

BIOCHEMISTRY, B.S. (55 HOURS)

This Bachelor of Science degree in Biochemistry requires 44 credits in chemistry and 12 credits in biology, and does not require any minor or second major. This degree is also approved by the American Chemical Society for the training of professional chemists.

The following courses are required for the BS Biochemistry degree. Physics and Calculus, including Differential Equations, are also required for certification by the ACS.

Course	Lecture Hr	Lab Hr	Credits
General Chemistry I (Chem121 or 131)	3	3	4
General Chemistry II (Chem122 or 132)	3	3	4
Intro to Research (Chem190)	0	2	1
Organic Chemistry I (Chem221)	3	3	4
Organic Chemistry II (Chem222)	3	3	4
Quantitative Analysis (Chem230)	3	4	4
Biochemistry I (Chem315)	3	0	3
Biochemistry II (Chem316)	3	0	3
Biochemistry Lab (Chem317)	0	3	1
Physical Chemistry I (Chem321)	4	3	5
Physical Chemistry II (Chem322)	4	3	5
Adv. Inorganic Chemistry (Chem421)	3	0	3
Special Problems (Chem or Bio495)	0	6	2
Unity of Life (Bio171)	3	3	4
Genetics (Bio270)	3	3	4

Molecular Biology (Bio450) or Cell Biology (Bio460)	3	3	4
Total			55

Suggested Curriculum for Biochemistry Majors

Fall		Spring		Notes
First Year				
General Chem 121 (or 131)	4	General Chem 122 (or 132)	4	Other = P.E., Social Analysis, or Area Studies. (P.E. can be taken any time.)
Chem Seminar 493	0	Intro Chem Res 190	1	
Math 131 or 151	4	Chem Seminar 493	0	
Freshman Core	5	Math 132 or 152	4	
Other	1-4	Freshman Core	5	
		Other	0-3	
Second Year				
Organic Chem 221	4	Organic Chem 222	4	Other = ENG 200 and Social Analysis or Theology Level 2.
Chem Seminar 493	0	Quant Analysis 230	4	
Phys 141	4	Chem Seminar 493	0	
Bio 171 or Math 234	4	Phys 142	4	
Other	3	Other	3	
Third Year				
Physical Chem 321	5	Physical Chem 322	5	Other = Social Analysis, Theology Level 2 or 3, Area Studies, and other electives.
Chem Seminar 493	0	Chem Seminar 493	0	
Math 234 or Bio 171	4	Bio 270	4	
Other	6-9	Other	6-9	

Department of Chemistry - Valparaiso University
Fourth Year

Biochemistry 315*	4	Biochemistry 316*	3	Other = Theology Level 3, and other electives.
Inorganic Chem 421	3	Biochem Lab 317*	1	
Chem Seminar 493	0	Chem Seminar 493	0	
Chem or Bio Research 495**	1	Chem or Bio Research 495**	1	
(Bio 460)***	(4)	(Bio 450)***	(4)	
Other	9-12	Other	12-15	

* Could be taken either third or fourth year. **Could be taken either third or fourth year. Minimum 2 credits. ***One elective course in Biology is required, either Bio 450 or Bio 460.

General Education Requirements - Freshman Core 12 Cr, Theology 6 Cr, Social Analysis 6 Cr, English 200 3 Cr, Area Studies 6-11 Cr, Physical Education 1 Cr. Also, U.S. Diversity and Global Diversity courses which may also be used for other requirements.

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