

CHEMISTRY

<http://www.rit.edu/cos/chemistry>

PROGRAM OVERVIEW FOR EMPLOYERS

The program prepares graduates for positions in several fields of chemistry, including industrial work (processing and laboratory operations), research and experimental work, supervision of technical projects, and managerial positions. Approximately 50% of the B.S. graduates immediately continue their education for advanced degrees in chemistry, pharmacy, medicine and dentistry. In addition to the opportunity to participate in cooperative education work experiences, it is highly recommended that students take undergraduate research as elective course(s). The program also allows students to plan a concentration of electives in complementary fields such as biology, physics, business, graphic arts, criminal justice, engineering, environmental science, computing, imaging science, etc.

Degree(s) Awarded

Bachelor of Science
Master of Science
BS/MS (dual degrees)

Enrollment

Approximately 70 undergraduate students enrolled and 12 graduate students

Cooperative Education Component

All students have the option (recommended) of participating in quarter(s) of co-op employment any quarter following completion of 1st year courses.

Salary Information (Avg/Range)

Co-op:	\$16.67	\$7.50 - \$27.82
*BS:	\$43,951	\$32,000 - \$55,000
MS:	Insufficient data	

*Statistics from the Nat'l Assn. Of Colleges & Employers (NACE) for 2007-2008 graduates

Equipment & Facilities

GC-MS, LC-MS, Gas Chromatography, HPLC systems, Atomic Absorption (flame and furnace), 300 MHz NMR, Fluorimeters, UV-Vis, FTIR, Centrifuge, Electrochem Equipment, Viscometer, Incubators, Capillary Electrophoresis, TGA's, DSC's, DMA, Asher, Microextruder.

Accreditation

Approved by the Committee on Professional Training of the American Chemical Society. Students can request a more flexible B.S. curriculum which is not ACS certified.

Student Skills & Capabilities

Students are able to perform many general chemistry and analytical chemistry laboratory tasks, as technicians, with minimal supervision, after their first year of coursework. They continue to enhance their lab skills throughout their upper level courses, and in the fourth and fifth (optional) years elect courses in inorganic, polymer, environmental, or biochemistry to increase their ability to contribute to research initiatives in areas of particular interest.

Concentrations & Specialization

- Environmental Chemistry Option (see p.2.)
- B.S./M.S. Materials Science & Engineering Option (see p.2.)
- Electives are flexible so students can attain concentrations from other areas of the Institute (e.g. imaging science, computing, business, graphic arts, biology, criminal justice, environmental science, forensics, packaging science).

Chemistry

Course Sequence BS degree

First and Second Years:

Chemical Safety
General Chemistry I & II (with lab)
Quantitative Analysis I & II (with labs)
Calculus I-IV
Computer Programming Language
Intro to Co-op & Chemical Careers
Instrumental Analysis (with lab)
Separations Techniques (with lab)
Organic Chemistry I-III
Preparative Organic Chemistry I Lab
Systematic ID of Organic Compounds Lab
Liberal Arts courses (24 cr hr)
Cooperative Education (Optional; after first year)*

Third and Fourth or Fifth Years*:

Differential Equations
University Physics I-III (with lab)
Preparative Organic Chemistry II Lab
Chemical Literature
Intro to Biochemistry
Chemical Thermodynamics (with lab)
Quantum Chemistry (with lab)
Chemical Kinetics (with lab)
Biochemistry
Inorganic Chemistry I, II
Preparative Inorganic Chemistry Lab
Advanced Instrumental Analysis (with lab)
Chemistry Electives (2)
Institute-Wide Electives and/or Chemistry Research
Liberal Arts courses (30 cr hr)
Cooperative Education (Optional)*

B.S. Environmental Chemistry Option

required courses:

General Biology (with lab)
Microbiology

Environmental Chemistry
Atmospheric Chemistry
Aquatic Toxicology & Chemistry

NOTE: These courses are taken in place of: Chemistry & Institute-wide electives, and Inorganic Chemistry II

B.S./M.S. Materials Science & Engineering Option required courses (during 4th & 5th year):

Intro to Materials Science
Intro to Polymer Science
Intro to Experimental Techniques
Atmospheric Chemistry
Solid State Science

Intro to Theoretical Methods
Materials Properties & Selection
Sensors & Actuators
Research & Thesis

Both Options have been approved by the Committee on Professional Training of the American Chemical Society

*For a student electing to participate in co-op, (the sequence may vary and/or some courses may need to be taken during a fifth year).

Employers of Chemistry Co-op and/or Graduating Students:

Amgen, AMRI, Bausch & Lomb, Bridgestone Firestone, Caterpillar, Cerion Energies, Eli Lilly & Co., Entegris, ICB Inc, Integrated Nano-Technologies, Lockheed Martin, Mylan Technologies, National Renewable Energy Lab, New Hampshire Coating Services, Newman's Own, OrthoClinical Diagnostics (J&J), OSG Norwich Pharmaceuticals, Pacific Northwest National Lab, Pall Corp, Pfizer, Qimonda, Stanford University/IBM Almaden, TES Environmental, University of Georgia, University of Rochester Lab for Laser Energetics, Vicor Corp, Xerox Corp.

Contact Us:

We appreciate your interest in hiring RIT co-op, graduating students or alumni. We will make every effort to make your recruiting endeavor a success. Call our office and ask to speak with Charles Dispenza, the program coordinator who works with the Chemistry program. For your convenience, you can access information and services through our web site at <http://www.rit.edu/recruit>.

Charles W. Dispenza

Program Coordinator

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