

**Biochemistry and Molecular Biology - Bachelor of Science (SMBCUG)**
**Total Credits Required: 128**
**Major Requirements - 62 credits**

<b>Course</b>	<b>Credits</b>
BL1040 Principles of Biology	4
BL2200 Genetics	3
BL3210 General Microbiology	4
BL3300 Intro to Genomics	3
BL4030 Molecular Biology	3
<b>OR</b>	
CH1150 University Chemistry I <b>AND</b>	3
CH1151 University Chemistry Lab 1 <b>AND</b>	1
CH1153 University Chemistry Recitation I	1
<b>OR</b>	
CH1112 University Chemistry - Studio Lab I	5
CH1160 University Chemistry II <b>AND</b>	3
CH1161 University Chemistry Lab II <b>AND</b>	1
CH1163 University Chemistry Recitation II	1
<b>OR</b>	
CH1122 University Chemistry - Studio Lab II	5
CH1130 Orientation	1
CH2410 Organic Chemistry I	3
CH2411 Organic Chemistry Lab I	1
CH2420 Organic Chemistry II	3
CH2421 Organic Chemistry Lab II	2
CH3510 Physical Chemistry I	3
CH3540 Biophysical Chemistry	3
CS1121 Intro to Programming I	3
MA1160 Calculus with Technology I <b>OR</b>	4
MA1161 Calculus Plus with Technology I	5
MA2160 Calculus with Technology II	4
PH1100 Physics by Inquiry I	1
PH1200 Physics by Inquiry II	1
PH2100 Univ Physics I - Mechanics	3
PH2200 Univ Physics II - Elec and Mag	3

**Concentration Requirements - 29 credits**

<b>Course</b>	<b>Credits</b>
CH3511 Physical Chemistry Lab I	2
CH3541 Biophysical Chemistry Lab	2
CH4222 Bioanalytical Chemistry	5
CH4710 Biomolecular Chemistry I	3
CH4720 Biomolecular Chemistry II	3
CH4721 Research Methods in Biomolecular Chemistry	3
CH4910 Chemistry Seminar	1
MA2321 Elementary Linear Algebra	2
MA3521 Elementary Differential Equations	2
CH4995 Undergraduate Research in Biochemistry <b>OR</b>	6
BL4840 Molecular Biology Techniques <b>AND</b>	3
3 credits of CH or BL 3000-4000 course(s)	3

**General Education Requirements - 28 credits**

UN1001 Perspectives on Inquiry	3
UN1002 World Cultures *	4
UN2001 Composition	3
UN2002 Institutions	3
Distribution Courses **	15

**Free Electives - 9 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.