

Materials Engineering BS + MS Roadmap

FALL			SPRING		
Year 1					
CHEM 1A (GE Areas 5A + 5C)	General Chemistry	5	CHEM 1B (GE Areas 5A + 5C)		5
ENGR 10	Introduction to Engineering	3	ENGL 1B (GE Area 3B)	Argument and Analysis	3
MATH 30 (GE Area 2)	Calculus 1	3	MATH 31 (GE Area 2)	Calculus II	4
GE Area 1A	ENGL 1A	3	PHYS 50 (GE Areas 5A + 5C)	General Physics II: Electricity and Magnetism	4
Year 2					
MATE 25	Introduction to Materials	3	CHE 110A	Math Methods in Chem and Mat Eng	2
MATH 32 (GE Area 2)	Calculus II	3	CE 95 or CE 99	Theory and application of Statics or Introductory Statics	2 or 3
PHYS 51 (GE Areas 5A + 5C)	Gen Phys II: Electricity & Magnetism	4	ME 20	Design and Graphics	2
GE Area 4 + US 1 or US 2-3		3	GE Area 1C		3
GE Area 3A		3	GE Area 4 + US1 or US 2-3		3
			GE Area 6		3
Year 3					
MATE 115	Structure/Properties of Solids	3	MATE 141	Structure and Analysis of Materials	3
MATE 153	Electronic, Optical, and Magnetic Properties of Materials	3	MATE 146	Experimental Methods in Materials Characterization	3
CHE 110B	Computational Methods in Chem Eng	2	MATE 151	Solid State Thermodynamics	3
CHE 162	Engineering Statistics and Analysis	2	MATE 154	Metals and Alloys	3
ENNGR 100W (GE Upper Divisions Area 2/5 + WID)	Engineering Reports	3	MATE155	Materials Selection and Process Design	3
Year 4					
MATE 185	Ceramics	3	MATE 150	Introduction to computational Material Engineering	3
MATE 186	Polymers	3	MATE 152	Solid State Kinetics	3
MATE 195	Mechanical Behavior of Materials	3	MATE 198B (GE UD Area 3)	Senior Design Project	2
ENGR 195A (GE Upper Division Area 4)	Global and Social Issues in Engineering	1	ENGR 195B (GE UD Area 3)	Global and Social Issues in Engineering	1
MATE 198A	Senior Design Project	2	CHE 200	Research Methods	3
CHE 161	Process Safety and Engineering Ethics	1	MATE Technical Elective		3
Year 5					
MATE 205	Adv. Mechanical Behavior of Solids	3	MATE 215	Solid State Meterial Eng.	3
MATE 241	Adv. Methods Materials Charact.	3	MATE 251	Adv. Solid State Thermodynamics	3
MATE 281	MS Thesis/Project Prep seminar	3	MATE 280I/280	Graduate Research/Internship	2
MATE Theical Elective		3	MATE 298/298I/299/299I	MS Research Project/ Internship/ Thesis	1
			MATE Technical Elective		3