BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING - THERMAL, FLUID, & ENERGY SYSTEMS

Code	Title	Credit Hours
Wellness Requirement		
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 IMPACTS		
Institutional Priority		
CS 1371	Computing for Engineers	3
Mathematics and Quantitative Skills		
MATH 1552	Integral Calculus [2]	4
Political Science and U.S. History		
HIST 2111	The United States to 1877	3
or HIST 2112	The United States since 1877	
or INTA 1200	American Government in Comparative Perspective	
or POL 1101	Government of the United States	
or PUBP 3000	American Constitutional Issues	
Arts, Humanities, and Ethics		
Any HUM		6
Communicating in Writing		
ENGL 1101	English Composition I	3
ENGL 1102	English Composition II	3
Technology, Mathematics, and Sciences		
PHYS 2211	Principles of Physics I [2]	4
PHYS 2212	Principles of Physics II	4
MATH 1551	Differential Calculus [2]	2
MATH 1553	Introduction to Linear Algebra [2]	2
or MATH 1554	Linear Algebra	
or MATH 1564	Linear Algebra with Abstract Vector Spaces	
Social Sciences		
Any SS		9
Field of Study		
CHEM 1310	Principles of General Chemistry for Engineers [6]	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
Major Requirements		
Economics Requirement [7]		
Ethics Requirement [1]		
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 3058	ME Systems Laboratory	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 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
or ECE 3077	Prob/Stats for ECE	
or ISYE 377	Statistics and Applications	
Thermal, Fluid, and Energy Systems Concentration		
ME 4315	Energy Systems Analysis and Design	3
Select four of the following: [3]		12
ME 4011	Internal Combustion Engines	
ME 4013	Hybrid Vehicle Powertrains	
ME 4321	Refrigeration and Air Conditioning	
ME 4325	Introduction to Fuel Cell Systems	
ME 4332	Renewable Energy Systems	
ME 4340	Applied Fluid Mechanics	
ME 4342	Computational Fluid Dynamics	
ME 4701	Wind Engineering	
ME 4759	Electrochemical Energy Storage and Conversion	
Free Electives		
Free Electives [3,4,5]		6
Total Credit Hours		**129**

No pass-fail courses allowed except for Ethics overlay requirement.

Student must earn a 2.0 GPA within Major Requirements and MSE 2001, ECE 3710, ECE 3741 and ISYE 3025.

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

1. Students must complete one Ethics course during their program.
2. Minimum grade of C required.
3. 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.
4. Excludes CEE 2040, PHYS 2802, PHYS 2XXX(AP credits) and MGT 2250.
5. 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.

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

7 Students must complete one course from the following list that includes appropriate economic content relevant to the program: ECON 2100, ECON 2101, ECON 2105, or ECON 2106. Note that ECON 2100, 2101, 2105, 2106 may also be applied toward Core IMPACTS Social Science credit hours. You should discuss this with your academic advisor to ensure that you are taking the most efficient path to complete both areas.