CHEMISTRY-SECONDARY EDUCATION CERTIFICATION-B.S.

General Education Requirements

I. Required Skills and Competencies 16 cr
___ ENG 106 Writing Intensive First Year Seminar OR
___ ENG 110 Advanced Placement Writing (3 cr)
May need ENG 050 Basic Writing first, based on test results
___ HCS 100 Intro to Human Communication (3 cr)
___ Mathematical Competency-Required
MAT 211 Calculus I —if necessary, student may need to take
MAT 175 Pre-Calculus first
___ HIS 105 Historical Foundations of Global Cultures (3 cr) AND
___ HIS 106 Thinking Historically in a Global Age (3 cr)

II. Categories of Knowledge 37 cr
A: Logic/Numbers for Rational Thinking (4 cr)
___ MAT 212 Calculus II

B: Literary, Artistic & Cultural Traditions (9 cr)
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C: Biological & Physical Sciences (12 cr)
___ CHM121 Chemical Bonding *
___ PHY 205 Intermediate Physics I *
___ BIO 161 Principles of Biology: Cell Structure & Function *

D: Political, Economic & Geographic Science (6 cr)
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___ ______________________________

E: Social & Behavioral Science (6 cr)
___ PSY 101 General Psychology

III. Library Skills Complete viaCollege/Advanced Writing course

Chemistry Requirements 39 cr
___ CHM 110 The Chemistry Experience (1 cr)
___ CHM 121 Chemical Bonding (3 cr) *
(Prerequisites: MAT 175 or MAT 117 (either may be taken
concurrently with CHM 121) or math placement at Level 5 and
one year of high school chemistry or CHM 105 with a grade of C or
better.)
___ CHM 123 Lab IA (1 cr)
___ CHM 122 Chemical Dynamics (3 cr)
(Prereq: Grade of C or better in CHM 121)
___ CHM 124 Lab IIA (3 cr)
___ CHM 221 Modern Organic Chemistry I (3 cr)
___ CHM 223 Lab IIIA (1 cr)
___ CHM 222 Modern Organic Chemistry II (3 cr)
___ CHM 224 Lab IVA (3 cr)
___ CHM 301 Biochemistry I (3 cr)
___ CHM 361 Physical Chemistry I (4 cr)
___ CHM 362 Physical Chemistry II (4 cr)
___ CHM 371 Analytical Chemistry (4 cr)
___ CHM 381 Intermediate Inorganic Chemistry (3 cr)

Professional Education Requirements 33 cr
___ TCH 207 Org. & Psych. Foundations of Secondary Education (3 cr)
The following must be taken concurrently:
___ EDU 440 Teaching Science In Secondary Schools (3 cr) **
___ EDU 441 Curriculum & Evaluation in the Secondary Science
Classroom (3 cr) **
___ EDU 495 Student Teaching & Professional Practicum (12 cr) **
___ EEC 273 Introduction to Exceptionality** (3 cr)
___ EEC 423 Effective Instructional Strategies (3 cr)
___ EEC 483 Assessing Students for Curricular Decision Making (3 cr)
RDG 413 Teaching Reading ELL (3 cr)
*Major requirement double counts as General Education Credits
Total Graduation Requirements 130 cr
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GPA Needed to Declare: 3.0
Helpful Hints for Advising:
Semester I CHM121 Chemical Bonding and CHM 123 Lab I A
MAT 211 Calculus I
Semester II CHM122 Chemical Dynamics and CHM 124 Lab II A
MAT 212 Calculus II
PSY 101 General Psychology
Semester III PHY 205 Intermediate Physics I & PHY 123 Lab I
CHM221 Modern Organic Chem I & Chem 223 Lab III A
BIO 162 Principles of Biology: Organismal Diversity
Semester IV PHY 206 Intermediate Physics II & PHY 125 Lab II
CHM222 Mod Organic Chem II & Chem 224 Lab IVA
American Chemical Society Certification available.
See Department Chairperson for details.
** All education majors must pass the first level of the PAPA assessments in reading, math, and writing between 48 and 60 credits of course work. These basic skills tests must be passed before students are permitted to take any 300 level or above education course.
All chemistry majors will take a comprehensive examination in their junior year at a time and place designated by the department. A satisfactory performance in all areas of this examination is a requirement for departmental recommendation and ACS certification.