

# Materials Engineering (MATL)

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## Freshman

Fall	Hours	Spring	Hours
CHEM 1030 Fundamentals Chemistry I		3 CHEM 1040 Fundamental Chemistry II	3
CHEM 1031 Fundamental Chemistry I Laboratory		1 CHEM 1041 Fundamental Chemistry II Laboratory	1
MATH 1610 Calculus I		4 MATH 1620 Calculus II	4
ENGL 1100 English Composition I		3 PHYS 1600 Engineering Physics I	4
ENGR 1100 Engineering Orientation		0 ENGL 1120 English Composition II	3
Core History <sup>1</sup>		3	
ENGR 1110 Introduction to Engineering		2	
		<b>16</b>	<b>15</b>

## Sophomore

Fall	Hours	Spring	Hours
MATH 2630 Calculus III		4 MATH 2650 Linear Differential Equations	3
<b>MATL 2100 Introduction to Materials Science</b>		3 STAT 3010 Statistics for Engineers and Scientists	3
COMP 1230 Introduction to Computing with MATLAB		2 ENGR 2070 Mechanics of Materials	3
ENGR 2050 Statics		3 ELEC 3810 Fundamentals of Electrical Engineering	3
PHYS 1610 Engineering Physics II		4 ECON 2020 Principles of Microeconomics	3
		<b>16</b>	<b>15</b>

## Junior

Fall	Hours	Spring	Hours
MATH 2660 Topics in Linear Algebra		3 ENGR 2200 Introduction To Thermodynamics, Fluids And Heat Transfer	3
PHIL 1020 Introduction to Ethics		3 MECH 2220 Computer-Aided Engineering	3
<b>MATL 3100 Engineering Materials - Metals</b>		3 <b>MATL 3200 Engineering Materials Polymers</b>	3
<b>MATL 3101 Metallography Laboratory</b>		1 <b>MATL 3201 Polymer and Composites Laboratory</b>	1
<b>MATL 5200 Materials Characterization</b>		2 <b>MATL 3300 Engineering Materials - Ceramics</b>	3
<b>MATL 5201 Materials Characterization Laboratory</b>		1 Technical Elective II <sup>2</sup>	3
Technical Elective I <sup>2</sup>		3	
		<b>16</b>	<b>16</b>

## Senior

Fall	Hours	Spring	Hours
Core Literature		3 Core Fine Arts	3
<b>MATL 4100 Thermodynamics and Kinetics of Materials</b>		3 Core Social Science <sup>1</sup>	3
<b>MATL 4500 Materials Properties and Selection</b>		4 <b>MATL 4980 Senior Design Project</b>	3
<b>MATL 5400 Physics of Solids</b>		3 <b>MATL 5500 Numerical Simulation of Materials Processing</b>	3

Technical Electives III <sup>2</sup>	3 UNIV 4AA0 Achieve the Creed	0
	<b>16</b>	<b>12</b>

**Total Hours: 122**

- <sup>1</sup> The AU Bulletin lists the University Core Curriculum requirements for students in the College of Engineering. Students must complete a sequence in either Literature or History. Because of the discipline specific requirements for the Humanities courses, it is recommended that a History sequence be completed in the Social Sciences courses.
- <sup>2</sup> Technical elective are chosen from a list of coordinated cross-disciplinary sequences. Sequences other than those specified must be approved by the material engineering curriculum committee.