

Chemical Sciences—Major Requirements for BS Degree

Materials Chemistry Emphasis Track

Effective Fall 2010

University of California, Merced

Anticipated Graduation Date (ex: May 2010) _____

Full Name: _____ ID: _____ Email: _____

Phone: _____

University Requirements

Requirement/ Course Dept #	Course Title	Grade	Units Required	Term Completed	Substitute Approved
UC Entry Level Writing (WRI 001 or ELWR)			n/a		
American History/Institutions			n/a		
World at Home I (CORE 001)			1 course		
College Composition (WRI 010)			1 course		

School Requirements

World at Home II (CORE 100 or replacement)			4		
Calculus I (MATH 021)			4		
Probability & Statistics (MATH 32)			4		
Introduction to Physics I (PHYS 08)			4		
Computer Science Course (CSE 020 or CSE 005 or MATH 15)			2		
General Chemistry I (CHEM 02)			4		
Lower Division Arts/Humanities Elective			4		
Lower Division Social Science Elective			4		
UD Science Writing Course (WRI 116 or course approved by NS)			4		
UD Social Science/Humanities Elective			4		

Major/Core Requirements

Contemporary Biology (BIO 01)			4		
Contemporary Biology Lab (BIO 01L)* Recommended but not required			1		
General Chemistry II (CHEM 10)			4		
Organic Chemistry (CHEM 08)			4		
Calculus II (MATH 22)			4		
Multi-variable Calculus (MATH 23)			4		
Linear Algebra and Differential Equations (MATH 24)			4		
Introductory Physics II (PHYS 09)			4		

Upper Division Major Requirements

Organic Synthesis and Mechanism (CHEM 100)			3		
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Advanced Synthetic Laboratory (CHEM 101L)			2		
Biochemistry I (CHEM 111/BIO 101)			4		
Quantum Chemistry and Spectroscopy (CHEM 112)			3		
Chemical Thermodynamics and Kinetics (CHEM 113)			3		
Physical Chemistry and Instrumental Analysis Laboratory (CHEM 114L)			2		
Instrumental Analysis and Bioanalytical Chemistry (CHEM 115)			3		
Inorganic Chemistry (CHEM 120)			3		

Chemistry Emphasis Track

Introduction to Materials (ENGR 45)			4		
Research (CHEM 95/195)			2		
Materials Chemistry Lab (CHEM 147)			3		

Free Electives to Meet 120 Units

Materials Chemistry Elective List:

- CHEM 140-Nanoscale Materials Chemistry
- ENGR 170- Introduction to Electron Microscopy
- MSE 110- Solid State Materials Properties
- MSE 113- Materials Characterization
- MSE 114- Polymeric Materials
- MSE 115- Ceramic Materials
- MSE 116- Composites
- MSE 118- Introduction to Nanotechnology and Nanoscience
- MSE 119- Materials Modeling

Notes: _____

Student Signature: _____ **Date:** _____

Advisor Signature: _____ **Date:** _____

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