

Materials Science and Engineering, B.S.

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This is a sample plan of study with a suggested sequencing of classes for the major. University electives may be applied to earn additional academic majors, minors, or certificates. Students should regularly meet with their academic advisor to plan their specific semester schedule to include UNIFI/General Education program and/or university elective hours required.

Course	Title	Hour
Freshman		
Fall		
CHEM 1110	General Chemistry I	4
MATH 1420	Calculus I	4
PHYSICS 1701	Physics I for Science and Engineering	4
ENGR 1000	Introduction to Engineering & Professional Practice	3
Hours		15
Spring		
UNIFI/General Education or University Electives		2
CHEM 1120	General Chemistry II	4
MATH 1421	Calculus II	4
PHYSICS 1702	Physics II for Science and Engineering	4
Hours		14
Sophomore		
Fall		
UNIFI/General Education or University Electives		3
MATH 2422	Calculus III	4
TECH 1024	Engineering Design with CAD	3
ENGR 2080	Statics	2
ENGR 2089	Engineering Seminar: (Topic)	1
ENGLISH 3772/5772	Technical Writing for Engineering Technologists	3
Hours		16
Spring		
UNIFI/General Education or University Electives		3
TECH 2072	Engineering Materials	3
ENGR 2180	Strength of Materials	2
PHYSICS 2700	Mathematical Methods of Physics & Engineering	3
STAT 3751	Probability and Statistics	3
Technical Elective Course		3
Hours		17
Junior		
Fall		
UNIFI/General Education or University Electives		6
TECH 3132/5132	Metallurgy and Phase Transformation	3
CHEM 4200/5200	Nanoscience	3
Technical Elective Course		3
Hours		15
Spring		
UNIFI/General Education or University Electives		3
TECH 3127	Applied Thermodynamics	3

TECH 3192/5192	Non-Destructive Evaluation of Materials/Scanning Electron Microscopy	3
PHYSICS 4760/5760	Computational Materials Science	3
PHYSICS 4900/5900	Thermodynamics and Statistical Mechanics	4
Hours		16
Senior		
Fall		
PHIL 1560	Science, Technology, and Ethics (STE)	3
TECH 3136	Principles of Metal Casting	3
ENGR 4235/5235	Material Transformations & Modeling	3
PHYSICS 4750/5750	Physics of Modern Materials	3
Technical Elective Course		3
Hours		15
Spring		
UNIFI/General Education or University Electives		6
ENGR 4500	Senior Design	3
Technical Elective Course		3
Hours		12
Total Hours		120