



## North Iowa Area Community College Course Outline

Please follow the included instructions when completing this form. Direct questions to Division Chair. After Course Outline is completed, please submit to Division Chair for review, who then submits to Administrative Assistant to the Vice President for Academic Affairs for review by the Curriculum and Academic Affairs Council (CAAC).

<b>Prepared by:</b>	Nikae Perkinson
<b>Date Approved by CAAC:</b>	September 9, 2019
<b>Course Title:</b>	College Chemistry I
<b>Course Number:</b>	CHM-151
<b>Equivalent Prior Course Numbers:</b>	n/a
<b>Academic Division/Department:</b>	Natural Science

**Credits – Semester Hours (s.h.):**

**Contact Hours** As defined by the Iowa Department of Education in consultation with Division Chair/Registrar (see attached instructions).

Lecture:	<input type="text" value="45"/>	1 s.h. = 15 contact hours
Lab:	<input type="text" value="30"/>	1 s.h. = 30 contact hours
Clinical Practice:	<input type="text" value="0"/>	1 s.h. = 45 contact hours
Work Experience:	<input type="text" value="0"/>	1 s.h. = 60, 75, 90, or 105 contact hours
<b>Total:</b>	<input type="text" value="75"/>	

**Prerequisite(s):**

MAT-063 Elementary Algebra or equivalent

**Corequisite(s):**

None

**Course Description:**

First semester of a two-semester sequence intended for non-science majors. Introduction to the basic concepts and facts of chemistry. Topics include the metric system of measurement, atomic theory of matter, energy levels and atomic structure, the periodic table, ionic and molecular compounds, ionic bonding, covalent bonding and molecular structure, classification of chemical reactions, and reaction equations and chemical calculations. This course treats these topics in more depth than introductory Chemistry; however, high school chemistry is NOT a prerequisite. Laboratory work is an important part of this course.

**Required Textbook(s) and Other Required Materials:**

Fundamentals of General, Organic and Biological Chemistry, 8th edition by John McMurry, 2017, Pearson ISBN 9780134015187. A scientific calculator, such as the TI 30Xa, is required.

**Purpose of Course** Check one [X] in consultation with Division Chair.

<input checked="" type="checkbox"/>	Arts and Sciences (General Education)
<input type="checkbox"/>	Arts and Sciences

<input type="checkbox"/>	Career and Technical (General Education)
<input type="checkbox"/>	Career and Technical
<input type="checkbox"/>	Developmental

If course is offered only in specific semesters, please explain below:

Fall

Maximum number of weeks for which the course is offered:

16

[Do not edit the following section. Managed by Academic Affairs]

Is this a Core Competency Anchor Course? YES ☐ NO ☐

If "Yes," list Core Competency Student Learning Outcome Numbers being taught and assessed in this course (2.2, 3.1, etc.)

(Example) 2.2 [Press Tab to create new rows for each SLO]

**Student Learning Outcomes (SLOs):**

Upon successful completion of this course the student will be able to:

1. Apply chemical theories (such as VSEPR and quantum theories), laws (such as gas laws and conservation of matter), definitions (such as density, atoms, elements and ions) and conventions (such as inorganic nomenclature) to solve problems.
2. Perform mathematical operations on measurements or manipulate formulas, and express the answer with the correct number of significant figures, unit and scientific notation if necessary.
3. Explain the relevance of chemical processes in our everyday life.