

# Chemistry

Program 21600  
CIP 240101

## Associate in Science Degree in Liberal Arts and Sciences

The Chemistry option of the Liberal Arts and Sciences program prepares students for transfer into baccalaureate programs leading to careers in fields such as industrial chemistry, chemical engineering, chemical sales and service, environmental technology, medicine, pharmacy, and education.

Chemistry graduates transfer to institutions throughout the region, including Rutgers University, The College of New Jersey, Rider University, Delaware Valley College, University of Pennsylvania, Seton Hall University, Syracuse University, Temple University, New Jersey Institute of Technology (NJIT), New York University, Fairleigh Dickinson University, Stevens Institute of Technology, and chiropractic schools. In addition to those who have succeeded in pharmacy, dentistry, medicine, and engineering professions, many graduates have secured employment directly in local laboratories at FMC, Bristol-Myers Squibb, NL Chemicals, Lucent Technologies, Johnson & Johnson, the NJ State Police Laboratory, and elsewhere.

Students routinely use electronic balances; IR, UV, visible and NMR spectrophotometers; pH meters; GC and HPLC; calorimeters; lasers; and other electronic devices in the laboratory. Computer applications for data collection and analysis are introduced in the General Chemistry sequence. Other software packages assist students with the mastery of concepts and problem-solving skills. Second-year courses introduce specialized instrumentation for chromatographic separations and spectroscopic identification of compounds.

Recent equipment upgrades include a new infrared spectrophotometer and two new gas chromatographs with computer interfaces. MCCC and Rider University are principal partners in a National Science Foundation project to give Mercer students Internet access to Rider's newly installed 300Mz FT-NMR for spectral analyses. An honors sequence allows students to conduct research under the supervision of Rider or Princeton University faculty.

Successful graduates of the program will be able to:

- gain acceptance to a four-year program in chemistry, chemical engineering, or pre-medical studies;
- utilize critical thinking and quantitative reasoning skills to organize and analyze data, synthesize information, and interpret and communicate results;
- conduct literature searches and communicate findings orally and in writing;
- perform chemical experimentation using proper scientific and laboratory safety procedures.

Part-time evening study is encouraged for those who are currently employed. Course selection and program of study must be approved by an academic advisor.

Admission to the Chemistry option requires a high school diploma or equivalent with at least one year of science (biology, chemistry, or physics) and two years of academic mathematics. Students who complete the Chemistry option earn the Associate in Science degree in Liberal Arts and Sciences.

### Curriculum

Code	Course (lecture/lab hours)	Credits
ENG 101	English Composition I (3/0)	3
CHE 101	General Chemistry I (3/3)	4
CMN 111	Speech: Human Communication (3/0) OR	3
CMN 112	Public Speaking (3/0)	4
— —	Technical elective <sup>1</sup>	4
— —	Social Science general education elective <sup>2</sup>	3
ENG 102	English Composition II (3/0)	3
MAT 146	Pre-Calculus (4/0)	4
CHE 102	General Chemistry II (3/3)	4
— —	Technical elective <sup>1</sup>	4
HPE 110	Concepts of Health and Fitness (1/2)†	2
CHE —	Chemistry elective <sup>3</sup>	4-5
MAT —	Mathematics elective <sup>4</sup>	4
— —	Technical elective <sup>1</sup>	4
— —	Humanities general education elective <sup>5</sup>	3
CHE —	Chemistry elective <sup>3</sup>	4-5
MAT —	Mathematics elective <sup>4</sup>	4
— —	Technical elective <sup>1</sup>	4
— —	General Education elective <sup>6</sup>	3
		64-66

<sup>1</sup> Select from approved list of CHE, BIO, MAT, PHY, and COS courses available from Science & Health Professions division office.

<sup>2</sup> Choose from the following approved general education electives: ANT 101, ECO 103, 111, 112; GEO 102; POL 101, 102, 201; SOC 101, 102; PSY 101, 206, 207.

<sup>3</sup> Select from CHE 201, 202, 205, 210. Final grade in chemistry courses must be C or above for chemistry majors.

<sup>4</sup> Select from MAT 151, 152, 201, 251, 252.

<sup>5</sup> Choose from the following approved general education electives: ART 121, 122, 123, 124, 125; MUS 103, 224, 225; PHI 102, 113, 204, 205; PHO 110; REL 101, 102; THR 101; all FRE, GER, ITA, SPA courses; all general education HIS and Literature courses.

<sup>6</sup> Select course from among either the approved Social Science or Humanities general education electives listed in footnotes #2 and #5 above.

†HPE 111 is an acceptable alternative.

