

Chemical Technology

Associate in Applied Science Degree

The chemical industry, a major New Jersey employer, is important for the development and manufacturing of such basic items as pharmaceuticals, cosmetic/personal care products, gasoline, plastics, fabrics and foods. Chemical technicians play a vital role in fields involving medical drugs, environmental pollution analysis, cosmetics, chemicals, plastics, alternative energy sources, fabrics and foods. Chemical technicians use analytical techniques, many with state-of-the-art instrumentation, to aid in the development, testing and use of products.

The major purpose of the Chemical Technology Program is to prepare graduates for employment at the technician level for research, testing and quality control laboratories associated with the internationally prestigious pharmaceutical, chemical, personal care products, food industry, environmental, and chemical corporations located in New Jersey.

Students in this program learn modern chemical methods and instrumentation and graduate with both theoretical knowledge and practical training and an Associate in Applied Science degree. This program includes state-of-the-art instrumentation including HPLC, PCR, FTIR and GC.

Career Opportunities

Career opportunities are diverse and varied. Graduates qualify for entry-level positions in research laboratories, quality-control laboratories, pilot plants, chemical production and environmental-monitoring facilities, testing laboratories, as well as forensic laboratories.

Chemical technicians enjoy careers as:

- Chemical research technicians
- Quality control technicians
- Plant control chemists
- Chemical material and product analysts
- Pollution analysts
- Pilot plant supervisors
- Product sales representatives
- Forensic technicians



Contact Information

- **Biology and Chemistry Department**
973-328-5360
Sheffield Hall, Room 208
- **Dr. Maria Isaza**
Chairperson
misaza@ccm.edu
973-328-5360



COUNTY COLLEGE of MORRIS

continued on back...

Graduates can take advantage of employment opportunities offered by prestigious companies located in New Jersey. Other graduates pursue baccalaureate degrees in chemistry or related disciplines at four-year institutions. Many employers will pay for continuing education toward a four-year degree and reward the employee with a pay increase and new classification if an advanced degree is attained. For additional information about career opportunities in chemistry see www.acs.org.

Program Accreditation

The program is reviewed semi-annually by our Industrial Advisory Committee (Industry Alliance) consisting of members from industries in the Morris County area. Program graduates also serve on the committee. Feedback from employers on our graduates indicates that our students are well prepared for their positions.

Faculty

The faculty is committed to providing a quality education for all students and maintains close relationships with students throughout their educational experience. Many faculty members belong to professional organizations, including the American Chemical Society, the American Society of Microbiologists and the Metropolitan Association of College and University Biologists. Several faculty members have been nominated for or won the National Institute for Staff and Organizational Development Excellence Award. Some are involved in research and have published articles in peer-reviewed journals.

In addition to advanced degrees in Biology and Chemistry and professional memberships, many have had industrial experience. The faculty maintains close relationships with local industry partners who support the program with equipment donations and scholarships, hire students in cooperative education programs and after graduation, and serve on the Industrial Advisory Committee.

Cooperative Education

The Biology and Chemistry department works collaboratively with Career Services in providing opportunities to our students for paid and unpaid internships.

Facilities

Our laboratory facilities include not only standard lab equipment, but the most modern instrumentation including:

- Benchtop nuclear magnetic resonance (NMR)
- Gas (GC) and liquid chromatography (HPLC)
- Atomic absorption (AA)
- UV and visible spectroscopy
- Infrared spectroscopy (FTIR)
- Electrophoresis (HPCE)
- Polymerase chain reaction (PCR)
- Fourier transform infrared spectroscopy (FTIR)

During the course of their studies, students use the laboratory instrumentation to analyze real samples. Class sizes are small and students receive individual attention. Supplemental help and free tutoring, if needed, are available in our Tutoring Center.

Scholarships

Some industry-supported scholarships are available.

Transfer Opportunities

Students interested in transferring to other colleges should meet with an academic advisor as well as confer with the office of Transfer Services to learn about transfer programs.

Curriculum

General Education Foundation (20/21 CR)

Communication (6 CR)

English Composition I	3
English Composition II	3

Math-Science-Technology (4 CR)

Statistics or	3
Probability and Statistics	4

Social Science or Humanities (3 CR)

Choose from General Education course list	3
---	---

General Education Electives (8 CR)

Choose from General Education course list	8
---	---

Total General Education Credits	20/21
---------------------------------	-------

Chemical Technology Core (44 CR)

General Chemistry I Lecture	3
General Chemistry I Lab	1
General Chemistry II Lecture	3
General Chemistry II Lab	1
Cell Biology (Fall)	4
Quantitative Chemical Analysis (Fall)	5
Instrumental Methods of Analysis (Spring)	5
Essentials of Organic Chemistry	4
Concepts of Physics	4
Technical Electives	8
Free Electives	6

Total Core Credits	44
--------------------	----

Total Program Credits **64/65**

Note: You must see a faculty advisor to plan your sequence of courses. For the most up-to-date listing of courses, please see the Curriculum Checklist for this program at <https://www.ccm.edu/student-life/campus-services/academic-advisement/curriculum-checksheets/>.