

Requirements - Hope College Chemistry (degree_requirements-2 credit update.xlsx)		Credits	Lab Hrs	BA chemistry	BS chemistry	BS ACS	ACS biochem emphasis	BS biochem/ molec biol
Gen Chem Lecture (either 125 & 126 or 131)		6		required	required	required	required	required
Gen Chem Lab (either 127 & 128 or 132)		2		required	required	required	required	required
Organic 1 (221)		3		required	required	required	required	required
Organic Lab 1 (255)		2	84	required	required	required	required	required
Organic 2 (231)		3		required	required	required	required	required
Organic Lab 2A (256A)		1	42	required	required	required	required	required
Organic Lab 2B (256B)		1	42	elective	elective	elective	elective	elective
Biochem 1 (311)		3		option (1)	elective	required	required	required
Biochem 2 (314)		3		elective	elective	option (3)	required	required
Biochem Lab (315)		1	42	elective	elective	elective	required	required
Inorganic (322)		3		option (1)	required	required	required	option (5)
Inorganic Lab (324)		1	42	elective	elective	required	elective	option (5)
Analytical lecture and lab (331 + 332)		4	42	option (1)	required	required	required	option (5)
Physical Chem 1 (343)		3		option (1)	required	required	required	required
Physical Chem Lab 1 (345)		1	42	elective	required	required	required	required
Physical Chem 2 (344)		3		elective	required	required	option (4)	option (5)
Physical Chem Lab 2 (346)		1	42	elective	required	required	elective	option (5)
Communication in Chem and Biochem (326)		2		elective	elective	option (3)	option (4)	option (5)
Neurochem (335) (lecture + lab)		4	42	elective	elective	option (3)	option (4)	option (5)
Advanced Laboratory Techniques (350)		2	21	elective	elective	option (3)	option (4)	option (5)
Reactions, Mechanisms and Synth (352)		2		elective	elective	option (3)	option (4)	option (5)
Computational Chemistry (354)		2	21	elective	elective	option (3)	option (4)	option (5)
Structures and Materials (356)		2		elective	elective	option (3)	option (4)	option (5)
Env. Geochemistry (GES 430)		4		elective	elective	option (3)	n/a	n/a
Research (490) (42 lab hrs/credit)		1	84 max	elective	elective	elective	elective	elective
Choose electives so Chemistry credits total at least:				25	36			
Lab requirement (beyond General Chemistry)				4 lab credits		400 lab hours	400 lab hours	
Calculus 1 (Math 131 or 125+126)		4		required	required	required	required	required
Calculus 2 (Math 132)		4		required	required	required	required	required
Multivariable 1 (Math 231)		4		elective	recommend	recommend	recommend	recommend
Multivariable 2 (Math 232)		4		elective	recommend	recommend	recommend	recommend
General Physics 1 (Phys 121)		3		required (2)	required	required	required	required
General Physics 1 Lab (Phys 141)		1		required (2)	required	required	required	required
General Physics 2 (Phys 122)		3		required (2)	required	required	required	required
General Physics 2 Lab (Phys 142)		1		required (2)	required	required	required	required
General Biology I (Bio 105+107)		4		n/a	n/a	n/a	note (7)	required
General Biology II (Bio 106+108)		4		n/a	n/a	n/a	note (7)	required
Molecular Biology (Bio 366)		4	42	n/a	n/a	n/a	option (4)	required
Cell Biology (Bio 348) + Lab (Bio 349)		3 + 1	42	n/a	n/a	n/a	option (4)	option (5)
Genetics (Bio 356) + Lab (Bio 357)		3 + 1	42	n/a	n/a	n/a	option (4)	option (5)
Gen Ed requirements		Total science credits:		41	60 (6)	60 (6)	60 (6)	64
FYS 2		General education credits:		46	46	46	46	46
Health Dy 2		<b>Total committed credits:</b>		<b>87</b>	<b>106</b>	<b>106</b>	<b>106</b>	<b>110</b>
Religion 6		Credits remaining:		39	20	20	20	16
Arts 6		Option 1: The BA degree requires two of these four courses Option 2: College Physics may be applied to the BA degree in place of General Physics Option 3: ACS BS degree requires two full-semester courses among indicated options. Two 2-cr courses = one full semester course. Option 4: ACS BS w/ biochem requires 2 full-semester upper level courses: one from among Chem 335, Bio 348, Bio 356, or Bio 366, and one from Chem 335 or any two 2-cr courses (Note that Neurochem/Chem 335 can satisfy either group, not both.)						
Cult Heritage 8								
Social science 6								
Exp Writing 4								
Language 8								
Senior seminar 4								
(approx) total: 46								
General Education counts assume that student will need two college classes of foreign language, and that Global Learning requirements will be met within previously selected classes		Beyond courses listed above, others could include General Microbiology (Bio 301), Advanced Topics in Botany (Bio 340 - depending on topic), Virology (Bio 341), and Developmental Biology (Bio 355)						
		Note 6: For all Chem BS degrees, additional science credits must add up to at least 60 science credits.						
		Note 7: General Biology I + II are prerequisites for all upper level biology courses.						