

Students Entering Fall 2022 and after

Materials Science and Engineering

**Materials Science and Engineering
and Engineering and Public Policy**

First Year Fall	Units	First Year Fall	Units
27-100 Engineering the Materials of the Future	12	Same	12
21-120 Differential and Integral Calculus	10	Same	10
33-141 Physics I for Engineering Students	12	Same	12
99-101 Computing @ Carnegie Mellon	3	Same	3
76-xxx First-Year Writing Requirement	9	Same	9
First Year Spring	Units	First Year Spring	Units
xx-xxx Second Introductory Engineering Course	12	19-101 Intro to Engineering and Public Policy	12
21-122 Integration and Approximation	10	Same	10
33-142 Physics II for Engineering and Physics Students	12	Same	12
xx-xxx General Education Course 1	9	73-102 Principles of Microeconomics	9
Second Year Fall	Units	Second Year Fall	Units
27-201 Structure of Materials	9	Same	9
27-210 Materials Engineering Essentials	6	Same	6
27-215 Thermodynamics of Materials	12	Same	12
09-105 Introduction to Modern Chemistry I	10	Same	10
21-254 Linear Algebra and Vector Calculus for Engineers	11	Same	11
15-xxx Computing Requirement	10-12	Same	10-12
39-210 Experiential Learning I	0	Same	0
		19-201 EPP Sophomore Seminar	1
Second Year Spring	Units	Second Year Spring	Units
27-202 Defects in Materials	9	Same	9
27-216 Transport in Materials	9	Same	9
27-217 Phase Relations and Diagrams	12	Same	12
21-260 Differential Equations	9	Same	9
39-220 Experiential Learning II	0	Same	0
xx-xxx General Education Course 2	9	36-220 Engineering Statistics and Quality Control	9

Third Year Fall	Units	Third Year Fall	Units
27-301 Microstructure and Properties I	9	Same	9
33-225 Quantum Physics and Structure of Matter or 09-217 Organic Chemistry I or 03-121 Modern Biology	9	Same	9
27-xxx MSE Restricted Elective	9-12	Same	9-12
xx-xxx General Education Course 3	9	xx-xxx EPP Decision Science Elective	9
39-310 Experiential Learning III	0	Same	0
xx-xxx Free Elective	*	xx-xxx EPP Technology Policy Elective 1	*

Third Year Spring	Units	Third Year Spring	Units
27-367 Selection and Performance of Materials	6	Same	6
27-305 Introduction to Materials Characterization	6	Same	6
36-220 Engineering Statistics and Quality Control	9	xx-xxx EPP Writing and Communication Elective	9
27-xxx MSE Restricted Elective	9-12	Same	9-12
27-xxx MSE Restricted Elective	9-12	Same	9-12
xx-xxx General Education Course 4	9	19-351 Applied Methods for Technology-Policy Analysis	9
xx-xxx Free Elective	*	xx-xxx EPP Technology Policy Elective 2	*

Fourth Year Fall	Units	Fourth Year Fall	Units
27-401 MSE Capstone Course I	6	Same	6
27-xxx MSE Restricted Elective	9-12	Same	9-12
xx-xxx General Education Course 5	9	Same	9
xx-xxx General Education Course 6	9	Same	9
xx-xxx Free Elective	*	19-451 EPP Projects 1	12

Fourth Year Spring	Units	Fourth Year Spring	Units
27-402 MSE Capstone Course II	6	Same	6
27-xxx MSE Approved Technical Elective	9-12	Same	9-12
xx-xxx General Education Course 7	9	Same	9
xx-xxx Free Elective	*	xx-xxx EPP Technology Policy Elective 3	*
xx-xxx Free Elective	*	19-452 EPP Projects 2	12

Minimum Units Required: 381 381

* A minimum of 45 free elective units are required for Materials Science and Engineering. EPP students take 1 unit of EPP Sophomore Seminar and 24 units of EPP Projects as free elective units. The 24 units of EPP Technology Policy electives may be free electives or may fulfill requirements for general education. This is an example semester-by-semester plan only. Students should discuss course progress with advisors in both MSE and EPP to ensure all requirements for both departments and for CIT are completed.