

BSME Technical Electives

As of Fall 2014, the BSME program requires 6 units of technical electives (i.e., two 3-unit courses). Shown here is a map of the three Capstone course options and alignment with popular 3-unit technical electives.

Technical Elective	ME 157 Mechanical System Design	ME 182 Thermal Systems Design	ME 190 Mechatronics System Design
ME 110 Manufacturing Processes	Required	Recommended	Recommended
ME 135 Introduction to Composite Materials	Recommended	Acceptable	Acceptable
ME 160 Introduction to Finite Element Method	Highly Recommended	Highly Recommended	Acceptable
ME 165 Computer-Aided Design in ME	Highly Recommended	Acceptable	Acceptable
ME 167 Introduction to Engineering Biomechanics	Acceptable	Acceptable	Acceptable
ME 170 Solar Energy Engineering	Acceptable	Recommended	Acceptable
ME 172 Alternative & Renewable Energy Resources	Acceptable	Recommended	Acceptable
ME 183 HVAC Systems Design	Acceptable	Highly Recommended	Acceptable
ME 186 Automotive Engineering	Acceptable	Acceptable	Acceptable
ME 187 Automatic Control Systems Design	Acceptable	Recommended	Highly Recommended
ME 189 Design and Manufacture of Microsystems	Acceptable	Acceptable	Recommended
ME 192 Robotics and Manufacturing Systems	Acceptable	Acceptable	Highly Recommended
CE 150 Introduction to Hydrology and Hydraulics	Acceptable	Recommended	Acceptable

Below are some courses from other departments that have been accepted as technical electives for BSME candidates. Any non-ME elective, however, must be approved by a BSME advisor. Typically only one non-ME course would be approved and the other elective would have to be selected from ME courses.

AE 114 Aerospace Structures
 AE 140 Rigid Body Dynamics
 AE 167 Aerospace Propulsion
 AE 169 Computational Fluid Dynamics
 BME 117 Biotransport Phenomena
 ISE 102 Engineering Economic Systems
 ISE 130 Engineering Probability and Statistics
 ISE 151 Managing Engineering
 CE 170 Principles of Environmental Engineering
 ChE 162 Engineering Statistics and Analysis

CmpE 102 Fundamentals of Embedded Software
 CmpE 124: Digital Design I
 CmpE 125: Digital Design II
 CmpE 120 Computer Organization and Architecture
 CmpE 126 Algorithms and Data Structure Design
 MatE 129 Integrated Circuit Processing and Design
 MatE 153 Electronic, Optical and Magnetic Properties
 MatE 175 Biomaterials
 Math 133B Partial Differential Equations
 Math 178 Mathematical Modeling