

Chemistry: A – Z

A Veritable Alphabet of Career Possibilities

- A** Agricultural Chemistry, Analytical Chemistry, Atmospheric Chemistry, Art Restoration, Archaeologist
- B** Biochemistry, Biophysics, Biomechanical Engineering, Broker (Technical Stocks), Botanist
- C** Combinatorial Chemistry, Computational Chemistry, Cosmetics, Cosmology (chemistry in space), Ceramicist, and Climate Studies
- D** Dentistry, Doctor of Osteopathy, Doctor of Medicine
- E** Education, Electrochemistry, Environmental Chemistry, Expert Witness, Epi-genomics
- F** Forensic Anthropology, Food Chemistry, Forensic Chemistry, Fragrance Chemist, Fermentation
- G** Geochemistry, Geology, Genetic Engineer, Genomics, Genomic Engineer
- H** Hazardous Waste, Health Industry, Herbalist
- I** Inorganic Chemistry, Industrial Hygiene, Instrument Development
- J** Journalist, Judge, Junior High School Teacher
- K** Keratotomist, Kinesthesiologist
- L** Lawyer (Environmental, Patent), Limnology
- M** Management, Material Science, Medicine, Medical Technician, Medicinal Chemistry, Metallurgist, Mass Spectrometrists, Microbiologist, Molecular Biologist
- N** Nuclear Chemistry and Medicine, Nanotechnology, Neurophysiology, Nuclear Magnetic Resonance Spectroscopist (MRI)
- O** Oceanic Chemistry, Oceanographer, Organic Chemistry, Optometry
- P** Personal Care Products, Petrochemistry, Pharmacology, Pharmacy, Physical Chemistry, Polymer Chemistry, Perfumer, Paleontologist, Paleobiologist, Preservationist
- Q** Quantitative Analyst, Qualitative Analyst, Quality Control Specialist, Quantum Chemist
- R** Research, Recycling, Remediation and Restoration (Environmental)
- S** Synthesis, Sales, Safety, Semiconductors, Surface Chemistry, Science Writer, Spectroscopist
- T** Toxicology, Technical Writer, Translator, Teacher, Trial Lawyer
- U** Underwriter, Undertaker, Ultrasonic Technician, University Professor, Ultramicroscopist
- V** Veterinary Medicine, Veterinary Technician, Visualization, and Virtualization
- W** Waste Water Treatment
- X** X-Ray Crystallography, Xerescapist
- Y** Ytterbium or Yttrium (Inorganic) Chemist, Xeno-biology and chemistry (chemistry on other planets)
- Z** Zymurgist, Zoologist

Chemistry at Montana Tech

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The Department of Chemistry and Geochemistry offers a B.S. degree in Chemistry and a M.S. degree in Geochemistry. The undergraduate degree is certified by the American Chemical Society and a student who fulfills the requirements described under the Professional option will be certified by ACS. The undergraduate curriculum allows sufficient electives for students to tailor their program to match career objectives.

Biochemistry Option: This option is for students interested in pursuing careers in research and/or professional practice in biomedicine and health care, including careers in biotechnology, medicine, medical technology, pharmacy, dentistry, etc. The Biochemistry Option is designed to produce graduates whose educational preparation should be well suited for entering graduate or professional schools in biomedicine or for seeking employment with biotechnological companies. This objective is accomplished in the proposed Biochemistry Option by including several appropriate courses in biology and by increasing the emphasis on biological processes in the chemistry curriculum.

Environmental Chemistry (ACS certified): This option is for chemistry majors who also desire a strong background in the environmental sciences. In addition to completing all of the requirements for an ACS certified chemistry degree (see the Professional option listed below), student pursuing this option will take courses in biology, geology, and environmental engineering designed to provide the fundamental understanding necessary to work in the environmental field. Additional courses required under this option are Biol 1116, Biol 3106, Chem 4406, Chem 4426, EnvE 2040, EnvE 3180, GeoE 1010, GeoE 3080, and (Math 3316 or Math 4316). In addition the undergraduate research required for ACS certification must be directed toward an environmental topic.

Geology-Geochemistry: This option is designed particularly for those wanting a strong background in geology. A student considering entry into the Master's program in Geochemistry offered by the department is strongly urged to follow this option. With the completion of the courses required for the option, a student would be able to enter directly into the Geochemistry Master's program. The Geology-Geochemistry option includes the following courses: GeoE 1010, 2020, 2040, 3030, 3080; Chem 4406 and 4426.

Professional (ACS certified): This option is designed for majors anticipating graduate study or research-oriented positions in chemistry. Several of the courses that are optional under the basic program are required under this plan. A minimum of 3 credits of senior research and a paper on this research is required. The Professional option requires the following courses: Chem 4016, 4026, 4216, and 4356.

Pre-Professional Health at Montana Tech

Website <http://www.mtech.edu/clsp/pre-professional/>

Dr. John Amtmann	(406)496-4346	Physical Therapy, Physicians Assistant, Occupational Therapy
Dr. Douglas Cameron	(406)496-4247	Pharmacy, Medicine, Dentistry, Chiropractic, Optometry, etc.
Dr. Rick Douglass	(406)496-4450	Veterinary Medicine

Students interested in a professional health career need to explore the health care industry. This exploration is assisted through the following Pre-Professional Health (PPH) courses:

PPH 1006	Freshman Pre-professional Seminar
PPH 1946	Current Topics in Health Care
PPH 2916	Internship
PPH 2946	Current Topics in Health Care
PPH 3006	Professional Health Entrance Exam Preparation
PPH 3946	Current Topics in Health Care
PPH 4916	Internship
PPH 4946	Current Topics in Health Care

Honors Program

Students interested in broadening their educational experience, attaining a more diverse and global perspective on life, and the opportunity to enhance their education within their field of study should apply to the Honors Program at Montana Tech. Additional information can be obtained by contacting Dr. Douglas Cameron or go to the following web page.

Website <http://www.mtech.edu/honorsprogram/>