 Engineering Fluids*  *MATH2500 Differential Equations* | 4/0/4 |  |  |  |
| *MECH3850 Engineering Dynamics¹*  *Prereq: MECH2000 Engineering Statics &*  *MATH1850 Engineering Calculus II* | 4/0/4 |  |  |  |
| MATH2100 – Probability and Statistics for Engineers  *Prereq: MATH1850 Engineering Calculus II* | 4/0/4 |  |  |  |
| *MECH3600 - Materials Science¹*  *Prereq: Jr. Status;*  *MECH302/2500 Mechanics of Materials & CHEM1100 Engineering Chemistry* | 3/2/4 |  |  |  |

Semester Credits 16 Total Credits: 105

Fall Semester 2020

**COOP4500** Cooperative Work Semester II

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

Senior Year Spring Semester 2021

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Course | Credit  Hours | Semester & Year taken | Grade | Advanced standing or Substitute course |
| *MECH4000 –Mechanical Vibrations¹*  *Prereq: MATH 2500 Differential Equations &*  *MECH2500 Mechanics of Materials &*  *MECH3850 Engineering Dynamics* | 3/0/3 |  |  |  |
| HSSxxx – Humanities or Social Science\*  *Prereq: Successful completion of English Sequence* | 4/0/4 |  |  |  |
| ELECTIVE - Technical Elective2  *Prereq:* | 3 |  |  |  |
| *MECH4200- Simulation Based Design¹*  *Prereq: MECH3100 Engineering Fluid Mechanics &*  *MECH3000 Design of Machine Elements &*  *MECH3900 Engineering Heat Transfer* | 2/4/4 |  |  |  |
| *MECH5000 Mechanical Capstone Analysis¹*  *Prereq: MECH3000 Design of Machine Elements*  *MECH3850 Engineering Dynamics*  *MECH3900 Engineering Heat Transfer* | 1/4/3 |  |  |  |

Semester Credits 17 Total Credits: 122

Senior Year Summer Semester 2021

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Course | Credit  Hours | Semester & Year taken | Grade | Advanced standing or Substitute course |
| ELECTIVE - General Elective  *Prereq:* | 3 |  |  |  |
| HSSxxx – Humanities or Social Science\*  *Prereq: Successful completion of English Sequence* | 4/0/4 |  |  |  |
| ELECTIVE - Technical Elective2  *Prereq:* | 3 |  |  |  |
| *MECH5500- Mechanical Capstone Project*  *Prereq: Senior Status*  *MECH4200 Simulation Based Design*  *MECH5000 Mechanical Capstone Analysis* | 1/6/4 |  |  |  |

Semester Credits 14 Total Credits: 136

**\*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.

2Technical Electives are selected after consultation with Faculty Advisor.