

**College of Science
Department of Chemistry
Bachelor of Arts Checksheet
(for students graduating in Calendar Year 2013) ¹**

PART 1: CURRICULUM FOR LIBERAL EDUCATION (CLE) REQUIREMENTS

(CLE requirements and approved courses are available online:

<http://www.cle.prov.vt.edu/guides/index.html>)

(credit hours in parentheses)

- | | | |
|-------------|--|---|
| I. | credits + ViEWS
ENGL 1105-1106 ¹ Freshman English
& ViEWS requirement ² | Writing and Discourse (Area 1: 6
(3) _____, (3) _____) |
| II. | Ideas, Cultural Traditions, and Values (Area 2: 6 credits required)
(Select from approved CLE courses) | (3) _____, (3) _____ |
| III. | 6 credits required
(Select from approved CLE courses) | Society and Human Behavior (Area 3:
(3) _____, (3) _____) |
| IV. | Scientific Reasoning and Discovery (Area 4) ⁴
<i>Fulfilled by courses required for degree.</i> | |
| V. | (Area 5) ⁵
<i>Fulfilled by courses required for degree.</i> | Quantitative and Symbolic Reasoning |
| VI. | Experience (Area 6: 3 credits required)
(Select from approved CLE courses; must be a three-credit course.) | Creativity and Aesthetic
(3) _____ |
| VII. | (Area 7: 3 credits required)
(Select from approved CLE courses) | Critical Issues in a Global Context
(3) _____ |

PART 1: (CLE) credit hour requirement:

24 credits

PART 2: COLLEGE AND DEPARTMENT REQUIREMENTS

- | | | |
|------------|--|---|
| I. | | Chemistry Courses (34 credits) |
| | CHEM 1055-1056 ^{1,2} General Chemistry for Majors | (4) _____, (4) _____ |
| | MINIMUM GRADE REQUIREMENT: Effective Fall 2009, Chemistry majors must earn a grade of "C" (2.0) or better in CHEM 1055 and CHEM 1056. | |
| | CHEM 1065-1066 ² General Chemistry for Majors lab | (1) _____, (1) _____ |
| | CHEM 2154 ² Analytical Chemistry for Majors | (4) _____ |
| | CHEM 2164 ² Analytical Chemistry for Majors lab | (1) _____ |
| | CHEM 2424 Descriptive Inorganic Chemistry | (3) _____ |
| | CHEM 2565-2566 ^{1,2} Principles of Organic Chemistry | (3) _____, (3) _____ |
| | MINIMUM GRADE REQUIREMENT: Effective Fall 2009, Chemistry majors must earn a grade of "C" (2.0) or better in CHEM 2565 to take CHEM 2566. | |
| | CHEM 2545-2546 ² Organic Chemistry lab | (1) _____, (1) _____ |
| | CHEM 4615-4616 Physical Chemistry for Life Sciences | (3) _____, (3) _____ |
| | CHEM 3625 Physical Chemistry lab | (1) _____ |
| | CHEM 4014 ³ Survey of Chemical Literature | (1) _____ |
| II. | | Mathematics Courses (12 credits) |
| | MATH 1015-1016 ^{2,6} Elementary Calculus I | (3) _____, (3) _____ |

MATH 2015^{2,5,7}-2016^{2,5,8} Elementary Calculus II

(3) _____, (3) _____

III. Physics Courses (8 credits)

PHYS 2205² - 2206⁹ General Physics

(3) _____, (3) _____

PHYS 2215² - 2216¹⁰ General Physics Lab

(1) _____, (1) _____

IV. Restricted Electives (11 credits)

STAT or CS course	Statistics or Computer Science elective <i>NOT CS 1004</i>	(3) _____
3xxx-4xxx	CHEM/BCHM/BIOC/CHE electives <i>3000-level or higher</i>	(3) _____, (3) _____
CHEM ViEWS ²	Additional ViEWS requirement	(2-3) _____

V. FREE ELECTIVES (sufficient to achieve 120 credit graduation requirement or more)

() _____	() _____	() _____	() _____
() _____	() _____	() _____	() _____
() _____	() _____	() _____	() _____
() _____	() _____	() _____	() _____

PART 2: College and department credit hour requirement: 96 credits

NOTES:

- MINIMUM GRADE REQUIREMENT: Effective Fall 2009, Chemistry majors must earn a grade of “C” (2.0) or better in CHEM 1055, 1056, and 2565. If a chemistry major fails to earn a “C” (2.0) or better in CHEM 1055 he or she must either retake this class (and earn the minimum grade) **or** take CHEM 1035-1036, *General Chemistry*, to remain in good standing for a chemistry degree.
 - If the chemistry major elects to take CHEM 1035-1036, a minimum grade of “B” (3.0) is required in both in order to enroll in CHEM 2565 and progress towards the **B.S.** degree.
 - If the chemistry major elects to take CHEM 1035-1036, a minimum grade of “C” (2.0) is required in both in order to enroll in CHEM 2565 and progress towards the **B.A.** degree.
- For “satisfactory progress towards degree,” these courses and their prerequisites must be completed by the time the student has attempted 72 hours.
- CHEM 4014 satisfies part of the University’s ViEWS (Visual Expression, Writing and Speaking) requirement. **Please note that one additional ViEWS course is required.** B.A. majors who wish to complete their ViEWS requirements in Chemistry may enroll in the second semester of Physical Chemistry lab (CHEM 3626) or take three credits of Undergraduate Research with an oral presentation at the Chemistry Undergraduate Symposium.
- PHYS 2206 and PHYS 2216 satisfy CLE Area 4.
- MATH 2015 and MATH 2016 satisfy CLE Area 5.
- MATH 1205 may be substituted for MATH 1015 and MATH 1016.
- MATH 1206 may be substituted for MATH 2015.
- MATH 2214 (MATH 1114 and MATH 1206 OR 2015 prerequisite)
OR MATH 2224 (MATH 1224 and MATH 1206 OR 2015 prerequisite)
may be substituted for MATH 2016.
- PHYS 2305 (MATH 1205 prerequisite) may be substituted for PHYS 2205 and PHYS 2215.
- PHYS 2306 (MATH 1206 prerequisite) may be substituted for PHYS 2206 and PHYS 2216.

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: This checksheet has no hidden prerequisites, although some of the courses listed are prerequisites for other courses. Please see your advisor or consult the Undergraduate Course Catalog for more information.

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 chemistry credits due to transferring into the major, taking summer classes, or transferring credits from elsewhere may substitute the non-majors chemistry courses for the majors chemistry

courses. Course substitutions must be approved by the Chemistry Department's Director of Undergraduate Programs.

College of Science
 Department of Chemistry
 Bachelor of Arts (B.A.) in Chemistry
 RECOMMENDED SCHEDULE

First Year		Fall	Spring
CHEM 1055, 1056	General Chemistry for Majors	4	4
CHEM 1065, 1066	General Chemistry for Majors Lab	1	1
ENGL 1105, 1106	Freshman English	3	3
MATH 1015, 1016	Elementary Calculus I	3	3
	Electives	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	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	9	11
	Semester Total	15	15
Fourth Year			
CHEM 4xxx, 4xxx	CHEM/BIOC/CHE Electives, 3000-level or higher	3	3
	Electives	12	12
	Semester Total	15	15