

Requirements - Hope College Chemistry (degree_requirements 02/08/16.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)
Chem Modeling Lab (347)		1	42	elective	elective	elective	elective	elective
Adv Spectroscopy Lab (348)		1	42	elective	elective	elective	elective	elective
Neurochem (335) (lecture + lab)		4	42	elective	elective	option (3)	option (4)	option (5)
Env. Geochemistry (GES 430)		3		elective	elective	option (3)	n/a	n/a
Struc, Dyn, Synth1 (421)		3		elective	elective	option (3)	option (4)	elective
Struc, Dyn, Synth2 (422)		3		elective	elective	option (3)	option (4)	elective
Research (490)		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	see note 5
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 (7)
General Biology II (Bio 106+108)		4		n/a	n/a	n/a	note (7)	required (7)
Molecular Biology (Bio 366)		4		n/a	n/a	n/a	option (4)	required
Genetics (Bio 356)		3		n/a	n/a	n/a	option (4)	option (5)
Genetics Lab (Bio 357)		1		n/a	n/a	n/a	option (4)	option (5)
Cell Biology (Bio 348)		3		n/a	n/a	n/a	option (4)	option (5)
Cell Biology Lab (Bio 349)		1		n/a	n/a	n/a	option (4)	option (5)
Gen Ed requirements		Total science credits:		41	60 (6)	60 (6)	60 (6)	68
FYS 2		General education credits:		46	46	46	46	46
Health Dy 2		Total committed credits:		87	106	106	106	114
Religion 6		Credits remaining:		39	20	20	20	12
Arts 6		Option 1: The BA degree requires two of these four courses						
Cult Heritage 8		Option 2: College Physics may be applied to the BA degree in place of General Physics						
Social science 6		Option 3: ACS BS degree requires two of these courses, at least one of which must be Chem 314 or Chem 421 or Chem 422						
Exp Writing 4		Option 4: ACS BS w/ biochem needs 2 of these upper level courses, one from among Chem 335, Bio 348, 349, Bio 356 or Bio 366; & one from among Chem 335, Chem 344, Chem 421, or Chem 422. (Note that Neurochem/Chem 335 can satisfy either group.)						
Language 8		Option 5: BMB BS requires 8 additional credits from these courses with at least 1 course from each dept. Other courses could include Bio 348/349, 301, 395, 355. BMB BS also requires a total of 400 laboratory contact hours from any discipline. This requirement is normally met by the required chem, bio, and physics classes above.						
Senior seminar 4		Note 6: For Chemistry BS degrees, additional science classes must be taken beyond those tagged as "required" above to obtain at least 60 science credits.						
(approx) total: 46		Note 7: Before f2013, the 3-semester (Bio 240-260-280) core sequence applies.						
General Education counts assumes that student will need two college classes of foreign language, and the the 4-credit cultural diversity requirement will be met within previously selected classes								