CHEM 1415 Syllabus
General Chemistry

COURSE DESCRIPTION: Second of a two semester sequence in general chemistry. Topics covered nature of solutions, equilibrium, thermodynamics, acid and base properties, kinetics and electrochemistry. There are online practice quizzes, with feedback, that the student can take as many times as he or she chooses. There are self-tests taken online with immediate grading. The online virtual labs and the online exams count toward the final grade. The labs are completed online at The ChemCollective by completing assigned procedures for a grade.

COURSE GOALS: The second of a two course sequence, this class covers kinetics, equilibrium, acid/base chemistry, aqueous solutions, thermodynamics, electrochemistry, inorganic compounds, and nuclear chemistry.

REQUIRED TEXTS:

RECOMMENDED TEXTS:

OTHER REQUIRED MATERIALS:
• A simple scientific calculator (with no graphing or alpha-numeric functions) is permitted.
• A Sapling Learning Account. Your quizzes will be completed here. Sign up for Sapling Learning by going to www.saplinglearning.com. This will be an additional fee of $34.00 paid to Sapling Learning at the time you sign up for your course on the Sapling Learning website. (Instructions for how to sign up for Sapling are listed on the content tab of your course under the heading “Sapling Sign-Up Instructions”)

COURSE STRUCTURE: Your course is comprised of the following units:

• Unit 1 = Kinetics
• Unit 2 = Chemical Equilibrium
• Unit 3 = Acids and bases
• Unit 4 = Buffers, Titrations, and Solubility
• Unit 5 = Chemical Thermodynamics
• Unit 6 = Electrochemistry
• Unit 7 = Inorganic Chemistry
• Unit 8 = Nuclear Chemistry

COURSE OBJECTIVES:
As a student in this course you will:

ASSIGNMENTS: This is a course that requires pen and pencil work. You will not be successful if you don't commit yourself to the work.
Your assignments and practice will include Sapling Learning Quizzes, online Labs, Practice Quizzes located in Canvas as well as exercises and study questions from the book.

To be successful in the class you should do all the assigned readings, examples, exercises, labs, and study questions from the book and the exercises.

**Practice Quizzes:** Practice quizzes are located with the rest of your course materials in Canvas and modeled after the exams. Each quiz can be completed for up to 5 points of extra credit for the first submission. Each Practice Quiz has feedback for each question. After you complete the quiz and submit it, you will see the correct answers and the feedback for each question. You may take these practice quizzes as many times as you like to study the concepts and work out the problems. Your exam will be very closely based on the types of problems you are asked to solve in both the practice quizzes that accompany each unit. Use the Practice Quizzes for your exam preparation.

**Sapling Quizzes:** You will use your [www.saplinglearning.com](http://www.saplinglearning.com) account to complete your quiz assignments. You can access this link by clicking on the Sapling tab located at the top of your course.

At the end of each unit you will need to complete your Quiz assignment at Sapling Learning. The quizzes are worth 5 points and you will have 5 opportunities to attempt the quizzes. You may use your book and other resources for Quiz Assignments.

- Homework assignment are available for extra practice. These are not required nor are any points awarded for these problems.

**Labs:** This course includes virtual labs developed by Carnegie Mellon. You are required to complete all the labs and submit lab reports. These reports will be graded and constitute over 20% of your final grade. The labs are quite sophisticated and expand the reach of the virtual classroom to the laboratory.

Success in the labs requires you to read the introductory material, the procedure(s), and the assignment(s) before you attempt the lab. It is also important to keep a lab notebook. Write down your observations during the experiment and record all relevant data. Submit your lab in a timely manner!

**Exams:** The course has 4 proctored exams. Each exam covers two units. Exams 1 through 3 have 20 questions, 10 from each unit with all questions worth 5 points apiece. Exam 4 is worth 75 points with about ½ of the questions from each unit. Your grade in this course will mostly depend upon your performance on the four examinations and ten labs.

**COURSE ORDER:** The assignments in this course are listed in a particular order for a reason. You are expected to work through the course in the order that the assignments are presented on the content tab and in the unit breakdown listed there. All labs, practice quizzes, and sapling quizzes MUST be completed prior to scheduling and completing the final exam of this course. Once the final exam is taken, no further work will be accepted or considered as part of the final grade for this course.

**GRADING:** Evaluation of student performance and knowledge will be based upon your lab, sapling quizzes and exam scores. The point breakdown for all assignments is as follows:

<p>| Lab 1: Step-by-Step Demonstration | 10 points |
| Lab 2: Dilution Problem | 7 points |</p>
<table>
<thead>
<tr>
<th>Lab</th>
<th>Description</th>
<th>Points</th>
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<tbody>
<tr>
<td>3</td>
<td>Kinetics (Parts 1-4)</td>
<td>30</td>
</tr>
<tr>
<td>4</td>
<td>Cobalt Lab</td>
<td>17</td>
</tr>
<tr>
<td>5</td>
<td>Temperature and Le Châtelier’s Principle</td>
<td>22</td>
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<tr>
<td>6</td>
<td>Acidic and Base Solutions and Salts</td>
<td>24</td>
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<tr>
<td>7</td>
<td>Create a Buffer</td>
<td>15</td>
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<tr>
<td>8</td>
<td>Titrations and Finding pKa and Equivalence Point</td>
<td>17</td>
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<tr>
<td>9</td>
<td>Thermodynamics I</td>
<td>15</td>
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<tr>
<td>10</td>
<td>Electrochemistry</td>
<td>10</td>
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**Lab Total** 167 points

Sapling Quizzes 8 @ 5 points each 40 points

**Sapling Total** 40 points

<table>
<thead>
<tr>
<th>Exam</th>
<th>Points</th>
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<tbody>
<tr>
<td>1</td>
<td>100</td>
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<tr>
<td>2</td>
<td>100</td>
</tr>
<tr>
<td>3</td>
<td>100</td>
</tr>
<tr>
<td>4</td>
<td>75</td>
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**Exam Total** 375 points

**GRAND TOTAL** 582 points

The breakdown of grades is as follows:
- **A** = 524 - 582 points (90 – 100%)
- **B** = 466 - 523 points (80 – 89.9%)
- **C** = 378 - 465 points (65 – 79.9%)
- **D** = 291 - 377 points (50 – 64.9%)
- **F** = 0 - 290 points (49.9% and below)

**PROBLEMS OR QUESTIONS:** If you have course content related questions, please email your instructor. If something isn’t working right in Canvas, email cidldev@ou.edu with a description of the problem and the course you are in.

**ACADEMIC INTEGRITY CODE:**
As a student taking a course at the University of Oklahoma you are expected to uphold the academic integrity code. Please visit [http://integrity.ou.edu](http://integrity.ou.edu) and familiarize yourself with the standards you will be held to while taking your course.
RELIGIOUS OBSERVANCE:
It is the policy of the University to excuse the absences of students that result from religious observances and to reschedule examinations and additional required classwork that may fall on religious holidays, without penalty.

REASONABLE ACCOMMODATION POLICY:
Students requiring academic accommodation should contact the Disability Resource Center for assistance at (405) 325-3852 or TDD: (405) 325-4173. For more information please see the Disability Resource Center website HTTP://WWW.OU.EDU/DRC/HOME.HTML. Any student in this course who has a disability that may prevent him or her from fully demonstrating his or her abilities should contact me personally as soon as possible so we can discuss accommodations necessary to ensure full participation and facilitate your educational opportunities.

TITLE IX RESOURCES AND REPORTING REQUIREMENT:
For any concerns regarding gender-based discrimination, sexual harassment, sexual misconduct, stalking, or intimate partner violence, the University offers a variety of resources, including advocates on call 24/7. To learn more or to report an incident, please contact the Sexual Misconduct Office at 405-325-2215 (8 to 5, M-F) or OU Advocates at 405-615-0013 (24/7). Also, please be advised that a professor/GA/TA is required to report instances of sexual harassment, sexual assault, or discrimination to the Sexual Misconduct Office. For more information, please see http://www.ou.edu/eoo.