



## CHEM 1211 – Principles of Chemistry I

### Course Syllabus – Fall 2017

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Individuals with disabilities who need to request accommodations should contact the Disability Services Coordinator, Edgewater Hall 255, (678) 466-5445, [disabilityservices@mail.clayton.edu](mailto:disabilityservices@mail.clayton.edu).

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#### **Course Description:**

**Number and Title:** CHEM 1211 (CRN 80130/80131), Principles of Chemistry I

**Credit Hours:** 3.0 semester credit hours (3-0-3)

**Catalog Description:** First course in a two-semester sequence covering the fundamental principles and applications of chemistry for science majors. Topics to be covered include composition of matter, stoichiometry, periodic relations, and nomenclature.

#### **Course Prerequisites and Co-requisites:**

- Pre-requisites: MATH 1112A (or MATH 1113 or MATH 1501) with a minimum US grade of D (can be taken concurrently).
- Co-requisites: CHEM 1211L

**Note: Due to the co-requisite nature of CHEM 1211 and CHEM 1211L, students dropping one of the two courses must also drop the other.**

#### **Instructor Information:**

**Instructor:** Dr. Aubrey Dyer

phone: (678) 466-4894

e-mail: [aubreydyer@clayton.edu](mailto:aubreydyer@clayton.edu)

**Office:** Lakeview Science Center, Room 235C

**Office hours:**

Mondays at 9am-10:30am

Tuesdays 9am-10am

Wednesdays at 9am – 10:30am

*Other times by appointment*

#### **Class Meetings:**

**Lecture Room and Class Times:** Magnolia Hall Room 125, 12:45pm-2:00pm, Mondays and Wednesdays

**Recitation Room and Class Times:**

- 80130-02M: Lakeview Discovery and Science Center Room 155, 11:00am-11:50am Mondays
- or
- 80131-02W: Lakeview Discovery and Science Center Room 155 11:00am-11:50am Wednesdays

#### **Textbook Information:**

**Text:** Tro, Chemistry: Structures and Properties, 2e, Pearson, 2018

ISBN-13: 9780134293936

**Text Coverage:** Chapters 1 – 10

**Mastering Chemistry Access:** through D2L

## **Computer Requirement:**

Each CSU student is required to have ready access throughout the semester to a notebook computer that meets faculty-approved hardware and software requirements for the student's academic program. Students will sign a statement attesting to such access. For further information on CSU's Official Notebook Computer Policy, please go to <http://www.clayton.edu/hub/itpchoice/notebookcomputerpolicy>.

**Computer Skill Prerequisites:** Able to use your computer's (Windows or MacOS) operating system, to use Microsoft Word™ word processing, to send and receive e-mail, to attach and retrieve attached files via email, and to use a Web browser.

**In-class Use of Student Notebook Computers:** Computers will be required to access course materials and to communicate with your instructor. No computers, smart phones, or tablets are allowed during exams (see course policies)

## **Course Webpages:**

**D2L:** Course content will be posted on the course webpage in GeorgieVIEW Desire2Learn (D2L). You can gain access to D2L, by signing on to the SWAN portal and selecting: "D2L" on the top right side. If you experience any difficulties in D2L, please email or call The HUB at [TheHub@mail.clayton.edu](mailto:TheHub@mail.clayton.edu) or (678) 466-HELP. You will need to provide the date and time of the problem, your SWAN username, the name of the course that you are attempting to access, and your instructor's name.

**MasteringChemistry:** Homework problems will be assigned via MasteringChemistry. This semester, this course will take part in a new inclusive access program called LOCH-Ed, the Loch Shop's new digital course materials service. This new service enables the Loch Shop to offer students instant access to the course materials your professor requires at the lowest price we could negotiate! The Loch Shop has implemented this program to save students as much money as possible.

You will have immediate access to your digital course materials through D2L for the first 8 days of class—for free. These digital course materials include the e-text (the electronic version of the textbook) and the online homework system called MasteringChemistry that your professor requires. Login to your D2L course and follow the instructions within the course to access the digital materials.

After 8 class days of using the e-text and MasteringChemistry system with free access, your student account will be charged. If for some reason you decide you do not want to purchase these materials from the Loch Shop, you can opt out of the LOCH-Ed program by going to your course book in D2L and clicking "OPT OUT." If you opt out by deadline, your student account will not be charged. If you have any questions regarding LOCH-Ed, please email us at [lochshop@claytonstate.edu](mailto:lochshop@claytonstate.edu). For technical assistance, please email our program partner Red Shelf at [help@redshelf.com](mailto:help@redshelf.com). If you have any difficulties in MasteringChemistry, please contact Pearson tech support. The instructor does not have access to your individual account to fix technical issues.

## **Program Learning Outcomes:**

**General education outcomes:** The Clayton State University Core Curriculum outcomes (see Area D) are located in the Graduation Requirements section of the [Academic Catalog and Student Handbook](#).

**Biology outcomes:** CHEM 1211 is a required course in the B.S. degree program in Biology. CHEM 1211 supports outcomes 3 and 5 of the biology major. (<http://www.clayton.edu/science/Outcomes>)

**Chemistry outcomes:** CHEM 1211 is a required course in the B.S. degree program in Chemistry. CHEM 1211 supports outcomes 1,4,5, and 6 of the chemistry major. ([http://www.clayton.edu/chemistry-physics/program\\_outcomes](http://www.clayton.edu/chemistry-physics/program_outcomes))

## Course Learning Outcomes:

- Perform conversions between units.
- Differentiate between molecules, ions, molecular compounds, and ionic compounds.
- Interpret simple chemical nomenclature.
- Perform stoichiometric calculations and identify types of reactions.
- Analyze atomic and molecular structures.

## Evaluation:

**Exams:** Three closed-book exams will be given during the semester during regular class period (75 min in length). Please see the course schedule for more details on exam dates. Material on exams will be taken from assigned reading, homework, lecture materials, and practice problems assigned in D2L. One 8.5"x11" sheet of paper (single-sided) will be permitted for use on each of the three exams as a crib sheet. The crib sheet must be handwritten (no photocopies, typed, or printed material), and turned in with your exam with your name and Laker ID written on the back.

You are required to have a functioning calculator during the exam. No cell phones, tablets, or laptops are allowed to be used during the exam. See course policies for more information.

**Final Exam:** A 2-hour final exam will be given and will be comprehensive. See the course schedule for final exam date and time.

**Recitation:** In addition to the regularly scheduled lecture period (MW 12:45-2pm), we will meet for another 50 minute period (either Mondays or Wednesdays from 11-11:50, depending on your schedule) to cover additional course material. Attendance to those schedule class periods is required. The content covered and participation expectations during this class period will be covered on the first day of class.

**Quizzes:** Quizzes will be given on non-test days during the recitation period. The quizzes will be worth 5 points each. Only the best 10 quiz scores will be counted towards the final grade. The quizzes will be closed-book and no supplementary material is allowed.

**Homework:** There will be weekly homework assignments due by 12:45pm Mondays. The homework is assigned via MasteringChemistry. Each of the assignments will be of varied point values, but the total weighted to 150 points. Homework can be completed late, but at a penalty of 10% per day. Under certain circumstances, the assignment due date may be extended and will be communicated to the class. However, there are no individual extensions available.

## Course Grade (out of 650 possible points):

In-class Exam 1	100 points
In-class Exam 2	100 points
In-class Exam 3	100 points
Comprehensive Final Exam	150 points
Homework	150 points
Quizzes (5 points each, best 10 counted)	50 points

### **Grading Scale**

A	90% — 100%
B	80% — 89%
C	70% — 79%
D	60% — 69%
F	Less than 59%

## Mid-term Progress Report:

The mid-term grade in this course, which will be issued on October 3rd, reflects approximately 25% of the entire course grade. Based on this grade, students may choose to withdraw from the course and receive a grade of "W." Students pursuing this option must fill out an official withdrawal form,

available in the Office of the Registrar, or withdraw on-line using the Swan by mid-term, which occurs on October 6. [Instructions for withdrawing are provided at this link.](#)

**The last day to withdraw without academic accountability is Friday, October 6, 2017**

### Tentative Course Schedule:

The course schedule for CHEM 1211, Principles of Chemistry I, is provided in the table below. Text chapter references are Tro, *Chemistry: Structures and Properties*, 2e, Pearson, 2018, . Links for suggested reading, learning objectives, practice problems, and supplementary material will be posted in D2L. The instructor reserves the right to modify the course schedule. If such a need arises, it will be communicated to the class.

Dates	Lesson Topic	Text Chapter
8/14	Introduction,	-
8/16	Classifying Matter, Atomic Structure, Atomic Mass	1
8/21	Calculations, the Mole	1
8/23	Nature of Light, Atomic Spectroscopy, the Bohr Model	2
8/28	The de Broglie Wavelength, Quantum Mechanics, Atomic Orbitals	2
8/30	Periodic Law, Electron Configurations, Valence Electrons	3
9/4	<i>Labor Day-No Class</i>	-
9/6	Periodic Law, Electron Configurations, Valence Electrons	3
9/11	Periodic Properties, Periodic Trends	3
<b>9/13</b>	<b>Exam 1</b>	<b>1-3</b>
9/18	Ionic Compounds Nomenclature	4
9/20	Molecular Compounds Nomenclature, Formula Mass	4
9/25	Chemical Composition	4
9/27	Electronegativity, Lewis Structures, Resonance	5
10/2	Octet Rule, Molecular Geometry	5
10/4	Molecular Geometry, Molecular Polarity	5
<b>10/6</b>	<b>Midterm – Last Day to Withdraw from Course with a W</b>	
10/9	<i>Fall Break – No Class</i>	-
<b>10/11</b>	<b>Exam 2</b>	<b>4 &amp; 5</b>
10/16	Balancing Equations, Stoichiometry	7
10/18	Stoichiometry, Limiting Reactant, Theoretical Yield	7
10/23	Stoichiometry, Limiting Reactant, Theoretical Yield	7
10/25	Concentration, Stoichiometry, Precipitation Reactions	8
10/30	Ionic Reactions, Acid-Base Reactions	8
11/1	Oxidation-Reduction Reactions	8
11/6	Thermodynamics, Heat	9
<b>11/8</b>	<b>Exam 3</b>	<b>7 &amp; 8</b>
11/13	Heat, Enthalpy, Hess' Law	9
11/15	Bond Energies, Enthalpy of Formation, Lattice Energies	9
11/20	Pressure, Gas Laws	10
11/22	<i>Thanksgiving Break-No Classes</i>	-
11/27	Mixtures of Gases, Kinetic Molecular Theory, Real Gases	10
11/29	Valence Bond Theory	6
<b>TBD</b>	<b>Final Examination</b>	<b>1-10</b>

## Course Policies:

**General Policy:** Students must abide by policies in the Clayton State University Student Handbook, and the [Basic Undergraduate Student Responsibilities](#). The Student Handbook is part of the [Academic Catalog and Student Handbook](#).

Grades will not be communicated by phone or email – graded materials can only be picked up by the individual to whom they belong.

**University Attendance Policy:** Students are expected to attend and participate in every class meeting. Instructors establish specific policies relating to absences in their courses and communicate these policies to the students through the course syllabi. Individual instructors, based upon the nature of the course, determine what effect excused and unexcused absences have in determining grades and upon students' ability to remain enrolled in their courses. The university reserves the right to determine that excessive absences, whether justified or not, are sufficient cause for institutional withdrawals or failing grades.

**Course Attendance Policy:** Class roll will be taken during every class period via RollCall. It is your responsibility to sign in for every class you attend. The roll sheet is the instructor's official record. If you are excessively absent from class, the instructor reserves the right to request institutional withdrawal from the course. Excessive absences are defined as missing more than 40% of the scheduled meeting periods, not including exams.

Arriving to class on time is your responsibility. There will be a quiz given at the beginning of each class period. There will be no makeups for missed quizzes. Examinations begin at the start of the class period on the dates indicated. If you arrive late, you will not be given a time extension.

### **Missed/Late Work**

*Exams:* There will be three (3) classroom assessments and one 2-hour final. Due to the difficulty in making up new assessments, **make-up exams will not be given**. A missed examination, either excused or unexcused, will result in an increase in the percentage of the final exam. Only one exam can be missed during the semester. A missed final exam will result in a zero for the final exam unless prior arrangements have been made with the instructor.

*Quizzes:* Missed quizzes will be graded as a zero. **There are no makeup opportunities for missed quizzes**. The lowest quiz grade will be dropped.

*Homework:* Homework will be assigned via MasteringChemistry. There will be homework assignments due at 12:45pm on Mondays. It is your responsibility to complete the homework assignments on time. The instructor will not grant individual extensions for technical difficulties or other matters that may arise. Late work may be completed at a penalty of 10% each day late.

**Punctuality:** Arriving to class on time is your responsibility. Coming in late is disturbing to the entire class and detracts from the learning experience. If tardiness become habitual, the instructor may institute measures to correct this problem. This could range from refusal to allow admittance to class on that day or a deduction of points from the grade.

### **Academic Dishonesty**

I take academic integrity very seriously. Any type of activity that is considered dishonest by reasonable standards may constitute academic misconduct. The most common forms of academic misconduct are cheating and plagiarism. All instances of academic dishonesty will result in a grade of zero for the work involved, at a minimum, and can result in expulsion from the institution. All instances of academic dishonesty will be reported to the [Office of Community](#)

**Standards.** Judicial procedures are described in the section of the [Academic Catalog and Student Handbook](#) titled, Procedures for Adjudicating Alleged Academic Conduct Infractions.

Specific forms of cheating on exams include, but are not limited to, copying, using supplementary material not allowed (see exam policies below), using any internet or phone device, and talking during an exam or quiz. Reaching for, appearing to use, or using a cell phone is considered cheating. It is imperative that you silence your cell phones (not even on vibrate mode).

**Disruption of the Learning Environment:** Behavior which disrupts the teaching–learning process during class activities will not be tolerated. While a variety of behaviors can be disruptive in a classroom setting and may include talking, use of cell phones and/or computers during class, more serious examples include belligerent, abusive, profane, and/or threatening behavior. A student who fails to respond to reasonable faculty direction regarding classroom behavior and/or behavior while participating in classroom activities may be dismissed from class. A student who is dismissed is entitled to due process and will be afforded such rights as soon as possible following dismissal. If found in violation, a student may be administratively withdrawn and may receive a grade of WF.

More detailed descriptions of examples of disruptive behavior are provided in the Code of Conduct and Disciplinary Procedures sections of the Clayton State University [Academic Catalog and Student Handbook](#).

**Weapons on Campus:** Clayton State University is committed to providing a safe environment for our students, faculty, staff, and visitors. Information on laws and policies regulating weapons on campus are available at <http://www.clayton.edu/public-safety/Safety-Security/Weapons>

**Other Policies:** The use of simple calculators is allowed for all examinations. All examinations are closed book. You are not to use your cell phone, tablet, or laptop computer during exams. If any of these devices are on your person during exam, it will be assumed that you are cheating and will be given a zero for the exam and reported to the Office of Community Standards (see Academic Dishonesty above). All ring-tones must be silenced during an exam.

**Grade Change:** Re-grades of exams must be requested within one week of the date that the graded exams are returned to students. Note that the entire exam is subject to re-grade and may result in a lower of the overall exam grade.

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*Last update: July 24, 2017*

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