

**College of Science  
Department of Chemistry  
Bachelor of Science Checksheet  
(for students graduating in Calendar Year 2013) <sup>1</sup>**

**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)*

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

**PART 1: (CLE) credit hour requirement:**

**24 credits**

**PART 2: COLLEGE AND DEPARTMENT REQUIREMENTS**

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|--|----------------------|
| <b>I. Chemistry Courses (46 credits)</b>   |                      |
| CHEM 1055-1056 <sup>1,2</sup> General Chemistry for Majors   | (4) _____, (4) _____ |
| <u>MINIMUM GRADE REQUIREMENT:</u> Effective Fall 2009, Chemistry majors must earn a grade of "C" (2.0) or better in CHEM 1055 and in CHEM 1056.  |                      |
| CHEM 1065-1066 <sup>1,2</sup> General Chemistry for Majors lab   | (1) _____, (1) _____ |
| CHEM 2154 <sup>2</sup> Analytical Chemistry for Majors   | (4) _____            |
| CHEM 2164 <sup>2</sup> Analytical Chemistry for Majors lab   | (1) _____            |
| CHEM 2424 Descriptive Inorganic Chemistry  | (3) _____            |
| CHEM 2565 <sup>1,2</sup> -2566 <sup>2</sup> Principles of Organic Chemistry  | (3) _____, (3) _____ |
| <u>MINIMUM GRADE REQUIREMENT:</u> Effective Fall 2009, Chemistry majors must earn a grade of "C" (2.0) or better in CHEM 2565 to take CHEM 2566. |                      |
| CHEM 2555 <sup>2</sup> -2556 Organic Syn-Tech lab  | (2) _____, (2) _____ |
| CHEM 3615-3616 Physical Chemistry  | (3) _____, (3) _____ |
| CHEM 3625-3626 <sup>3</sup> Physical Chemistry lab   | (1) _____, (1) _____ |
| CHEM 4014 <sup>3</sup> Survey of Chemical Literature   | (1) _____            |
| CHEM 4114 Instrumental Analysis  | (3) _____            |
| CHEM 4124 Instrumental Analysis Lab  | (1) _____            |
| CHEM 4404 Physical Inorganic Chemistry   | (3) _____            |
| CHEM 4414 Inorganic Synthesis & Techniques lab   | (2) _____            |
| <b>II. Mathematics Courses (16 credits)</b>  |                      |
| MATH 1114 <sup>2</sup> Elementary Linear Algebra   | (2) _____            |
| MATH 1224 <sup>2</sup> Vector Geometry   | (2) _____            |
| MATH 1205-1206 <sup>2</sup> Calculus   | (3) _____, (3) _____ |
| MATH 2214 Introduction to Differential Equations   | (3) _____            |
| MATH 2224 <sup>2</sup> Multivariable Calculus  | (3) _____            |



**College of Science**  
 Department of Chemistry  
 Bachelor of Science (B.S.) 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 1114	Elementary Linear Algebra	2	-
MATH 1224	Vector Geometry	-	2
MATH 1205, 1206	Calculus	3	3
	Electives	3	3
	Semester Total	16	16
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 2555	Organic Synthesis & Techniques Lab	-	2
CHEM 4014	Survey of the Chemical Literature	-	1
CHEM 2424	Descriptive Inorganic Chemistry	-	3
MATH 2214	Introduction to Differential Equations	-	3
MATH 2224	Multivariable Calculus	3	-
PHYS 2305, 2306	Foundations of Physics	4	4
	Semester Total	15	16
Third Year			
CHEM 2556	Organic Synthesis & Techniques Lab	2	-
CHEM 3615, 3616	Physical Chemistry	3	3
CHEM 3625	Physical Chemistry Lab	-	1
BCHM 3114 or 4115	biochemistry elective	3	-
STAT or CS	Statistics or Computer Science (not CS 1004)	-	3
	Electives	6	8
	Semester Total	14	15
Fourth Year			
CHEM 3626	Physical Chemistry Lab	1	-
CHEM 4114	Instrumental Analysis	3	-
CHEM 4124	Instrumental Analysis Lab	1	-
CHEM 4404	Physical Inorganic Chemistry	3	-
CHEM 4414	Inorganic Synthesis & Techniques Lab	-	2
CHEM 4xxx	CHEM/BCHM/CHE elective, 4000-level or higher	-	3
	Electives	6	9
	Semester Total	14	14