

**College of Science**  
 Department of Chemistry  
 Bachelor of Arts (B.A.) in Chemistry  
 For students graduating in calendar year 2009

First Year		Fall	Spring
CHEM 1055, 1056*	General Chemistry for Chem Majors	4	4
CHEM 1065, 1066*	General Chemistry for Chem Majors Lab	1	1
ENGL 1105, 1106*	Freshman English	3	3
MATH 1015, 1016*	Elementary Calculus I	3	3
	Electives <sup>‡</sup>	3	4
	Semester Total	14	15
Second Year			
CHEM 2154*	Analytical Chemistry for Chem Majors	4	-
CHEM 2164*	Analytical Chemistry for Chem Majors Lab	1	-
CHEM 2565, 2566*	Principles of Organic Chemistry	3	3
CHEM 2545, 2546*	Organic Chemistry Lab	1	1
CHEM 4014 <sup>†</sup>	Survey of the Chemical Literature	-	1
CHEM 2424	Descriptive Inorganic Chemistry	-	3
MATH 2015, 2016*	Elementary Calculus II	3	3
PHYS 2205,* 2206	General Physics	3	3
PHYS 2215,* 2216	General Physics Lab	1	1
	Semester Total	16	15
Third Year			
CHEM 4615, 4616	Physical Chemistry for Life Sciences	3	3
CHEM 3625	Physical Chemistry Lab	-	1
STAT or CS	Statistics or Computer Science (not CS 1004)	3	-
	Electives <sup>‡</sup>	9	11
	Semester Total	15	15
Fourth Year			
CHEM 4xxx, 4xxx	CHEM/BIOC/CHE Electives, 3000-level or higher	3	3
	Electives <sup>‡</sup>	12	12
	Semester Total	15	15

\* For "satisfactory progress toward degree" these courses and their prerequisites must be completed by the time the student has attempted 72 hours.

† This course satisfies part of the University Writing-Intensive and ViEWS (Visual Expression, Written and Spoken) communication requirement. **Note that one additional Writing-Intensive or ViEWS course is required.**

‡ Electives must include "Curriculum for Liberal Education" requirements (Area 2: two 3-credit courses; Area 3: two 3-credit courses; Area 6: one 3-credit course; and Area 7: one 3-credit course). See the guidebook at <http://www.uaac.vt.edu/coreguides/> for specific courses in each area.

Credit hours and GPA requirements: Graduation requires completion of a minimum of 120 credit hours with a GPA of 2.0 or greater for all hours attempted. In addition, students must have an in-major GPA of 2.0 or greater. The in-major GPA is calculated from all chemistry courses except that not more than 6 hours of CHEM 2974, 4974, and 4994 will be included.

Prerequisites: The course sequence suggested above places required courses after their prerequisites. A student taking a course out of the recommended sequence should check the course catalog for the course prerequisites before enrolling.

Language study requirement: The College of Science language requirement may be met by:

- (1) Completing 3 units of a single foreign or classical language in high school;
- (2) Earning 6 semester hours of college-level foreign or classical language credit or American Sign Language; or
- (3) Receiving credit-by-examination for a foreign or classical language or American Sign Language. (See the Undergraduate Catalog for more information.)

Credits to satisfy the Language Study Requirement are in addition to the 120-credit graduation requirement for the Chemistry degree.

Substitutions: Students with existing chemistry credits due to transferring into the major, having transfer credits from elsewhere, or from taking summer classes may substitute the non-majors chemistry courses for the majors chemistry courses. These and other common substitutions are given in the table.

Required Courses	Equivalent Substitution
MATH 1015, 1016	MATH 1205
MATH 2015	MATH 1206
MATH 2016	MATH 2214, 2224, or 2514
PHYS 2205, 2215	PHYS 2305
PHYS 2206, 2216	PHYS 2306
CHEM 1055	CHEM 1074 or CHEM 1035
CHEM 1065	CHEM 1084 or CHEM 1045
CHEM 1056	CHEM 1036
CHEM 1066	CHEM 1046
CHEM 2154	CHEM 2114 or CHEM 3114
CHEM 2164	CHEM 2124 or CHEM 3124
CHEM 2545, 2546	CHEM 2555
CHEM 2565	CHEM 2535
CHEM 2566	CHEM 2536
CHEM 4615	CHEM 3615
CHEM 4616	CHEM 3616
CHEM 2424	CHEM 4424 or CHEM 4404 (3616 or 4616 prerequisite)