

## Chemistry

### Faculty:

Karen G. McPherson, Chairperson  
 Kenneth B. Dedeian  
 Michael B. Garrett  
 Yun Li  
 Henry S. Luftman  
 Ronald T. Petruso  
 Benjamin E. Rusiloski, III  
 William P. Stephens  
 Charles W. Weber

The study of chemistry includes the composition, structure and properties of matter in its various solid, liquid and gaseous forms. Chemistry enters every area of our existence and will continue to play a key role in the age of high technology. The need for chemists in so many related and vastly different areas makes the field of chemistry very broad. Our program addresses that diversity.

The Chemistry and Biochemistry Department is listed among the colleges approved by the American Chemical Society. Majors who satisfactorily complete the program outlined below will be certified by the American Chemical Society.

A chemical education first and foremost must consist of certain defined disciplines that establish a strong foundation in chemical knowledge. The curriculum of the department prepares the student for a career in chemistry at the baccalaureate level and provides the background for further study at the graduate level.

Many attractive positions are available for the trained chemist in the inorganic, analytical, organic, physical, agricultural, biochemical and pharmaceutical chemical fields. Chemists study and work in the fields of medicine, nutrition, drugs, polymers, electronics, fuels, food and biotechnology. With a good background in chemistry, a student may look forward to employment and career opportunities which are rewarding both in salary and satisfaction. Graduates from DVC with a degree in Chemistry have found positions as: Chemist, Lab Technician, Associate Chemist, Research Assistant, Sales and Marketing Research, and Instrumentation Specialist.

The total number of credits required for graduation with a degree in Chemistry is 124 plus 4 credits earned for successful completion of the Employment Program.

## RECOMMENDED COURSE SEQUENCE

### FRESHMAN YEAR

#### First Semester

Course No.	Course Title	Credits
CH 1103	General Chemistry I.....	3
CH 1103L	General Chemistry I Lab.....	1
EN 1101	English I.....	3
LA 1020	Skills for College Success.....	1
LA 2005	Speech.....	3
MP 1203	Elementary Functions.....	3
PE 1109	Physical Education I.....	1
<b>Total</b>		<b>15</b>

#### Second Semester

CH 1203	General Chemistry II.....	3
CH 1203L	General Chemistry II Lab.....	1
EN 1201	English II.....	3
IT 1011	Information Technology Concepts.....	1.5
IT 1012	Computer Applications.....	1.5
MP 1204	Calculus I.....	4
PE 1209	Physical Education II.....	1
<b>Total</b>		<b>15</b>

#### Employment Program

CH 2370	Employment Program.....	1-2
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### SOPHOMORE YEAR

#### First Semester

Course No.	Course Title	Credits
BA 2008	Macroeconomics.....	3
CH 2120	Organic Chemistry I.....	3
CH 2120L	Organic Chemistry I Lab.....	1
MP 2119	Physics I or Ic.....	4
MP 2121	Calculus II.....	4
<b>Total</b>		<b>15</b>

#### Second Semester

CH 2220	Organic Chemistry II.....	3
CH 2220	Organic Chemistry II Lab.....	1
EN 2028	Introduction to Literature.....	3
MP 2219	Physics II or IIc.....	4
MP 2223	Ordinary Differential Equations.....	3
	Humanities Area.....	3
<b>Total</b>		<b>17</b>

#### Employment Program

CH 2370	Employment Program.....	1-2
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**JUNIOR YEAR**

**First Semester**

<b>Course No.</b>	<b>Course Title</b>	<b>Credits</b>
*CH 3122	Radioisotope Techniques or	
MP 3124	Physics IIIc .....	3
CH 3130	Analytical Chemistry .....	4
CH 3125	Physical Chemistry I .....	3
CH 3125L	Physical Chemistry I Lab .....	1
	Social Science Area .....	3
<b>Total</b> .....		<b>15</b>

**Second Semester**

CH 2203	Biochemistry .....	3
CH 2203L	Biochemistry Lab.....	1
CH 3223	Instrumental Analysis.....	4
CH 3224	Physical Chemistry II .....	3
CH 3224L	Physical Chemistry II Lab .....	1
*MP 3231	Statistics for Science or	
CH 3220	Advanced Organic Chemistry .....	3
<b>Total</b> .....		<b>15</b>

\* Students may substitute courses of equal credits in the sciences, computers, mathematics, or Business Administration with permission of Advisor and Department Chairperson.

**SENIOR YEAR**

**First Semester**

<b>Course No.</b>	<b>Course Title</b>	<b>Credits</b>
CH 4117	Organic Analysis .....	4
CH 4126	Advanced Inorganic Chemistry .....	3
*CH 3122	Radioisotope Techniques or	
MP 3124	Physics IIIc .....	3
LA 4037	Non-Western Societies .....	3
	Elective.....	3
<b>Total</b> .....		<b>16</b>

**Second Semester**

CH 3157	Advanced Inorganic Lab.....	2
CH 3220	Advanced Organic Chemistry or	
*MP 3231	Statistics for Science.....	3
CH 4241	Advanced Physical Chemistry .....	3
LA 1060	Introduction to the Arts .....	3
	Elective.....	2
<b>Total</b> .....		<b>16</b>

**Social Sciences Area: select one of the following:**

LA 2012	Introduction to Sociology.....	3
LA 2036	Introduction to Psychology .....	3
LA 4203	Social Psychology and Human Interaction .....	3

**Humanities Area: select two courses from the following:**

LA 2040	Modern History of Western Societies ...	3
LA 2042	Introduction to Philosophy .....	3
LA 2138	History of Western Civilization I.....	3
LA 3032	American History and Government since 1877.....	3
LA 4127	United States Foreign Policy .....	3

**Biotechnology and Biochemistry Minors**

(for Chemistry Majors)

Students majoring in Chemistry may enroll in an interdisciplinary minor including the following recommended courses. Substitutions may be arranged in advance with permission of the Department Chairperson. Check course description for prerequisite requirements.

**Biochemistry Minor**

<b>Course No.</b>	<b>Course Title</b>	<b>Credits</b>
BY 2003	Genetics .....	3
BY 3002	General Microbiology .....	4
BY 4155	Molecular Biology.....	4
CH 4205	Advanced Biochemistry.....	4
<b>Total</b> .....		<b>15</b>

**Biotechnology Minor**

<b>Course No.</b>	<b>Course Title</b>	<b>Credits</b>
BY 2003	Genetics .....	3
BT 3000	Introduction to Biotechnology.....	3
BY 3002	General Microbiology .....	4
FS 3122	Food Engineering I.....	3
FS 4004	Industrial Fermentations .....	3
<b>Total</b> .....		<b>16</b>

**COMPUTER AND BUSINESS INFORMATION SYSTEMS**

**Faculty:**

Guoqi (George) Lu, Chairperson  
Kenneth Lee  
Veronica McGowan  
Andrew Levin

The Computer and Business Information Systems (CBIS) program at Delaware Valley College provides practical skills and a strong theoretical background foundation in areas of computer and business information systems. The program emphasizes the integration of broad business and real-world perspectives, strong analytical and critical thinking skills, interpersonal communication and teamwork skills, and up-to-