

BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING - NUCLEAR AND RADIOLOGICAL ENGINEERING

| Code | Title | Credit Hours |
|---|--|--------------|
| Wellness | | |
| APPH 1040 | Scientific Foundations of Health | 2 |
| | or APPH 10 The Science of Physical Activity and Health | |
| | or APPH 10 Flourishing: Strategies for Well-being and Resilience | |
| Core A - Essential Skills | | |
| ENGL 1101 | English Composition I | 3 |
| ENGL 1102 | English Composition II | 3 |
| MATH 1552 | Integral Calculus ² | 4 |
| Core B - Institutional Options | | |
| CS 1371 | Computing for Engineers | 3 |
| Core C - Humanities | | |
| Any HUM | | 6 |
| Core D - Science, Math, & Technology | | |
| PHYS 2211 | Introductory Physics I ² | 4 |
| PHYS 2212 | Introductory Physics II | 4 |
| MATH 1551 | Differential Calculus ² | 2 |
| MATH 1553 | Introduction to Linear Algebra ² | 2 |
| | or MATH 1554 Linear Algebra | |
| | or MATH 1554 Linear Algebra with Abstract Vector Spaces | |
| Core E - Social Sciences | | |
| Select one of the following: | | 3 |
| HIST 2111 | The United States to 1877 | |
| HIST 2112 | The United States since 1877 | |
| INTA 1200 | American Government in Comparative Perspective | |
| POL 1101 | Government of the United States | |
| PUBP 3000 | American Constitutional Issues | |
| Select one of the following: | | 3 |
| ECON 2100 | Economic Analysis and Policy Problems | |
| ECON 2101 | The Global Economy | |
| ECON 2105 | Principles of Macroeconomics | |
| ECON 2106 | Principles of Microeconomics | |
| Any SS | | 6 |
| Core F - Courses Related to Major | | |
| CHEM 1310 | General Chemistry ⁷ | 4 |
| ME 1670 | Introduction to Engineering Graphics and Design | 3 |
| MATH 2551 | Multivariable Calculus ² | 4 |
| MATH 2552 | Differential Equations ² | 4 |
| MSE 2001 | Principles and Applications of Engineering Materials | 3 |
| Ethics Requirement ¹ | | |
| Major Requirements | | |

| | | |
|---|--|------------|
| COE 2001 | Statics ² | 2 |
| ME 2016 | Computer Applications | 3 |
| ME 2110 | Creative Decisions and Design | 3 |
| ME 2202 | Dynamics of Rigid Bodies | 3 |
| ME 3017 | System Dynamics | 3 |
| ME 3057 | Experimental Methodology and Technical Writing | 3 |
| ME 3322 | Thermodynamics | 3 |
| ME 3340 | Fluid Mechanics | 3 |
| ME 3345 | Conduction and Radiation Heat Transfer | 3 |
| COE 3001 | Mechanics of Deformable Bodies | 3 |
| ME 3210 | Design, Materials, and Manufacture | 3 |
| ME 4056 | Mechanical Engineering Systems Laboratory | 3 |
| ME 4182 | Mechanical Design Engineering | 3 |
| | or ME 4723 Interdisciplinary Capstone Design | |
| Other Engineering Requirements | | |
| ECE 3710 | Circuits and Electronics | 2 |
| ECE 3741 | Instrumentation and Electronics Lab | 1 |
| ISYE 3025 | Essentials of Engineering Economy | 1 |
| MATH 3670 | Probability and Statistics with Applications | 3 |
| Nuclear Energy Concentration | | |
| NRE 2120 | Elements of Nuclear and Radiological Engineering | 3 |
| Any 3000-/4000-level NRE electives ⁸ | | 9 |
| Required Design elective (select one): | | 3 |
| ME 4315 | Energy Systems Analysis and Design | |
| ME 3180 | Machine Design | |
| Free Electives | | |
| Free Electives ^{3,4,6} | | 6 |
| Total Credit Hours | | 129 |

No pass-fail courses allowed.

Student must earn a 2.0 GPA within Major Requirements and the following:

| Code | Title | Credit Hours |
|-----------|--|--------------|
| MSE 2001 | Principles and Applications of Engineering Materials | 3 |
| ECE 3710 | Circuits and Electronics | 2 |
| ECE 3741 | Instrumentation and Electronics Lab | 1 |
| ISYE 3025 | Essentials of Engineering Economy | 1 |

If a course is repeated, only the latest grade is included in the calculation of the Major Requirements GPA.

- Students must complete one Ethics course during their program.
- Minimum grade of C required.
- At least 3 credit hours in either the Concentration Electives or Free Electives must be a 3000-level or higher ME course. ME 3141, ME 3700, ME 3720, ME 3743, ME 3744, ME 4699, ME 4741, ME 4742, ME 4753, and ME 4903 are not allowed.
- Excludes CEE 2040, PHYS 2802, PHYS 2XXX (AP Credit) and MGT 2250.
- ME 4803/NRE 4803 must have the title 'Nuclear Reactor Materials'

⁶ Students can use a maximum of 6 credit hours of VIP courses or a maximum of 6 credit hours of undergraduate research and special problems courses (2699, 4699, 4903 from any department) not to exceed 9 credit hours from both course groups towards the degree requirements for the BSME degree.

⁷ CHEM 1211K can substitute for CHEM 1310. CHEM 1211K and CHEM 1212K are recommended for pre-health students.

⁸ Excluding NRE 4699 or NRE 4903