

Chemistry, BS - Materials Chemistry Concentration

This concentration meets the requirements of the American Chemical Society for certification and is designed for students who want to pursue graduate studies or employment in materials chemistry.

Chemistry: Materials Chemistry Concentration, BS Requirements:

- Chemistry, Materials Chemistry Concentration, BS degree requires 128 credit hours.
- 39 of 128 credit hours must be taken at 300 level or higher (39 credits includes courses taken at the 300+ level in major, minor (if chosen), Pre professional area and electives).
- 12 credit hours of 300 level and above must be taken in the major--or 6 credit hours in the major and 6 credit hours in the minor (if chosen).
- 12 of the last 18 credit hours must be taken at UAH, with an overall 25% of coursework taken at UAH.
- No more than 64 credit hours from a two-year college can be applied toward a UAH degree.
- For graduation application instructions, see here (<http://catalog.uah.edu/undergrad/policies-procedures/application-graduation/>).

Degree Requirements

Code	Title	Semester Hours
Freshman Composition		6
EH 101	COLLEGE WRITING I	
EH 102	COLLEGE WRITING II	
Humanities and Fine Arts		12
Fine Arts: Choose one		3
ARH 100	ARH SURV:ANCIENT-MEDIEVAL	
ARH 101	ARH SURV:RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
TH 122	THEATRE APPRECIATION	
ARS 160	DRAWING: FOUNDATIONS	
MU 100	INTRO TO MUSIC LITERATURE	
Literature: Choose one		3
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
Speech		3
CM 113	Intro to Rhetorical Communication	
Humanities or 2nd Fine Art or 2nd Literature: Choose one		3
PHL 101	INTRODUCTION TO PHILOSOPHY	
PHL 102	INTRO TO ETHICS	
PHL 103	INTRODUCTION TO LOGIC	
PHL 150	TECH, SCIENCE & HUMAN VALUES	
Any 100 or 200 level Foreign Language ⁴		
WLC 204	INTERNATIONAL CINEMA	
WGS 200	INTRO WOMEN'S & GENDER STUDIES	
2nd Literature ¹		
2nd Fine Art		
Mathematics and Sciences		12
Mathematics: ²		4
MA 171	CALCULUS A	
Natural Sciences: Physics		8
PH 111 & PH 114 and	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	
History and Social and Behavioral Sciences		12

History: Choose one ¹		3
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Sciences: Choose two		6
ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
PSC 101	INTRO TO AMERICAN GOVERNMENT	
PSC 102	INTRO TO COMPARATIVE POLITICS	
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS	
GS 200	GLOBAL SYSTEMS AND CULTURES	
SOC 100	INTRO TO SOCIOLOGY	
SOC 102	ANALYSIS OF SOCIAL PROBLEMS	
SOC 105		
PY 101	GENERAL PSYCHOLOGY I	
PY 201	LIFE-SPAN DEVELOPMENT	
2nd History or 3rd Social and Behavioral Science: Choose one ³		3
2nd History ¹		
3rd Social and Behavioral Science ³		
Pre Professional		39
Computer Science: Choose one		3
CS 100	INTRO COMPUTERS & PROGRAM	
CS 102	INTRO TO C PROGRAMMING	
CS 103	INTRO PROGRAMMING USING JAVA	
Technical Writing		3
EH 301	TECHNICAL WRITING	
Additional Required Biology		8
BYS 119	PRINCIPLES OF BIOLOGY	
BYS 120	ORGANISMAL BIOLOGY	
Additional Required Mathematics		14
MA 172	CALCULUS B	
MA 201	CALCULUS C	
MA 238	APPL DIFFERENTIAL EQUATIONS	
MA 244	INTRO TO LINEAR ALGEBRA	
Additional Required Physics		4
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	
Additional Required Chemical Engineering		
CHE 294 & CHE 295	NATURE & PROPERTIES OF MATLS and NATURE & PROPERTIES MATLS LAB	
CHE 494	APPLIED MATERIALS ENGINEERING	
Code	Title	Semester Hours
Chemistry		25
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	
CH 223 & CH 224	QUANTITATIVE ANALYSIS and QUANTITATIVE ANALYSIS LAB	
CH 331 & CH 335	ORGANIC CHEMISTRY I and ORGANIC CHEMISTRY LAB I	

CH 332	ORGANIC CHEMISTRY II
CH 361	GENERAL BIOCHEMISTRY
CH 401	INORGANIC CHEMISTRY

Materials Chemistry Courses

CH 336	ORGANIC CHEMISTRY LAB II
CH 341 & CH 345	PHYSICAL CHEMISTRY I and EXPERIMENTAL PHYSICAL CHEM I
CH 342 & CH 346	PHYSICAL CHEMISTRY II and EXPERIMENTAL PHYSICAL CHEM II
CH 362	GENERAL BIOCHEMISTRY LAB
CH 402	INORGANIC CHEMISTRY LAB
CH 421	INSTRUMENTAL ANALYSIS
CH 440	POLYMER SYNTHESIS & CHARACTERI
CH 491	INTRO TO CHEMICAL RESEARCH
or CH 492	INTRO TO CHEMICAL RESEARCH
or CH 493	INTRO TO CHEMICAL RESEARCH

Elective Courses**1-3**

Elective course 300+ level, 0-1 credit

Additional elective courses, 100+ level, 0-2 credits. Electives can be taken from any department and do not have to be taken in your major or minor. No more than 4 credits of 100 level HPE courses can count toward degree requirements.

Total Semester Hours**128**

- 1 Students must take one literature and one history course. Students must also take either a second literature or history course to complete a sequence. (EH 207 + EH 208, EH 209 + EH 210, HY 103 + HY 104, or HY 221 + HY 222)
- 2 Based on Math placement (<http://www.uah.edu/science/departments/math/undergraduate-students/placement/>), prerequisite (MA 112 and/or MA 113) Mathematics courses may be required.
- 3 No more than 6 hours can be taken in a single discipline.
- 4 For choices see the World Languages and Cultures (<http://catalog.uah.edu/undergrad/colleges-departments/arts-humanities-social-sciences/foreign-languages-literatures/#coursestext>) department.