



Northeastern

Department of Chemistry
and Chemical Biology
Northeastern University
360 Huntington Ave
EXP 330
Boston, Massachusetts 02115

June 3, 2024

Dear Admissions Committee,

The Northeastern University Department of Chemistry and Chemical Biology is providing this letter regarding the organization and content of the following General Chemistry Course:

General Chemistry for Engineers (CHEM 1151/3)

CHEM 1151/3 is a one semester general chemistry course offered by the Department of Chemistry and Chemical Biology for majors in engineering, including pre-health students. The course consists of three 65-minute lectures and one 65-minute recitation each week for 13 weeks. Many students who are considering health care professions also take CHEM 1162, a separate laboratory component, which meets for three hours each week. We use the "Chemistry: An Atoms-Focused Approach" text, co-authored by Gilbert, Kirss, Foster and Bretz. The content covered by this course includes parts of 16 (of 24) chapters of the text in an intensive, problem-based method. Students are expected to have prepared themselves for the first two chapters of the book, which cover basic atomic structure. From there, time is spent covering topics on light and spectroscopy, chemical bonding, nomenclature, Lewis structures, VSEPR theory, intermolecular forces, phase changes and phase diagrams, the solid state and crystal structures, stoichiometry, molarity, acid-base titrations, colligative properties, thermodynamics, kinetics, equilibrium, and electrochemistry. During the course, current topics such as climate change and chemistry of the oceans are introduced. The course does not cover the properties of gases, nuclear chemistry, or main group/transition metals. However, this one semester course does cover much of what a student would be exposed to in a typical two semester sequence, and it is taught with rigor and purpose.

Sincerely,

A handwritten signature in black ink, appearing to read "Daniel J. Matthew".

Daniel J. Matthew, Ph.D.
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