

# *Principles of Chemistry II*

*CHEM 1212 – Spring 2018*

*Lectures: Tuesday, Thursday (11:00 – 12:15 pm), TLC 3108*

## ***Purpose***

This is the second course in a two-semester sequence covering the fundamental principles and applications of chemistry for science majors. Topics to be covered include equilibria, thermodynamics, kinetics, and electrochemistry.

## ***Textbook***

*Chemistry: Structure and Properties (1<sup>st</sup> or 2<sup>nd</sup> edition) Authors: Nivaldo J. Tro*

## ***Learning Outcomes***

Each student will acquire a basic understanding of intermolecular forces, equilibria, acids and bases, solubility, thermodynamics, kinetics, and electrochemistry.

## ***Prerequisites and expectation***

Good algebra skills and a working knowledge of high school chemistry are assumed. Precalculus (MATH1113) and Principles of Chemistry I (CHEM1211) are required prerequisites with a minimum grade of C.

**Instructor: Dr. Spencer Slattery**

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**Office Hours: *MW (1:00 – 6:00 pm)***

## ***Important Notification (Read!)***

Please refer to the student handbook for information on academic support, honor code, email policy, credit hour policy and HB 280 campus carry policy

**[https://www.westga.edu/administration/vpaa/assets/docs/faculty-resources/common\\_language\\_for\\_course\\_syllabi\\_v2.pdf](https://www.westga.edu/administration/vpaa/assets/docs/faculty-resources/common_language_for_course_syllabi_v2.pdf)**

It contains important material pertaining to your rights and responsibilities in this class including campus carry. Because these statements are updated as federal, state, university, and accreditation standards change, you should review the information each semester.

## ***Correspondence***

Please use your “myUWG” or “CourseDen” e-mail account for all written communication. E-mails from other service providers (aol, gmail, hotmail, yahoo) will be ignored.

## ***Homework***

A list of suggested problems from your book for homework will be provided for each chapter. The best way to make sure that you have thoroughly understood the material covered in class is to read the text and work through the appropriate problems, on a **REGULAR BASIS**. Keep track of the end of chapter problems that give you the most difficulty, and try similar problems for additional practice and review.

## ***Examinations***

There will be 4 in-class exams and a comprehensive final exam during the semester. The exam average will be worth 85% of your overall grade where each exam is weighted equally. You will be given 75 minutes to complete the regular exams. The ACS Standardized Final Exam covers CHEM 1211 and 1212 material. You will be provided two hours on the final exam. No exams will be dropped. Please make every attempt to be present at these times since no makeup exam will be given. If you miss an exam for any reason your final exam score will replace that exam. The exam dates are provided below. Also, it is important to arrive on time because no extra time will be given if you arrive late. Each examination will be closed book. You will be permitted to have a calculator and a pencil. The periodic table will be provided. ***Cheating will not be tolerated. Any infraction will be taken before the disciplinary committee and carried out to the fullest extent.***

## ***Semester Grades***

Your grade will be calculated based on the following formulae where each exam including the final is worth 17% of the overall grade:

### ***Course %***

$$= 0.68 \times (\text{In-class Exam Average}) + 0.17 \times (\text{Final Exam Score}) + 0.15 \times (\text{Workshop Average})$$

All exams grades will be based on your ability to DEMONSTRATE full understanding of the material. Some questions will be multiple choice (with credit given only for the correct answer), while some questions will be short answer (with full credit given only if you SHOW ALL YOUR WORK, not just for obtaining the correct answer).

**Grade Scale: A (90.0 – 100%); B (80.0 – 89.9%); C (70.0 – 79.9%); D (60.0 – 69.9%)**

## ***Workshops***

In workshops, the large class is broken down into smaller groups. In addition to regularly scheduled lecture and laboratory sessions, you are REQUIRED to attend a workshop that meets **twice a week in a summer session** outside of class to discuss chemistry problems and improve your understanding of the material. Workshops are something like study groups, with two prominent differences:

- Each week's workshop will go over a set of assigned questions. The workshop workbook will be provided in the first Workshop class.
- Each workshop will be led by an upper-level student leader who has had the course previously and who has been trained for undertaking this responsibility. The leader will act more as a facilitator than as a tutor. The purpose of workshops is to provide practice and build confidence in your own ability to do chemistry problem-solving.

Each workshop will be scheduled for a two-hour block of time. Why should you want to commit to two more hours spent on chemistry each week in addition to your time in lecture and lab?

- To be successful in chemistry, you should plan, on average, to spend AT LEAST six hours a week outside of class/lab meetings studying chemistry. The workshop can be two of them.
- Working with other students and with a leader can be more productive than doing all of your studying alone. In the structured workshop setting other students can help you see something you missed and as you explain an idea to someone else it becomes clearer in your own mind.
- Workshops at other institutions have found that students participating average significantly better on chemistry tests than those not attending workshops.
- It can directly affect your grade. A 15% contribution to your overall course average is to come from workshops.

### ***Workshop Grades***

You are not judged on actual right answers, but more on the effort you put. The workshop portion of your grade, will be based on:

- Attendance. Don't arrive late; don't leave early.
- Participation in group efforts to solve problems.
- Preparation. Practice problems should have been solved, or at least attempted, before the relevant workshop.
- Attitude.

## **Tentative Schedule for CHEM 1212**

**Spring 2018**

**Tro 2nd Edition Book**

| <b>Date</b>             | <b>Tuesday</b>      | <b>Thursday</b>                             |
|-------------------------|---------------------|---|
| <b>Jan. 9 - 11</b>      | Ch 11               | Ch 11                                       |
| <b>Jan. 16 - 18</b>     | Ch 11               | Ch 11 - 13                                  |
| <b>Jan. 23 - 25</b>     | Ch. 13              | Ch. 13                                      |
| <b>Jan. 30 - Feb. 1</b> | Ch. 13              | <b>Test 1 (Feb. 1)</b>                      |
| <b>Feb. 6 - 8</b>       | Ch. 14              | Ch 14                                       |
| <b>Feb. 13 - 15</b>     | Ch 14               | Ch. 14                                      |
| <b>Feb. 20 - 22</b>     | Ch 15               | Ch. 15                                      |
| <b>Feb. 27 - Mar. 1</b> | Ch. 15              | <b>Test 2 (Mar. 1)</b>                      |
| <b>Mar. 6 - 8</b>       | Ch 16               | Ch 16                                       |
| <b>Mar. 13 - 15</b>     | Ch 16               | Ch 16-17                                    |
| <b>Mar. 20 - 22</b>     | <i>Spring Break</i> |   |
| <b>Mar. 27 - 29</b>     | Ch 17               | Ch 17                                       |
| <b>Apr. 3 - 5</b>       | Ch 17               | <b>Test 3 (Apr. 5)</b>                      |
| <b>Apr. 10 - 12</b>     | Ch 18               | Ch 18                                       |
| <b>Apr. 17 - 19</b>     | Ch 18               | Ch 19                                       |
| <b>Apr. 24 - 26</b>     | Ch 19               | <b>Test 4 (Apr. 26)</b>                     |
| <b>May 1 - 3</b>        |                     | <b>Final Exam; May 3<br/>2:00 - 4:00 pm</b> |

**Note: Last Day to Withdraw with a grade of W- Feb. 28 (Wednesday)**

**Tro 1<sup>st</sup> Edition Book**

| <b>Date</b>      | <b>Tuesday</b>      | <b>Thursday</b>                             |
|------------------|---------------------|---|
| Jan. 9 - 11      | Ch 12               | Ch 12                                       |
| Jan. 16 - 18     | Ch 12               | Ch 12 - 13                                  |
| Jan. 23 - 25     | Ch. 14              | Ch. 14                                      |
| Jan. 30 - Feb. 1 | Ch. 14              | <b>Test 1 (Feb. 1)</b>                      |
| Feb. 6 - 8       | Ch. 15              | Ch 15                                       |
| Feb. 13 - 15     | Ch 15               | Ch. 15                                      |
| Feb. 20 - 22     | Ch 16               | Ch. 16                                      |
| Feb. 27 - Mar. 1 | Ch. 16              | <b>Test 2 (Mar. 1)</b>                      |
| Mar. 6 - 8       | Ch 17               | Ch 17                                       |
| Mar. 13 - 15     | Ch 17               | Ch 17-18                                    |
| Mar. 20 - 22     | <i>Spring Break</i> |   |
| Mar. 27 - 29     | Ch 18               | Ch 18                                       |
| Apr. 3 - 5       | Ch 18               | <b>Test 3 (Apr. 5)</b>                      |
| Apr. 10 - 12     | Ch 19               | Ch 19                                       |
| Apr. 17 - 19     | Ch 19               | Ch 20                                       |
| Apr. 24 - 26     | Ch 20               | <b>Test 4 (Apr. 26)</b>                     |
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