

**Syllabus**  
**General Chemistry 1305**  
**Fall 2015**

Stipulations in this syllabus are subject to modification and correction during the semester. All modifications will be discussed in class and posted on the course Blackboard site.

**I. Instructors:**

Dr. James E. Becvar

Course: CRN 11602

Location: UGLC 116

Time: MWF 8:30 am - 9:20 am

Office: Physical Science 409

Phone: 747-7563

Email: jbecvar@utep.edu

Office Hours: TR 9: 30 am – 11: 00 am or by appointment

Dr. Geoffrey Saupe

Course: CRN 11603

Location: UGLC 126

Time: TR 9:00 am - 10:20 am

Office: CCSB 2.0116

Phone: 747 - 7559

Email: gsaupe@utep.edu

Office Hours: Tuesday 10:45 – 11:45 and by appointment

**I. Learning Goals:**

This is the first part of General Chemistry for scientists, engineers and pre-medical students. The students in the class will gain fundamental knowledge in atomic and molecular structure, nomenclature, physical and chemical changes of matter, chemical reactivity, chemical bonding, thermochemistry and the properties of gases. Specifically, students will be able to

- Describe, explain and model chemical and physical processes at the molecular level in order to explain macroscopic properties.
- Classify matter by its state and bonding behavior using the Periodic Table as a reference.
- Solve quantitative chemistry problems and demonstrate reasoning clearly and completely. Integrate multiple ideas in the problem solving process.

Prerequisites: In order to be enrolled in Chemistry 1305, you should have:

- Passed or be concurrently enrolled in Math 1508 or
- Have achieved an SAT Math score of 600 or better.

### Student Major:

The CHEM 1305 - 1306 sequence is designed for students who are majoring in a field of science or engineering.

Students majoring in other disciplines may prefer to take the CHEM 4107 - 4108 sequence which contains more descriptive and less quantitative material.

### **II. Course Information:**

This CHEM 1305 course has **two components** that all students **must register** for **(1) CHEM 1305 Lecture and (2) CHEM 1305 Workshop**. There are no exceptions to this. Every workshop section is two hours in duration and meets one day per week. A different course, Laboratory CHEM 1105, is a separate co-requisite course, in which students in most majors must also be enrolled. Laboratory CHEM 1105 is three hours in duration. Workshop and Laboratory are different courses with different course numbers.

If you are interested in honors credit, please take the honors section fo CHEM 1305

### Required Course Materials:

1. "General Chemistry by Exploration: First Semester General Chemistry, **Fall 2015 Edition**"; ISBN 978-1-943668-00-7. This workbook is **only** available in the UTEP campus bookstore.

### Recommended Course Materials:

2. Optional Textbook: **Chemistry**, by Raymond Chang, 10th Edition, McGraw-Hill Science. Any newer or older version of this textbook may also be used for this course. The lecture and workshop sequence for fall 2015 will follow the sequence in this text. It is the student's complete responsibility to resolve any content differences among the editions. Note: The 10th edition textbook will be also used in the CHEM 1306, the second semester general chemistry, in the following next semester.
3. Optional Textbook: **Chemistry**, OpenStax.com, ISBN **978-1-938168-39-0**. Download PDF version for free at <http://cnx.org/content/col11760/latest/>

### Workshop:

- Workshop is a required component of CHEM 1305. Every student enrolled in a 1305 lecture section **must** also be co-enrolled in a Workshop section. **All workshops meet 1<sup>st</sup> week of school. Attendance is required.**
- Each Workshop meets for a two-hour period, and is instructed by a Peer Leader. The Workshop format allows the Peer Leaders to use active learning techniques to enhance understanding of the chemical principles discussed in class. It also provides opportunities for hands-on exposure to qualitative and descriptive chemistry activities (Explorations). Full goggles and lab coat must be worn during ALL chemical Explorations.
- Workshop Office Hour: The Peer Leader Team has office hours daily. The actual hour and location of the office hours will be announced in the workshop. Though each PL has specific office hours each week, you may consult with any PL during her or his office hours.

### Resources:

1. **Blackboard:** Announcements and class notes will be made available using Blackboard. Accessing Blackboard
  - You can access Blackboard via your myUTEP web page, but you will need your email username and password. If you don't know your email username and password, call the HELP desk to request them.
  - Go to My.UTEP.edu and log in
  - Click on Blackboard — it's on the menu bar at the top of the page.

### 2. **Secretarial Services**

The office of Chemistry Department is located in the new Chemistry and Computer Science Building CCSB 2.0704. Office hours are from 8:00 am to 12 noon and from 1:00 PM - 5:00 PM; **the office is closed for lunch (12 noon - 1:00 PM).**

### Instructor Expectations:

- Students should attend all lectures and workshops, and complete homework assignments. It is the students' responsibility to finish assigned work and turn it in to their Peer Leaders by due dates.
- Students will read the chapters covered in class and consult with the professors or PLs for any questions.

### Course Withdrawal Policy

Classes dropped prior to the official census date (**September 9, 2015**) will be deleted from the student's semester record. After this date, the University permits any student to drop with an automatic "W", but only before the official course drop deadline, October 30, 2015. After October 30, 2015 students who withdraw must receive grades of "F".

**The UTEP Fall 2015 drop deadline is October 30, 2015. The College of Science will remain aligned with the University policy and NOT approve any drop requests after that date.**

All grades of Incomplete (semester grade) must be accompanied by an Incomplete Contract that has been signed by the instructor of record, student, departmental chair, and the Dean. Although UTEP will allow a maximum of one year to complete this contract, the College of Science requests it be limited to one month based upon completion data. A grade of Incomplete is only used in extraordinary circumstances. If the student has missed a significant amount of work (e.g. multiple assignments or tasks), a grade of Incomplete is not appropriate or warranted.

### **II. Laboratories**

CHEM 1105 Laboratory is a separate course. **CHEM 1105 is not Workshop** and Workshop is not CHEM 1105. **Workshop is an integral part of CHEM 1305.** The content for CHEM 1105 laboratory may not completely coincide with the materials covered in lectures for CHEM 1305. The laboratory (CHEM 1105) is highly recommended for all students regardless of major.

### III. **Examinations:**

- CHEM 1305 examination questions are designed to test the understanding of basic concepts, and familiarity with chemical nomenclature, usage and calculations. Students are strongly encouraged to learn the **process** involved in problem solving rather than to memorize specific facts.
- Four one-hour examinations and a Final Exam are scheduled (see Section for exam dates). All exam grades will count towards the final grade.
- The American Chemical Society Standardized Exam will be used for the final exam. More details will be announced during the semester.
- **No makeup of examinations will be provided.** When valid absences are expected, and qualified arrangements are made **at least 7 days** prior to an exam, the instructor may approve taking an exam early. Valid absences are only for University related activities (e.g. out-of-town research presentations, sporting events) and **must** be arranged with the professor at least 7 days prior to the date of the respective examination.
- For the exam:
  - Bring an **Apperson** Form, a pencil and a good eraser to all examinations. No scratch paper, personal periodic tables or other materials may be used during the examination.
  - NO CELL PHONES OR OTHER ELECTRONIC DEVICES MAY BE USED DURING EXAMINATIONS.
  - No caps or hats may be worn during examinations.
  - Bring a photo identification card to all examinations. Your ID will be checked during or when turning in the exam.
  - **Do not** bring programmable calculators (i.e. a calculator capable of retaining equations or words) to the hour examinations and the final examination. You can purchase a satisfactory **scientific calculator** which can perform logarithmic and exponential operations for less than \$10 at many stores.

### IV. **Quizzes**

**Quizzes may be given in class at any time. Be Prepared. Be up to date on assignments.**

### V. **Academic honesty:**

Materials (written or otherwise) submitted to fulfill academic requirements must represent a student's own efforts. Any act of academic dishonesty attempted by a UTEP student is unacceptable and will not be tolerated. Academic dishonesty is prohibited and is considered a violation of the UTEP Handbook of Operating Procedures. It includes, but is not limited to, cheating, plagiarism, and collusion. Violations will be taken seriously and will be referred to the Dean of Students Office for possible disciplinary action.

### VI. **Students with Disabilities:**

Students with a documented disability can contact Center for Accommodations and Student Services (CASS) to take exams with appropriate accommodations. Any arrangements must be done in the first two weeks of class and appropriate documentation presented to the

instructor. The office is located in Room 106 Union East Building and can be contacted at (915) 747-5148 Voice/TTY, (915) 747-8712 Fax or at dss@utep.edu.

**VII. Grade Evaluation: (Evaluation is subject to revision.)**

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|------------------------------|----------------|
| <b>1. Hour Examinations:</b> | <b>400 pts</b> |
| – Exam I                     |                |
| – Exam II                    |                |
| – Exam III                   |                |
| – Exam IV                    |                |

The lowest exam score can be replaced by the highest exam score.

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| <b>2. Final Exam (ACS Standardized Exam)</b>          | <b>300 pts</b> |
| <b>3. Homework:</b>                                   | <b>150 pts</b> |
| (Resource Book for Peer-Led Team Learning)            |                |
| <b>4. Workshop:</b>                                   | <b>150 pts</b> |
| (Grading criteria will be discussed in the workshops) |                |

<b>TOTAL</b>	<b>1000 pts</b>
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**Expected grade breakdowns (subject to change) are:**

<b>A: &gt;849</b>	<b>B: 849 – 750</b>	<b>C: 749 – 650</b>	<b>D: 649 – 550</b>	<b>F: &lt;550</b>
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**VIII. Lecture and Examination Schedule (subject to change)**

Week	Chapter <sup>1</sup>	Homework Assignment <sup>2</sup>	Note
1.	1. Chemistry	Module 1	8/24 – 8/28
2.	2. Atoms, Molecules, and Ions	Module 2	8/31 – 9/4
3.	<b>Exam 1, Chapters 1-3(mole concept), 9/10 &amp; 11</b> 3. Mass Relationships in Chemical Reactions		9/8 – 9/11, Labor Day 9/7, Census Day 9/9
4.	3. Mass Relationships in Chemical Reactions	Module 3	9/14 – 9/18
5.	3. Limiting Reagents /4. Aqueous Reactions		9/21 – 9/25
6.	4. Reactions in Aqueous Solution	Module 4	9/28 – 10/2
7.	<b>Exam 2, Chapters 3-4, 10/8 &amp; 9</b> 4. Acid/Base and Redox Reactions	Module 5	10/5 – 10/9
8.	5. Gases	Module 6	10/12 – 10/16
9.	6. Thermochemistry	Module 7	10/19 – 10/23
10	6. Thermochemistry <b>Exam 3, Chapters 5-6, 10/29 &amp; 30</b>	Module 8	10/26 – 10/30, Course Drop Deadline 10/30
11	7. Quantum Theory and Electronic Structure of Atoms	Module 9	11/2 – 11/6

1

Chapter designation is based on **Chemistry** by R. Chang, the 10<sup>th</sup> Ed.

2

Homework Module designation is based on the Resource Book Self-Assessment in the Resource Book for Peer-Led Team Learning Workshop.

3

Homework is due the week shown. For instance, Module 1 Homework is assigned for week 1 and due in Week 1. Students will turn in the Homework to their PLs.

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12 .	8. Periodic Relationships	Module 10	11/9 – 11/13
13 .	9. Chemical Bonding I	Module 11	11/16 – 11/20
14 .	10. Chemical Bonding II	Module 12	11/23 – 11/25, Thanksgiving Break 11/26 – 11/29
15 .	10. Chemical Bonding II <b>Exam 4, Chapters 7-10, 12/2 &amp; 3</b>	Module 13	11/30 – 12/3, Dead Day 12/4
16 .	<b>Final Exam on Tuesday, 7:00 am – 9:45 am, UGLC 126 + others in UGLC (any room change will be announced in advance)</b>		<b>12/08/15</b>
17 .			5/7, Completely Withdraw from all courses 5/8, Dead Day