MATERIALS SCIENCE

UNLOCKING ELEMENTS OF THE FUTURE

FRESHMAN - FALL		
CHEM 111	Principles of Chemistry I	4
ENGL 102	College Writing and Rhetoric	3
MATH 170	Analytic Geometry & Calculus I	4
MSE 101	Introduction to Metallurgy & Materials	2
CORE	Core Discovery (Recommended 113, 116, and 117)	4
	Total Credits	17

SOPHOMORE - FALL		
PHIL 103	Ethics (Humanities)	3
ENGR 210	Engineering Statics	3
MATH 275	Analytical Geometry & Calculus III	3
MSE 201	Elements of Materials Science	3
PHYS 212L	Engineering Physics II (with lab)	4
	Total Credits	16

JUNIOR - FALL		
CHEM 305/307	Physical Chemistry (with Lab)	4
MSE 313	Physical Metallurgy	4
ENGR 350	Engineering Mechanics of Materials	3
MSE 423	Environmental Degradation of Materials	3
MSE 340/ChE340	Transport Rate Process	4
	Total Credits	18

SENIOR - FALL		
MSE 417	Instrument Analysis	3
MSE 434	Fundamentals of Polymeric Materials	3
MSE 453/ChE 453	Process Analysis and Design I	3
MSE 427	Ceramic Materials	3
ELECTIVE	ChE/MSE Technical Elective	3
	Total Credits	15

FRESHMAN - SPRING		
CHEM 112	Principles of Chemistry II	5
CS 112	Or any Comp Science Elective	3
MATH 175	Analytic Geometry & Calculus II	4
PHYS 211	Engineering Physics I (no lab)	3
CORE	Core Discovery (Recommended 163, 166, and 167)	3
	Total Credits	18

SOPHOMORE- SPRING		
ECON	Core Enon Elective	3
ENGR 335	Fluid Mechanics	3
ENGR 240	Introduction to Electrical Circuits	3
MATH 310	Ordinary Differential Equations	3
STAT 301	Probability and Statistics	3
	Total Credits	15

JUNIOR - SPRING		
ENGL 317	Technical Writing	3
MSE 308	Thermodynamics of Materials	3
MSE 413	Phase Transformation and Kinetics	3
MSE 412	Mechanical Behavior of Materials	3
Hum. or Soc. Sci.	Upper Division Humanities or Social Sci	3
	Total Credits	15

SENIOR- SPRING		
MSE 432	Thin Film Fabrication	3
MSE 464	Materials Physics and Engineering	3
MSE 454 /ChE 454	Process Analysis and Design II	3
MSE 456	Metallic Materials	3
ELECTIVE	Technical Elective	3
	Total Credits	15

***See course catalog for complete degree requirements and additional information at:**
http://www.registrar.uidaho.edu/catalogs/catalogs.html

Total Credit = 129

Note: A grade of "C" or better is required in Chem 111, Chem 112, MSE 201, Engr 210, Engr 335, Math 275, Math 310, Phys 211 and Phys 212 in order to be certified and take upper division MSE or ChE courses.

ChE/ MSE/elective choices

MSE/NE 438 Fundamentals of NE materials
NE 437 Radiation Effects on Materials
NE 450 Principles of nuclear engineering
MSE 344 Low temperature processing of Materials
MSE 442 High temperature processing of Materials
ChE 326 ChE thermodynamics
ChE 330 Separation
ChE 341 Transport Rate Process II
ChE 423 ChE Kinetics

Technical Elective Choices (any Science, Math or Engr >300 level)
(Some possible choices to consider, but not the only choices)
ECE 418 Electronic packaging of materials
ME 341 Intermediate Mechanics of Material
ME 461 Fatigue and Fracture Mechanics
FORP 436 Wood composites