

## Chemical Technology

Students in the Chemical Technology curriculum receive a balanced program of practical laboratory training and theoretical concepts in inorganic, organic and analytical chemistry for the Associate in Applied Science (A.A.S.) degree. Graduates of the curriculum will have laboratory skills that will enable them to adjust quickly to industrial laboratory work. They will also have the basic foundation for further professional growth.

Students have an opportunity to use a variety of analytical instruments such as infrared, visible and ultraviolet spectrographs, vapor and liquid phase chromatography and polarography. Most of the instruments are computer interfaced. Exercises in routine instrumental analyses, as well as more challenging problems in such topics as structure determinations, are given.

### STUDENT LEARNING OUTCOMES:

Upon completion of this program graduates will be able to:

- Enter the workforce as entry-level technicians in industrial, research and governmental settings.
- Demonstrate a foundational knowledge of general inorganic and organic chemistry principles and concepts and be able to apply this knowledge to the solution of problems and performance of experiments.
- Demonstrate a basic understanding of analytical and instrumental concepts and techniques and develop complementary practical laboratory skills related to the science of chemistry.
- Effectively collect, interpret, evaluate and communicate scientific data in multiple formats using computer technology as needed.

### PROGRAM ENTRY REQUIREMENTS:

This program is open to interested students, assuming space is available. The curriculum is well aligned with the courses required of students who are planning on a bachelor's degree in chemistry. Students are required to take the College's placement tests at their time of entry.

Students identified as needing developmental course work must satisfactorily complete the appropriate English and mathematics courses as a part of their degree program.

### PROGRAM OF STUDY AND GRADUATION REQUIREMENTS:

A minimum of 62 credits and a grade point average of 2.0 ("C" average) are required for graduation.

## CHEMICAL TECHNOLOGY

Course Number and Name	Prerequisites and Corequisites	Credits	Gen Ed Req.
<b>FIRST SEMESTER</b>			
ENGL 101 – English Composition I		3	ENGL 101
Math 118 – Intermediate Algebra <sup>1</sup>		3	Mathematics
CHEM 121 – College Chemistry I	CHEM 110 or dept head approval	4	Natural Science
Natural Science with Lab Elective <sup>2</sup>		4	
<b>SECOND SEMESTER</b>			
CIS 103 – PC Applications		3	Tech Comp
ENGL 102 – English Composition II	ENGL 101	3	ENGL 102, Info Lit
CHEM 122 – College Chemistry II	CHEM 121	4	
Natural Science with Lab Elective <sup>2</sup>		4	
Social Science Elective		3	Social Sciences
<b>THIRD SEMESTER</b>			
MATH 251 – Statistics for Science <sup>1</sup>	MATH 118	4	
CHEM 213 – Analytical Chemistry	CHEM 122	4	
CHEM 217 – Chemical Literature Seminar	CHEM 122	2	
CHEM 221 – Organic Chemistry I	CHEM 122	5	
<b>FOURTH SEMESTER</b>			
CHEM 207 – Environmental Chemistry	CHEM 122	4	
Humanities Elective		3	Humanities
CHEM 214 – Instrumental Analysis	CHEM 122	4	
CHEM 222 – Organic Chemistry II	CHEM 221	5	
<b>MINIMUM CREDITS NEEDED TO GRADUATE</b>		<b>62</b>	

### General Education Requirements

All General Education requirements are met through required courses (as indicated above) except for the Writing Intensive requirement, the Interpretive Studies requirement and the American/Global Diversity requirement. Therefore, in order to graduate, students in this program must choose one course that is designated Writing Intensive, one course that is designated Interpretive Studies and one course that is designated American/Global Diversity. The same course may be used to fulfill more than one of these requirements. A list of courses that fulfill these requirements and a more detailed explanation of the College's general education requirements appear elsewhere in this Catalog and on [www.ccp.edu](http://www.ccp.edu).

1 Students who qualify are encouraged to take MATH 161 or higher courses in a calculus-related sequence in place of MATH 118 and MATH 251.

2 CHEM 105, 110, 101 or 102 may not be used to meet the Lab Science elective.

### For More Information Contact:

The Division of Math, Science and Health Careers, Room W2-7, 1700 Spring Garden Street, Philadelphia, PA 19130, Telephone (215) 751-8430; or the College Information Center (215) 751 8010.