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

Instructor:

Dr. Geoffrey Saupe  
Course: CRN 18350  
Location: UGLC 116  
Time: TR 12:00 PM - 1:20 PM  
Office Location: CCSB 2.0116  
Phone: 747 - 7559  
Email: gsaupe@utep.edu  
Teaching Assistant: None

Course Information:

This CHEM 1305 course has two components (for one grade) that all students must register for (1) CHEM 1305 Lecture and (2) CHEM 1305 Workshop. There are no exceptions to this. You must be enrolled in both. Every workshop section is two hours in duration and meets one day per week.

A different course, Laboratory CHEM 1105 (not workshop), is a separate course that is a co-requisite. Most majors require CHEM 1105, but some do not. Laboratory CHEM 1105 is three hours in duration. 1305 Workshop and 1105 Laboratory are different courses but both are listed in Goldmine as labs. Only CHEM 1105 is a real laboratory course. CHEM 1305 workshop is part of lecture (this course).

Required Course Materials:

A. This course uses a required guide book for use in your Workshop activities. We refer to it as the workbook. It is currently only available through the UTEP bookstore. It is called First Semester General Chemistry by Exploration, Fall 2021. As explained in the class email, there are no used copies. and you cannot use older editions. Photocopies are prohibited by copyright law.
B. For lecture the required textbook is *Chemistry, by Raymond Chang and Jason Overby, 13th edition* (see options for less expensive alternatives, read the fine print). The publisher is McGraw Hill.

C. For lecture the required online homework system is called CONNECT 13th edition. It is also published by McGraw Hill, and it matches the 13th edition textbook. When you purchase CONNECT HW, you are buying an access code, which you use when you log into the CONNECT website. **The CONNECT access code must be for the 13th edition version.**

When you enter the specific Connect website for this course, you will be asked to enter your CONNECT code. If you have purchased one, then enter that one, otherwise follow the instructions on how to purchase. You can use the CONNECT homework for free for a short time (2 weeks), then your purchased code will be required.

D. Check the vendor's fine print carefully. There may be several options that bundle the paper book, e-book and CONNECT in different ways. **CONNECT comes with an e-book included**, but they also give you an option to get a paper copy (costs more). Sometimes buying the hard cover 13th ed. book gives you CONNECT HW and an e-book included. If you wish to have a **hard copy** textbook but don't want the newest edition, you can always purchase a separate used hard copy of the textbook. They are cheap. **Any edition of the Chang book will be acceptable, but I recommend the 10th edition or later (i.e. 10th, 11th, 12th, 13th).**

**Topics Covered** - See Appended Contents from the Textbook at the end of this syllabus. We will cover the first ten chapters of our textbook. Some topics will be omitted due to time constraints.

**Workshop:**

Workshop is a required component of the CHEM 1305 course. Every student enrolled in a CHEM 1305 Lecture section must also be co-enrolled in a CHEM 1305 Workshop section. **All workshops meet during the 1st week of school** (and for the rest of the semester).

**Attendance is required in workshop.**

Each of the Workshops meets for a two-hour period and is instructed by a Peer Leader. **The Workshop format enables 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) to enhance learning.** Workshops will often have a supplemental syllabus to help delineate the requirements. Check with your Peer Leader.

**Workshop Office Hours:** The Team of Workshop Peer Leaders (PL) have several office hours every day of the school week. The actual hour and location of the office hours will be announced in the workshop and posted on Blackboard. Though each PL has their own specific office hours each week, you may consult with any Peer Leader during her or his office hours.
**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 - CHEM 1306 sequence is designed for students who are majoring in a field of science or engineering. Students majoring in other disciplines may prefer (but are not required) to take the CHEM 1407 - 1408 sequence, which contains more descriptive and less quantitative material. Please check with your academic advisor.

**Resources:**
**Blackboard:** Announcements, help files, and grade results will be made available using Blackboard. You are strongly advised to use the resources posted on Blackboard. Check often for content updates. To access Blackboard:
• Go to your myUTEP web page. 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.

**Secretarial Services:**
The main office of Chemistry Department is located in the Chemistry and Computer Science Building CCSB 2.0704. Staffing times may vary under the COVID-19 restrictions. The phone number is 915-747-5701.

**Learning Goals:**
This is the first part of General Chemistry for scientists, engineers and pre-medical students. 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.
• Learn how to work successfully in teams to solve challenging chemical problems.
• Learn how to argue persuasively but respectfully about chemical concepts.
• Practice oral reporting out to their entire Workshop, thus gaining confidence in public speaking and to reinforce retention of knowledge.
**Instructor Expectations:**

- Students shall attend all lectures and all workshops.
- Students shall complete all homework assignments. It is the students’ responsibility to finish assigned lecture Homework and Assignments by due dates; it is the student’s additional responsibility to finish, and turn in to their Peer Leaders, assigned Workshop Workbook homework by due dates.
- Students will read the chapters covered before class and consult with the professors or Peer Leaders for any questions.

**Course Withdrawal Policy**

Classes dropped prior to the official census date will be deleted from the student’s semester record. After this date, but only before the official course drop deadline, the College of Science permits any student to drop with an automatic “W”. After the official course drop deadline, students who withdraw must receive grades of “F”. See drop date on the UTEP website.

The UTEP Spring 2020 course drop deadline is posted on the UTEP website. The College of Science (COS) will remain aligned with the University policy and NOT approve any drop requests after that date. IF you have a major issue that prevents completion of your semester, they (COS) will often allow you to withdraw from the university (i.e. you lose all your courses for that semester).

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. The College of Science requires Incomplete Contracts be limited to one month. 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.

**Laboratories:**

CHEM 1105 Laboratory is a separate course with a different instructor. CHEM 1105 is not Workshop and Workshop is not CHEM 1105. Workshop is an integral part of CHEM 1305. The content and experience in CHEM 1105 laboratory is also designed to enhance the materials covered in lectures for CHEM 1305 and is therefore recommended.

**Examinations:**

CHEM 1305 examination questions are designed to test the understanding of basic. Many examination problems involve calculations; this is the reason for the mathematics prerequisite. Students are strongly encouraged to learn the process involved in problem solving rather than to memorize specific facts.

Four regular examinations and one Final Exam are scheduled. The final exam scheduled time is dictated by the University and is posted on the UTEP College of Science website. The dates for the four regular exams will be posted on Blackboard.
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 proven University related activities (e.g. out-of-town research presentations, sporting events, and others pre-arranged with the professor) and must be arranged with the professor at least 7 days prior to the date of the respective examination.

For every examination:

- NO CELL PHONES, tablets, secondary computers, OR OTHER ELECTRONIC DEVICES MAY BE USED DURING EXAMINATIONS.
- Exams are closed book. No access to notes or photos is allowed during the exams.
- We will be using a special answer sheet for recording multiple choice answers on exams. It is NOT a SCANTRON (green). It is called an Apperson answer sheet. The correct type will be described in class and on Blackboard. They will be sold in the UTEP bookstore, but please make sure they are the correct type.

**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 must be referred to the Dean of Students Office for disciplinary action. Studying together and discussing homework problems etc is encouraged, but you still must do your own work.

**Students with Disabilities:**

Students with a documented disability can contact the Center for Accommodations and Student Services (CASS) to take exams with appropriate accommodations. **Any pre-arrangements must be made known in the first two weeks of class** and the appropriate CASS generated documentation presented to the instructor. The CASS office is located in Room 106 Union East Building and can be contacted at (915) 747-5148 Voice, (915) 747-8712 Fax or via email at cass@utep.edu.

For each exam the student requiring CASS services or special arrangements must notify CASS at least 3 days prior so the professor can be notified and be ready to supply the exam materials to the CASS office.
Grade Evaluation:

Letter grades for the CHEM 1305 course are assigned on the basis of your performance in the course and are determined by your total score earned during the semester. The final course grade is based on the following calculation:

A) Final examination (comprehensive) score (25%)

B) Workshop (20%)

C) CONNECT online lecture Homework (10%)

D) Regular Examinations (45%).

Four Regular Examinations will be given. The exact cut-off scores for your letter grade in 1305 will be determined at the end of the semester, but often follows a traditional pattern or better (more lenient), something like 70%, 80%, and 90% for grades of C, B, and A, respectively.

Course Topics Covered are Appended (next page). Also see files posted on Blackboard.
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1. Chemistry: The Study of Change  
2. Atoms, Molecules, and Ions  
4. Reactions in Aqueous Solutions  
5. Gases  
6. Thermochemistry  
7. Quantum Theory and the Electronic Structure of Atoms  
8. Periodic Relationships Among the Elements  
9. Chemical Bonding I: Basic Concepts  
10. Chemical Bonding II: Molecular Geometry and Hybridization of Atomic Orbitals  
11. Intermolecular Forces and Liquids and Solids  
12. Physical Properties of Solutions  
13. Chemical Kinetics  
14. Chemical Equilibrium  
15. Acids and Bases  
16. Acid-Base Equilibria and Solubility Equilibria  
17. Entropy, Free Energy, and Equilibrium  
18. Electrochemistry  
19. Nuclear Chemistry  
20. Chemistry in the Atmosphere  
21. Metallurgy and the Chemistry of Metals  
22. Nonmetallic Elements and Their Compounds  
23. Transition Metals Chemistry and Coordination Compounds  
24. Organic Chemistry  
25. Synthetic and Natural Organic Polymers  

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