# Chemistry (2011-2012)

## Technical Emphasis

(For those students not planning to go to graduate school in chemistry)

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 (Gen Ed)	5
WRT 150: Strategies in Writing	4	MTH 122: College Algebra (Gen Ed)	3
Gen Ed.	3	MTH 123: Trigonometry	3
Gen Ed.	3	Gen Ed.	3
Total	14	Total	14
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>1</sup>	3	CHM 222: Quantitative Analysis	3
CHM 246: Principles of Organic I Lab	1	CHM 247: Principles of Organic II <sup>1</sup>	3
MTH 201: Calculus I	5	CHM 248: Principles of Organic II Lab	1
Gen Ed.	3	STA 215: Introductory Applied Statistics	3
Gen Ed.	3	CIS 160: Programming with Visual Basic <b>OR</b>	3
		CIS 162: Computer Science I	4
Total	15	Total	13-14
Fall Semester – Year Three	credits	Winter Semester – Year Three	credits
PHY 220: General Physics I	credits 5	CHM 225: Instrumental Analysis I	3
PHY 220: General Physics I	5 0 3	CHM 225: Instrumental Analysis I	3
PHY 220: General Physics I CHM 391: Chemistry Seminar I <sup>2</sup>	5 0 3 3	CHM 225: Instrumental Analysis I CHM 311: Green Chemistry and Industrial Processes CHM 352: Applied Physical Chemistry (SWS) CHM 391: Chemistry Seminar I <sup>2</sup>	3
PHY 220: General Physics I CHM 391: Chemistry Seminar I <sup>2</sup> CHM 351: Introduction to Physical Chemistry	5 0 3	CHM 225: Instrumental Analysis I CHM 311: Green Chemistry and Industrial Processes CHM 352: Applied Physical Chemistry (SWS)	3
PHY 220: General Physics I CHM 391: Chemistry Seminar I <sup>2</sup> CHM 351: Introduction to Physical Chemistry Gen Ed. or Theme	5 0 3 3	CHM 225: Instrumental Analysis I CHM 311: Green Chemistry and Industrial Processes CHM 352: Applied Physical Chemistry (SWS) CHM 391: Chemistry Seminar I <sup>2</sup>	3 3 1 1
PHY 220: General Physics I CHM 391: Chemistry Seminar I <sup>2</sup> CHM 351: Introduction to Physical Chemistry Gen Ed. or Theme Gen Ed. or Theme	5 0 3 3	CHM 225: Instrumental Analysis I CHM 311: Green Chemistry and Industrial Processes CHM 352: Applied Physical Chemistry (SWS) CHM 391: Chemistry Seminar I <sup>2</sup> PHY 221: General Physics II Gen Ed.  Total	3 3 1 1 5
PHY 220: General Physics I CHM 391: Chemistry Seminar I <sup>2</sup> CHM 351: Introduction to Physical Chemistry Gen Ed. or Theme Gen Ed. or Theme  Total  Fall Semester – Year Four	5 0 3 3 3	CHM 225: Instrumental Analysis I CHM 311: Green Chemistry and Industrial Processes CHM 352: Applied Physical Chemistry (SWS) CHM 391: Chemistry Seminar I <sup>2</sup> PHY 221: General Physics II Gen Ed.  Total  Winter Semester – Year Four	3 3 1 1 5 3
PHY 220: General Physics I CHM 391: Chemistry Seminar I <sup>2</sup> CHM 351: Introduction to Physical Chemistry Gen Ed. or Theme Gen Ed. or Theme  Total  Fall Semester – Year Four CHM 491: Chemistry Seminar II <sup>2</sup>	5 0 3 3 3 14 credits	CHM 225: Instrumental Analysis I CHM 311: Green Chemistry and Industrial Processes CHM 352: Applied Physical Chemistry (SWS) CHM 391: Chemistry Seminar I <sup>2</sup> PHY 221: General Physics II Gen Ed.  Total Winter Semester – Year Four CHM 344: Qualitative Organic Analysis	3 3 1 1 5 3 16*
PHY 220: General Physics I CHM 391: Chemistry Seminar I <sup>2</sup> CHM 351: Introduction to Physical Chemistry Gen Ed. or Theme Gen Ed. or Theme  Total  Fall Semester – Year Four  CHM 491: Chemistry Seminar II <sup>2</sup> Upper Level Chemistry Elective <sup>3</sup>	5 0 3 3 3 14 credits 0 3	CHM 225: Instrumental Analysis I CHM 311: Green Chemistry and Industrial Processes CHM 352: Applied Physical Chemistry (SWS) CHM 391: Chemistry Seminar I <sup>2</sup> PHY 221: General Physics II Gen Ed.  Total  Winter Semester – Year Four  CHM 344: Qualitative Organic Analysis CHM 491: Chemistry Seminar II <sup>2</sup>	3 3 1 1 5 3 16* credits 3 1
PHY 220: General Physics I CHM 391: Chemistry Seminar I <sup>2</sup> CHM 351: Introduction to Physical Chemistry Gen Ed. or Theme Gen Ed. or Theme  Total  Fall Semester – Year Four  CHM 491: Chemistry Seminar II <sup>2</sup> Upper Level Chemistry Elective <sup>3</sup> CHM 425: Instrumental Analysis II (Capstone) <sup>4</sup>	5 0 3 3 3 14 credits 0 3 3	CHM 225: Instrumental Analysis I CHM 311: Green Chemistry and Industrial Processes CHM 352: Applied Physical Chemistry (SWS) CHM 391: Chemistry Seminar I <sup>2</sup> PHY 221: General Physics II Gen Ed.  Total  Winter Semester – Year Four  CHM 344: Qualitative Organic Analysis CHM 491: Chemistry Seminar II <sup>2</sup> Gen Ed. or Theme	3 3 1 1 5 3 16* credits 3 1 3
PHY 220: General Physics I CHM 391: Chemistry Seminar I <sup>2</sup> CHM 351: Introduction to Physical Chemistry Gen Ed. or Theme Gen Ed. or Theme  Total  Fall Semester – Year Four  CHM 491: Chemistry Seminar II <sup>2</sup> Upper Level Chemistry Elective <sup>3</sup>	5 0 3 3 3 14 credits 0 3 3	CHM 225: Instrumental Analysis I CHM 311: Green Chemistry and Industrial Processes CHM 352: Applied Physical Chemistry (SWS) CHM 391: Chemistry Seminar I <sup>2</sup> PHY 221: General Physics II Gen Ed.  Total  Winter Semester – Year Four  CHM 344: Qualitative Organic Analysis CHM 491: Chemistry Seminar II <sup>2</sup>	3 3 1 1 5 3 16* credits 3 1 3 3
PHY 220: General Physics I CHM 391: Chemistry Seminar I <sup>2</sup> CHM 351: Introduction to Physical Chemistry Gen Ed. or Theme Gen Ed. or Theme  Total  Fall Semester – Year Four  CHM 491: Chemistry Seminar II <sup>2</sup> Upper Level Chemistry Elective <sup>3</sup> CHM 425: Instrumental Analysis II (Capstone) <sup>4</sup>	5 0 3 3 3 14 credits 0 3 3	CHM 225: Instrumental Analysis I CHM 311: Green Chemistry and Industrial Processes CHM 352: Applied Physical Chemistry (SWS) CHM 391: Chemistry Seminar I <sup>2</sup> PHY 221: General Physics II Gen Ed.  Total  Winter Semester – Year Four  CHM 344: Qualitative Organic Analysis CHM 491: Chemistry Seminar II <sup>2</sup> Gen Ed. or Theme	3 3 1 1 5 3 16* credits 3 1 3 3 3
PHY 220: General Physics I CHM 391: Chemistry Seminar I <sup>2</sup> CHM 351: Introduction to Physical Chemistry Gen Ed. or Theme Gen Ed. or Theme  Total  Fall Semester – Year Four  CHM 491: Chemistry Seminar II <sup>2</sup> Upper Level Chemistry Elective <sup>3</sup> CHM 425: Instrumental Analysis II (Capstone) <sup>4</sup> Gen Ed. or Theme	5 0 3 3 3 14 credits 0 3 3	CHM 225: Instrumental Analysis I CHM 311: Green Chemistry and Industrial Processes CHM 352: Applied Physical Chemistry (SWS) CHM 391: Chemistry Seminar I <sup>2</sup> PHY 221: General Physics II Gen Ed.  Total  Winter Semester – Year Four  CHM 344: Qualitative Organic Analysis CHM 491: Chemistry Seminar II <sup>2</sup> Gen Ed. or Theme Elective	3 3 1 1 5 3 16* credits 3 1 3 3

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

#### Notes:

### **Special Notes:**

- A. This is a **general** curriculum guide and will not work for everyone, especially those students who have AP or CLEP credit.
- 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. Complete a total of two courses with an SWS attribute. The two SWS courses may not be taken from the same department or school. One must be from outside the student's major unit.

<sup>&</sup>lt;sup>1</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>&</sup>lt;sup>2</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>&</sup>lt;sup>3</sup> Students must select the elective from one of the following chemistry courses: CHM 321, 322, 441, 442, or 461.

<sup>&</sup>lt;sup>4</sup> Offered fall semester.