The Chemistry Department is thrilled to announce a new major opportunity for CU Denver students. Starting Fall 2018, students will be able to declare a B.S. in Biochemistry. This program was approved by the Board of Regents last November. The study of biochemistry combines knowledge from chemistry, biology, physics, mathematics, and sometimes other disciplines to understand how life works at the molecular level. This integrated scientific knowledge will be essential for understanding the future of human health, sustainable energy, and the environment. The B.S. Biochemistry program at CU Denver strongly emphasizes connections between basic science and human health. The program includes required courses in chemistry, biology, physics, and mathematics; plus, upper-division electives that may be taken in chemistry, biology, physics, or psychology. Required coursework covers much of the foundational knowledge and skills for graduate and health professions entrance exams.

Several recently developed courses explore connections between cutting-edge biochemical research and different diseases. These include: CHEM 4815/5815 (Structural Biology and Neurodegenerative Diseases, taught by Prof. Liliya Vugmeyster); CHEM 4825/5825 (Biochemistry of Metabolic Disease, taught by Prof. Jeff Knight); CHEM 4835/5835 (Biochemistry of Gene Regulation and Cancer, taught by Prof. Xiaojun Ren); and CHEM 4845/5845 (Molecular Modeling and Drug Design, taught by Prof. Hai Lin).
In response to these needs, the Department of Chemistry proposes a new General Chemistry course series explicitly intended for STEM majors. The proposed courses provide a foundation in quantitative science that is relevant to the interests and educational needs of students who intend to engage in and pursue undergraduate and post-undergraduate STEM study. Course features include:

- Chemistry curriculum, emphasizing the development of critical thinking
- Critical reading and analysis skills
- Integrated lecture and laboratory curriculum to develop a better appreciation for data-analysis and the experimental nature of chemistry and science in general
- Practice in written communication, following the guidelines of the American Chemical Society through lecture activities and pre- and post-laboratory assignments
- Emphasis on quantitative and qualitative problem solving, supported by the application of previously mastered mathematical skills, and exposure to research, science faculty, and the wider STEM community.

Undergraduate students majoring in a STEM field including: Chemistry, Biochemistry, Biology, Physics, Engineering (Bioengineering), Math, Geology, and Environmental Science are good candidates for the General Chemistry for STEM series.

The department is also pleased to announce a new core course, Chemistry 1494-001: Forensic Science. Developed by Dr. Marta Maroń. Forensic Science is an online course (with an online lab) that serves as an introduction to the world of forensics. It focuses on the aspects of chemistry used during an investigation. Students will be introduced to a basic understanding of chemistry, the physical and chemical properties of matter, simple types of chemical reactions and equations, and molecular structure using the theme of forensic science. This forensic theme readily lends itself to a detailed comprehensive examination of questions and problems. Criminal investigations are methodical, process-oriented, and often require an understanding of both large-scale and small-scale observations—characteristics familiar to chemists.

As always, I will be happy to hear your thoughts on how to further improve our program.

Sincerely,

Haobin Wang, Chair

Kaitlyn Torlone, New Administrative Assistant III

Kaitlyn Torlone joined the Chemistry Department at the University of Colorado Denver in February, 2018. Kaitlyn grew up in Virginia and North Carolina and moved to Colorado with her parents in 2012. She received her Bachelor’s Degree in Philosophy and Psychology at the University of Northern Colorado in 2017. Previously, she worked at the University of Northern Colorado Office of Undergraduate Admissions as an Administrative Assistant II, where she found her passion for working in Higher Education. Kaitlyn is excited to pursue a Masters Degree in eLearning Design and Implementation at the University of Colorado Denver. She looks forward to continuing to work with the students and faculty within the Chemistry Department at the University of Colorado Denver.

CU Denver Chemistry Club

This year, the chemistry club participated in a few activities. In the fall, DataBlast was held, which is an event to promote undergraduate research to young chemistry students. In the spring, the club participated in the Denver Metro Regional Science Fair. Additionally, ACS study guides were sold to students to help prepare for final exams.

Julia Deyanova and Danielle Miller
Chemistry 4421/Chemistry 5421

Cannabis Chemistry is a new upper
division course developed and taught by
Dr. Vanessa Fishback. The course is an
elective for the new BS Biochemistry, the
ACS Certified BS Chemistry, and the
chemistry minor. Dr. Fishback presented
a description of the course to a crowded room at the Institution for
Cannabis Research ICR 2018 conference in Pueblo, Colorado
this past April. The course is believed to be the first upper-division
academic cannabis chemistry course in the nation.
CU Denver Chemistry Faculty Publications


- Cassandra Herbert, Yannick Kokouvi Dzowo, Anthony Urban, Courtney N Kiggins, Marino JE Resendiz (05/2018). "Reactivity and Specificity of RNase T, RNase A, and RNase H toward Oligonucleotides of RNA Containing 8-Oxo-7,8-dihydroguanosine". Biochemistry (Easton) (0006-2960)


- Liliya Vugmeyster, Dmitry Ostrovsky (04/2018). "Basic experiments in 2 H static NMR for the characterization of protein side-chain dynamics". Methods (San Diego, Calif.) (1046-2023)


- Robert Damrauer, Computational studies of silanediimine rings, Polyhedron, Volume 97, 2015, Pages 13-19

