

B.S. in Materials Engineering
Electronic Materials Option Curriculum

FRESHMAN YEAR	UNITS
<u>1st Quarter</u>	
Chemistry and Biochemistry 20A — Chemical Structure	4
Materials Science and Engineering 10 — Freshman Seminar: New Materials	1
English Composition 3 — English Composition, Rhetoric, and Language	5
Mathematics 31A — Differential and Integral Calculus	4
<u>2nd Quarter</u>	
Chemistry and Biochemistry 20B/20L — Chemical Energetics and Change/General Chemistry Laboratory	7
Mathematics 31B — Integration and Infinite Series	4
Physics 1A — Mechanics	5
<u>3rd Quarter</u>	
Mathematics 32A — Calculus of Several Variables	4
HSSEAS GE Elective*	4
Physics 1B — Oscillations, Waves, Electric and Magnetic Fields	5
SOPHOMORE YEAR	
<u>1st Quarter</u>	
Materials Science and Engineering 104 — Science of Engineering Materials	4
Mathematics 32B — Calculus of Several Variables	4
HSSEAS GE Elective*	5
<u>2nd Quarter</u>	
Mathematics 33A — Linear Algebra and Applications	4
Materials Science and Engineering 90L — Physical Measurement in Materials Engineering	2
Physics 1C — Electrodynamics, Optics, and Special Relativity	5
HSSEAS GE Elective*	5
<u>3rd Quarter</u>	
Mechanical and Aerospace Engineering 96 — Statics and Strength of Materials	4
Mathematics 33B — Differential Equations or Mechanical and Aerospace Engineering 82 (Mathematics of Engineering)	4
Civil and Environmental Engineering M20 (Introduction to Computer Programming with MATLAB) or Computer Science 31 (Introduction to Computer Science I)	4
HSSEAS Ethics Course	4
JUNIOR YEAR	
<u>1st Quarter</u>	
Electrical Engineering 100 — Electrical and Electronic Circuits	4
Materials Science and Engineering 110/110L — Introduction to Materials Characterization A/Laboratory	6
HSSEAS GE Elective*	5
Materials Science and Engineering 130 — Phase Relations in Solids	4
<u>2nd Quarter</u>	
Electrical Engineering 101A — Engineering Electromagnetics	4
Materials Science and Engineering 120 (Physics of Materials) or Electrical Engineering 2 (Physics for Electrical Engineers)	4
Materials Science and Engineering 122 — Principles of Electronic Materials Processing	4
Materials Science and Engineering 131/131L — Diffusion and Diffusion-Controlled Reactions/Laboratory	6
<u>3rd Quarter</u>	
Materials Science and Engineering 121/121L — Materials Science of Semiconductors/Laboratory	6
Electronic Materials Elective† (MSE 150 OR 160)	4
Materials Science and Engineering 132 — Structures and Properties of Metallic Alloys	4
Technical Breadth Course*	4
SENIOR YEAR	
<u>1st Quarter</u>	
Electrical Engineering 121B — Principles of Semiconductor Device Design	4
UD Math Course+	4
Technical Breadth Course*	4
<u>2nd Quarter</u>	
Electronic Materials Elective†	4
Electronic Materials Laboratory Course†	2
HSSEAS GE Elective*	5
Technical Breadth Course*	4
<u>3rd Quarter</u>	
Materials Science and Engineering 140 — Materials Selection and Engineering Design	4
Electronic Materials Electives †	4
Electronic Materials Laboratory Course†	2
TOTAL 180	180

* Students should contact the Office of Academic and Student Affairs for approved lists in the categories of technical breadth and HSSEAS GE (see page 21 for details).

† See counselor in 6426 Boelter Hall for details.

List of UD Math Courses can be found +