

# Chemistry (2012-2013)

## Environmental Emphasis

This is a **general curriculum** guide and is not applicable to every student and is not a replacement for meeting with your advisor.

### -Student needs MTH 110 prerequisite-

Fall Semester – Year One	credits	Winter Semester – Year One	credits
MTH 110: Algebra	4	CHM 115: Principles of Chemistry I ( <i>Gen Ed</i> )	5
WRT 150: Strategies in Writing	4	MTH 122: College Algebra ( <i>Gen Ed</i> )	3
Track Course <sup>1</sup>	4	MTH 123: Trigonometry	3
Gen Ed.	3	Gen Ed.	3
<b>Total</b>	<b>15</b>	<b>Total</b>	<b>14</b>
Spring Semester – Year One	credits	Summer Semester – Year One	credits
CHM 116: Principles of Chemistry II	5		
Fall Semester – Year Two	credits	Winter Semester – Year Two	credits
CHM 245: Principles of Organic I <sup>2</sup>	3	CHM 222: Quantitative Analysis	3
CHM 246: Principles of Organic I Lab	1	CHM 247: Principles of Organic II <sup>2</sup>	3
MTH 201: Calculus I	5	CHM 248: Principles of Organic II Lab	1
Gen Ed.	3	CIS 150: Introduction to Computing	3
Gen Ed.	3	PHY 220: General Physics I <sup>6</sup>	5
<b>Total</b>	<b>15</b>	<b>Total</b>	<b>15</b>
Fall Semester – Year Three	credits	Winter Semester – Year Three	credits
CHM 391: Chemistry Seminar I <sup>3</sup>	0	CHM 225: Instrumental Analysis I	3
PHY 221: General Physics II <sup>6</sup>	5	CHM 321: Environmental Chemistry	3
STA 215: Introductory Applied Statistics	3	CHM 391: Chemistry Seminar I <sup>3</sup>	1
Track Course <sup>1</sup>	3	Track Course <sup>1</sup>	3
Gen Ed. or Theme	3	Gen Ed.	3
<b>Total</b>	<b>14</b>	<b>Total</b>	<b>16*</b>
Fall Semester – Year Four	credits	Winter Semester – Year Four	credits
CHM 322: Environmental Chemistry Analysis (Capstone) <sup>5</sup>	3	CHM 352: Applied Physical Chemistry (SWS) <sup>6</sup>	1
CHM 351: Introduction to Physical Chemistry <sup>6</sup>	3	CHM 491: Chemistry Seminar II	1
CHM 491: Chemistry Seminar II <sup>3</sup>	0	OSH 414: Environmental Safety and Health Regulations	3
CHM Elective <sup>4</sup>	3	Elective	3
Track Course <sup>1</sup>	3	Gen Ed. or Theme	3
Gen Ed. or Theme	3	Gen Ed. or Theme	3
<b>Total</b>	<b>15</b>	<b>Total</b>	<b>14</b>

**\*The block tuition rate is for 12-15 credits. You will pay additional tuition for any credits over 15.**

### Notes:

<sup>1</sup> The environmental emphasis also requires specialization in a discipline outside of chemistry. Students must choose one of the following tracks to complete the emphasis: **a) Biology Track** – BIO 120 and BIO 215, and two of the following: BIO 338, BIO 357, BIO 440. **b) Natural Resources Management Track** – GEO 111 and NRM 281, and two of the following: GPY 307, NRM 320, NRM 451, NRM 452. **c) Geology Track** – GEO111 and GEO 112, and two of the following: GEO 440, GEO 445, GPY 307.

<sup>2</sup> CHM 241 and CHM 242 may substitute for CHM 245/246/247/248. However, students must also take CHM 249 plus 28 additional lab-hour electives.

<sup>3</sup> Required of all chemistry majors. Two semesters of seminar are required for one credit. Students should register for zero credits in their first semester and one credit in their second semester.

<sup>4</sup> Chemistry elective must be taken at the 300-400 level and be 2-3 credits (approval required).

<sup>5</sup> Offered fall semesters of odd-numbered years.

<sup>6</sup> Students interested in Graduate School should take CHM 356, 353, 358 and 355 or 455 instead of CHM 351 and 352. PHY 230/231 should be taken in place of PHY 220/221 and MTH 202 should also be taken.

### Special Notes:

A. This is a **general** curriculum guide and will not work for everyone, especially those students who have AP, IB or CLEP credit. For students without high school chemistry, CHM 109 is strongly encouraged.

B. Courses that have (*Gen Ed*) written after them are classes that are required in the major and also fulfill a section of the general education program.

C. Students must complete a total of two courses with an SWS attribute.

**It is imperative to meet with your faculty advisor or an advisor in the CLAS Academic Advising Center early in your career.**

**The CLAS Academic Advising Center is located in C-1-140 MAK, 616-331-8585.**

Online at: <http://www.gvsu.edu/clasadvising>

Prepared by CLAS Academic Advising Center – 1/23/12