

**Chemistry - Bachelor of Science (SCH3)
Chemistry/Education: ACS Certified**

Total Credits Required: 128

Required Courses

Department Core Requirements - 40 Credits

Course	Credits
CH 1150 University Chemistry I AND	3
CH 1151 University Chemistry Lab I AND	1
CH 1153 University Chemistry I Recitation	1
OR	
CH 1112 University Chemistry-Studio Lab I	5
CH 1160 University Chemistry II AND	3
CH 1161 University Chemistry Lab II AND	1
CH 1163 University Chemistry II Recitation	1
OR	
CH 1122 University Chemistry-Studio Lab II	5
CH 1130 Orientation	1
CH 2410 Organic Chemistry I	3
CH 2411 Organic Chemistry Lab I	1
CH 2420 Organic Chemistry II	3
CH 2212 Quantitative Analysis	5
CH 3510 Physical Chemistry I	3
CH 3511 Physical Chemistry Lab I	2
CH 3520 Physical Chemistry II	3
CH 4710 Biomolecular Chemistry I	3
CH 4310 Inorganic Chemistry I	3
CH 4311 Inorganic Chemistry Lab I	2
CH 4900 Senior Seminar in Chemistry I	1

Math/Science Requirements - 25 Credits

MA 1160 Calculus I	4
MA 2160 Calculus II	4
MA 2330 Introduction to Linear Algebra	3
MA 3160 Multivariable Calculus	4
MA 3520 Elementary Differential Equations	2
PH 1100 Physics by Inquiry I	1
PH 2100 Univ Physics I-Mechanics	3
PH 1200 Physics by Inquiry II	1
PH 2200 Univ Physics II-Electricity and Mag	3

Concentration Requirements - 40 Credits

Course	Credits
CH 3020 Laboratory Teaching Internship	2
CH 4810 Design & Oper High School Chem Lab	2
ED 3110 Psychological Foundations of Learning	3
ED 3210 Foundations of Education	2
ED 3410 Clinical Experience	1
ED 3100 Instructional Technology	2
ED 4700 Fundamentals of Instruction	3
ED 4710 Methods of Teaching Science & Math	3
ED 4910 Directed Teaching	12
HU 2830 Introduction Speech Communication	3
ED/HU 4150 Literacy in the Content Areas	4
PSY 2000 Introduction to Psychology	3

General Education Requirements - 28 Credits

UN 1001 Perspectives on Inquiry	3
UN 1002 World Cultures*	4
UN 2001 Revisions	3
UN 2002 Institutions	3
Distribution Courses**	15

Free Electives - 4 Credits

These 4-5 free elective credits are used to fulfill the Secondary Teaching Minor required for state certification.

Co-Curricular Activities - 3 Units***

* Two semesters of a single modern language (6 credits) plus UN1003 (1 credit) may be substituted for UN1002

** From HASS Distribution Course Lists: 6 of the 15 credits must be 3XXX or 4XXX level courses.
HU 2830, PSY 2000 and ED 3100 will satisfy 9 of these 15 credits.

*** P. E. courses are taught as 0.5 unit classes. Thus 6 of these are needed for 3 units.

Note: For Michigan Teaching Certification, you must be certified in First Aid and CPR for child and adult by completing either EH3985, Red Cross training or American Heart Association training.