

## SUGGESTED SCHEDULE OF COURSES and COURSE PLANNING GUIDE

### DEGREE PROGRAM: B.S. CHEMISTRY (\*w/ ACS Certification)

#### FRESHMAN YEAR

<i>Fall Semester</i>	<i>Spring Semester</i>
CHEM 151 Chemical Prin. I (Lec); 3 CR	CHEM 152 Chemical Prin. II (Lec); 3 CR
CHEM 161 Chemical Prin. I Lab; 1 CR	CHEM 162 Chemical Prin. II Lab; 1 CR
MATH 171 Precalculus; 4 CR	MATH 270 Calculus I; 4 CR

Other courses/electives to consider for your Freshman year: **(1)** ENG 111- Writing II; **(2)** BIOL 155, 156, 165, 166; Principles of Biology I and II w/ Labs; **(3)** First Year Values Flag Course [See Registrar/ Student Resources/ General Education Flags: <http://www.clarion.edu/6874/>]; **(4)** Health and/or Personal Performance

#### SOPHOMORE YEAR

<i>Fall Semester</i>	<i>Spring Semester</i>
CHEM 251 Organic Chemistry I (Lec); 3 CR	CHEM 252 Organic Chemistry II (Lec); 3 CR
CHEM 261 Organic Chemistry I Lab; 1 CR ‡	CHEM 262 Organic Chemistry II Lab; 1 CR ‡
MATH 271 Calculus II; 4 CR	CHEM 265 Inorganic Chemistry I (Lec); 3 CR
	CHEM 266 Inorganic Chemistry I Lab; 1 CR
Physics Sequence: PH 251 General Physics I; 4 CR <b>OR</b> PH 258 Intro. Physics I w/ lab (PH 268); 4 CR	Physics Sequence: PH 252 General Physics II; 4 CR <b>OR</b> PH 259 Intro. Physics II w/ lab (PH 269); 4 CR

In addition to completing your Physics and Math requirements, other courses/electives to consider for your Sophomore year: **(1)** Liberal Knowledge Gen. Ed. requirements; **(2)** Second Values Flag Course [See Registrar/ Student Resources/ General Education Flags: <http://www.clarion.edu/6874/>]; **(3)** Health and/or Personal Performance.

#### JUNIOR YEAR

<i>Fall Semester</i>	<i>Spring Semester</i>
CHEM 353 Analytical Chemistry I (Lec); 3 CR	CHEM 358 Analytical Chemistry II (Lec); 3 CR
CHEM 363 Analytical Chemistry I Lab; 1 CR ‡	CHEM 368 Analytical Chemistry II Lab; 1 CR ‡
CHEM 366 Inorganic Chemistry II (Lec); 3 CR	CHEM 257 Organic Spectroscopy; 3 CR ‡
CHEM 367 Inorganic Chemistry II Lab; 1 CR ‡	

Other courses/electives to consider for your Junior year: **(1)** Liberal Knowledge Gen. Ed. requirements; **(2)** Second Values Flag Course [See Registrar/ Student Resources/ General Education Flags: <http://www.clarion.edu/6874/>]; **(3)** If relevant, look at pre-requisites for graduate/ professional school; **(4)** Offered alternate spring semesters: CHEM 359 Advanced Organic Chem. (Lec); 3 CR.

#### SENIOR YEAR

<i>Fall Semester</i>	<i>Spring Semester</i>
CHEM 354 Physical Chemistry I (Lec); 3 CR	CHEM 355 Physical Chemistry II (Lec); 3 CR
CHEM 364 Physical Chemistry I Lab; 1 CR ‡	CHEM 470 Chemistry Seminar; 3 CR
*BCHM 453 Biochemistry I (Lec); 3 CR	*CHEM 466 Chemical Research (opt.); 1-3 CR ‡
*BCHM 463 Biochemistry Lab; 1 CR ‡	
*CHEM 465 Chemical Research (opt.); 1-3 CR ‡	

Other courses/electives to consider for your Senior year: **(1)** Complete Gen. Eds and "Additional required credits in chemistry"; **(2)** Complete ≥120 credits; **(3)** BCHM 454 Biochemistry II (Lec); 3 CR; **(4)** Offered alternate spring semesters: CHEM 359 Advanced Organic Chem. (Lec); 3 CR.

\*ACS Certification requires at least 6 semester hours of advanced courses that include sufficient laboratory work to bring the total laboratory hours to 400 (9 lab courses beyond Chem. Prin. as designated with ‡, each lab = 45 hrs); which requires BCHM 463 and either of the following courses in addition to the courses listed above: CHEM 461 and/or CHEM 465/466.