

# Chemical Technology

## Degree Type

Associate in Applied Science

## Type

Career

Division of STEAM

Associate Dean: Bradley Cole

Chemical technicians work in research, process improvement, product development, measurement documentation, environmental testing, and quality control. They help design, setup, and analyze experiments in research, product/process development and quality control. They select and order materials and equipment, operate sophisticated instruments, and perform physical and chemical analyses on raw materials and products. Chemical technicians do experiments to obtain reliable data and use computers to analyze data and communicate information. They often work with other professionals to solve problems. The Chemical Technology program is flexible. It emphasizes fundamentals and practical applications in order to train students for immediate employment and prepares them to continue to work towards an advanced degree. Students will have the opportunity to participate in a work internship that will allow them to gain on-the-job experience and skills that will enhance their ability to procure employment after graduation. Students in the Chemical Technology program may be required to complete a criminal background check, child abuse screening, and/or drug testing due to the requirements of their internship location. Acceptable results will be determined by the internship site.

Graduates will be able to:

- Operate laboratory instruments, perform reliable scientific measurements;
- Use chemical and technical language, design experiments, evaluate experimental design;
- Prepare samples for experiments;
- Write standard operating procedures (SOPs);
- Document results of experiments;
- Analyze scientific data;
- Use quality control measures in scientific experiments;
- Perform common chemical calculations, and draw chemical structures using computer programs;
- They will locate information in databases and evaluate scientific journal articles.

Opportunities for employment are excellent and feedback from those who have transferred to institutions such as Syracuse, RIT, University of Rochester, Penn State, Cornell, and Alfred indicates CCC students are well prepared academically.

## Program Requirements

Item #	Title	Credits
ENGL 1110	College Communication	3.0
ENGL 1020	College Composition II	3.0
	Social Sciences Elective	3
	Diversity, Equity, Inclusion, Social Justice (DEI/SJ) Course	3
	MATH 1215 or higher	6
MATH 1310	Elementary Statistics	4.0
	CHEM 1510 and CHEM 1520 or CHEM 1010 and CHEM 1020	8
CHEM 2010	Organic Chemistry I	0.0-5
CHEM 2020	Organic Chemistry II	0.0-5
CHEM 2033	Analytical Chemistry	0.0-5
CHEM 2043	Chemical Instrumentation	0.0-5
	Chemical Technology Electives	9
	Free Electives	3
	Wellness	2

## Course Sequencing

## First Semester

Intended as a guide for academic planning. It need not be followed exactly or completed in four semesters.

Item #	Title	Credits
ENGL 1110	College Communication	3.0
	MATH 1215 or higher	3
	CHEM 1510 or CHEM 1020	4
	Free Electives	3
	Social Sciences Elective	3
	Wellness (Activity Component)	1

## Second Semester

Item #	Title	Credits
ENGL 1020	College Composition II	3.0
	MATH 1225 or Higher	3
	CHEM 1520 or CHEM 1010	4
MATH 1310	Elementary Statistics	4.0
	Diversity, Equity, Inclusion, Social Justice (DEI/SJ) Course	3

## Third Semester

Chemical Technology Elective: GEOL 1510 or MECH 1050 recommended.

Item #	Title	Credits
CHEM 2010	Organic Chemistry I	0.0-5
CHEM 2033	Analytical Chemistry	0.0-5
	Chemical Technology Elective	3
	Wellness (Awareness Component)	1

## Fourth Semester

Chemical Technology Electives: CHTK 2960 and SCIN 2000 recommended.

Item #	Title	Credits
CHEM 2020	Organic Chemistry II	0.0-5
CHEM 2043	Chemical Instrumentation	0.0-5
	Chemical Technology Electives	6

## Footnotes

\*CHEM 1010/1020 and 1510/1520: For those who have recently successfully completed high school chemistry, CHEM 1510-1520 should be selected.

\*Chemical Technology Electives: Select **three (3)** courses from the following: BIOL 1510 or higher; CHTK 2960; ELEC 1010 or higher; ENGR 1030 or higher; MECH 1050 or higher; GEOL 1510; MATH 1413 or higher; PHYS 1010 or higher; SCIN 2000, TECH 1110 or 1120. **MECH 1050 or ENGR 1030, GEOL 1510, and SCIN 2000 are recommended.**

\*ENGL 111Q: Students may take ENGL 1010 and SPCH 1080 in place of ENGL 1110.

\* Based on placement, students might be required to take developmental and/or prerequisite classes before taking the required English and Math courses.