

**Chemistry - Bachelor of Science (SCH4)**  
**Chemistry/Chemical Physics: ACS Certified**

**Total Credits Required: 128**

**Required Courses**

**Department Core Requirements - 50 Credits**

Course	Credits
CH 1150 University Chemistry I <b>AND</b>	3
CH 1151 University Chemistry Lab I <b>AND</b>	1
CH 1153 University Chemistry I Recitation	1
<b>OR</b>	
CH 1112 University Chemistry-Studio Lab I	5
CH 1160 University Chemistry II <b>AND</b>	3
CH 1161 University Chemistry Lab II <b>AND</b>	1
CH 1163 University Chemistry II Recitation	1
<b>OR</b>	
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 2421 Organic Chemistry Lab II	2
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 3521 Physical Chemistry Lab II	2
CH 4212 Instrumental Analysis	5
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
CH 4910 Senior Seminar in Chemistry II	1

**Math/Science Requirements - 25 Credits**

MA 1160 Calculus I	4
MA 2160 Calculus II	4
MA 2320 Introduction to Linear Algebra	2
MA 3160 Multivariable Calculus	4
MA 3530 Introduction to differential Equations	3
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 Requirement - 19-20 Credits**

Course	Credits
CH 4560 Computational Chemistry	3
PH 2300 Univ Physics III-Fluids & Thermo	2
PH 2400 Univ Physics IV-Waves & Mod Phys	3
PH 3300 Thermo & Statistical Mechanics	3
PH 3410 Quantum Physics I	3

*Choose 5-6 credits from the following courses*

CH 4510 Intermediate Physical Chemistry	3
CH 4990 Undergraduate Research	6
PH 3110 Theoretical Mechanics I	3
PH 3210 Optics	3
PH 3411 Quantum Physics II	3
PH 4210 Electricity and Magnetism I	3
PH 4510 Introduction to Solid State Physics	2
MA 4410 Complex Variables	3
MA 4515 Intro Partial Differential Equations	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 - 5-6 Credits**

**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.

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