

OPTIONS FOR THE CHEMISTRY MAJOR - revised 8/2009

Though it is required only for the ACS Certified A.B. or the A.B. with honors, students pursuing other chemistry degrees are encouraged to enroll in 403 Supervised Research.

ACS Certified Chemistry A.B. (Recommended for grad school)	Chemistry Major A.B. only	Chemistry Minor	Chemistry Major with biochem concentration	Chemistry Major with environ. concentration	Chemistry Major with geochem concentration	Chemistry Major with computational minor	Chemistry Major with education minor
Chem. 103 GenChem w/lab	Chem. 103	Chem. 103	Chem. 103	Chem. 103	Chem. 103	Chem. 103	Chem. 103
Chem 104 GenChem w/lab	Chem 104	Chem 104	Chem 104	Chem 104	Chem 104	Chem 104	Chem 104
Chem. 211 OrgChem w/lab	Chem. 211	Chem. 211	Chem. 211	Chem. 211	Chem. 211	Chem. 211	Chem. 211
Chem 212 OrgChem w/lab	Chem 212	Chem 212	Chem 212	Chem 212	Chem 212	Chem 212	Chem 212
Chem 221 PChemQuantum	Chem 221	Chem 221*	Chem 221	Chem 221	Chem 221	Chem 221	Chem 221
Chem 222 PChemThermo	Chem 222	Chem 222*					
Chem 231 Inorganic	Chem 231	Chem 231	Chem 231	Chem 231	Chem 231	Chem 231	Chem 231
Chem 242 Biochem	Chem 242	Chem 242**	Chem 242	Chem 242	Chem 242	Chem 242	Chem 242
Chem 251 Research Methodology I	Chem 251	Chem 251	Chem 251	Chem 251	Chem 251	Chem 251	Chem 251
Chem 252 Research Methodology II	Chem 252	Chem 252	Chem 252	Chem 252	Chem 252	Chem 252	Chem 252
Chem 3xx Chem electives	Chem 3xx	*Pre-/co-requisites: Math 201, Physics 121/122 or 101/102	Chem 345	Chem 3xx	Chem 322 or 332	Chem/CS 3xx e.g., Math. Modeling	Chem 3xx
Chem 3xx Chem electives	Chem 3xx	**Biology majors may substitute Bio 375+376 for Chem 242	Chem 3xx	Geo 302 or 397	Chem 3xx	Chem/CS 3xx of Phys. Phenomena	Chem 3xx
Chem 403 Supervised Research I			Physics 121,122 <sup>†</sup>	Physics 121,122 <sup>†</sup>	Physics 121,122 <sup>†</sup>	Physics 121,122 <sup>†</sup>	Physics 121,122 <sup>†</sup>
Chem 403 Supervised Research II			or 101,102	or 101,102	or 101,102	or 101,102	or 101,102
Physics 121,122 <sup>†</sup> or 101,102	Physics 121,122 <sup>†</sup> or 101,102		Math 101, 102	Math 101, 102	Math 101, 102	Math 101, 102	Math 101, 102
Math 101, 102	Math 101, 102		Math 201	Math 201	Math 201	Math 201	Math 201
Math 201	Math 201		Bio 201 Equivalent courses Bio 376** at Haverford may be substituted.	Geo103 Bio 220 1 Human Landscape Course 2 Planning & Policy Courses	Geo 201 Geo 202 Geo 301 or 302	CS 110 or 205 CS 206 (Data Structures) CS 231 (Discrete Math)	Ed 200 Ed 210, 225, 240, 250, 260, or 266 Choose 1 of 6
			**Chem 242 Must have a satisfies prereq molecular focus. for this course			CS 212, 225, 245, 246, Choose 1 330, 340	Ed 310 Ed 311 2 education-related electives, see education advisor for options.

<sup>†</sup> Physics 121,122 is more mathematically rigorous and is the recommended sequence for physical scientists, but Physics 101,102 (designed for premed students) may be substituted. Students who have completed either sequence and who plan graduate work in chemistry should consider taking Physics 201.

**Requirements for departmental honors:**

- Complete one of the above major plans.
  - Maintain a chemistry GPA of 3.7 or better. (Effective with the Class of 2010)
  - Complete two semesters of 403 with a grade of 3.3 or better each semester.
  - Participate in research oral/poster presentations.
  - Write an acceptable thesis, and meet all department deadlines for submission of the thesis.
  - Complete an additional unit of Chem 3xx (for a total of three 300-level chemistry units).
- With department approval, one unit of 300-level work in certain fields may be substituted.*