Instructor: Dr. Patrick Lackey  
Email: lackeyp@westminster.edu  
Office: HSC 363  
Office Hours: Monday: 10 – 11 AM, Thursday: 2 – 3:30 PM

Course Description (from Westminster Undergraduate Catalog):
A course emphasizing stoichiometry, chemical equilibria, acids and bases, chemical kinetics, thermodynamics, quantum phenomena, and interactions of science and society. In the laboratory program students will investigate chemical systems, analyze observations, devise explanations, and communicate results.

Required Materials:

- CHE 117 Course Packet
- Calculator
- Safety glasses

Bring these to every class

Required Textbook and Online Learning System


Required Online Homework

OWLv2 – you should have received information about this pre-requisite already. If you have not, contact your professor.

Course Philosophy

CHE 117 covers material that is beyond a high school level. In order to accomplish this, it assumed you have a working knowledge of chemistry fundamentals including, but not limited to, element names and symbols, common cations and anions, chemical formulas, writing and balancing chemical equations, unit conversions, and gas laws.

In addition to the conceptual material covered in class, this course emphasizes the student’s ability to think critically, communicate effectively, and work in a team-oriented atmosphere. Lecture and laboratory components are integrated.

Student Outcomes

- Demonstrate an understanding of chemical principles by applying them to interpret data and solve problems.
- Demonstrate an understanding of the chemical nature of the natural world.
- Demonstrate an understanding of the interactions between science and society.
- Demonstrate awareness of some of the ethical issues in science and their implications in the present and the future.
- Record data and observations accurately and draw logical conclusions.
- Evaluate data and conclusions critically.
- Communicate results and conclusions effectively.
Course Requirements and Grading

Course Component Weights
Laboratory Assignments = 20%
Homework = 15%
Exams = 65% [4 Term Exams (12.5% each), Final Exam (15%)]

Grading Scale

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<tr>
<th>Grade</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>A</td>
<td>93.0 – 100 %</td>
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<tr>
<td>A-</td>
<td>90.0 – 92.9 %</td>
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<tr>
<td>B+</td>
<td>87.0 – 89.9 %</td>
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<tr>
<td>B</td>
<td>83.0 – 86.9 %</td>
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<tr>
<td>B-</td>
<td>80.0 – 82.9 %</td>
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<tr>
<td>C+</td>
<td>77.0 – 79.9 %</td>
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<tr>
<td>C</td>
<td>73.0 – 77.9 %</td>
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<tr>
<td>C-</td>
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Exams: The four examinations throughout the semester will consist of a mixture of conceptual problems and mathematical problems which require a calculator. Many (but not all) problems will be similar (but not identical) to problems encountered in classroom activities, laboratory projects, online homework assignments, and assigned reading. Although each exam will focus on a specific set of chapters, learning subsequent material requires building up from a knowledge base of previous material. In other words, material from the beginning of the course can show up on later exams.

Final Exam: If your score on the Final Exam is higher than any of your four exam scores during the semester, then your final exam score will replace your lowest exam score.

Homework: Throughout the course, you will have assignments from OWLv2. These assignments will be correlated with the current course content and help you prepare for class time. Both mastery of the assignments and your ability to finish assignments on time will be incorporated into your OWLv2 homework grade. You must complete each assignment by the deadline. OWLv2 assignment deadlines will be posted on D2L. Late submissions will not be accepted under any circumstances.

OWLv2 assignments are graded PASS/FAIL. A passing grade is 90% mastery of the assignment. Your grade on homework will depend on how many OWLv2 assignments on which you earn a passing grade.

To receive an “A” you must pass 11 of 12 OWLv2 assignments
“B” you must pass 9 of 12 OWLv2 assignments
“C” you must pass 7 of 12 OWLv2 assignments
“D” you must pass 6 of 12 OWLv2 assignments

Practice Exams: Ungraded practice exams will be provided prior to each exam to help you prepare. These practice exams will preview the types (NOT the exact questions) of questions you are likely to see on the exams. Prior to the exam, a key will be provided with which to compare your solutions.

Laboratory: The “block schedule” format for this course allows flexibility as to the length of laboratory experiments. Many days, there will be 1 hour of classroom work followed by 1 hour of laboratory work. Some days may require 2 full hours of lab work and other days may have no lab work. The experimental work done a day that you were absent cannot be made up. The laboratory component of your grade will suffer accordingly. Most lab work is collaborative and conclusions are drawn from class data.
**Laboratory Quizzes:** Before each lab there will be a brief (2-3 questions) lab quiz related to the experiment to be performed that day and any safety considerations that you should know before performing the lab experiment. These quizzes will contribute to the laboratory portion of your grade.

**Laboratory Project:** At the end of the semester we will conduct a larger scale laboratory project. For this project, you will be required to think like a scientist. You will be asked to determine the identity of a compound by planning and carrying out experiments and evaluating data. While there will be materials and guidance provided, you will ultimately be doing the process of scientific investigation yourself. Further details will be provided at the end of the semester.

**Reading your Chemistry Textbook:** Reading a science textbook is not like reading a novel. To read well, you must turn the reading into a targeted, active process. One way to do this is to assemble a preliminary list of questions to answer as you read the text. For example, you might find the words in bold and work to be able to define each of those at the end of the reading. Or you might set yourself a goal of being able to answer the end of section practice questions by the time you finish reading the section. The main point is that you are actively seeking specific information as you read.

### Course Policies

**Attendance and Make-Up Policy:**
- Attendance at all laboratory experiments is mandatory.
- Two unexcused laboratory absences will result in a failing grade for the course.
- Unexcused absences are all absences that are not cleared with the instructor beforehand. If you must miss class for a foreseeable circumstance (field trip, athletic competition, etc.) you must clear your absence with your instructor at least a week ahead of time.
- In the case of emergencies (family, medical, or otherwise), you must contact your professor within 24 hours of the missed lab or exam.
- Poor planning or poor time management is not an emergency.
- The professor reserves the right to ask for documentation in the case of any absence.
- **Excused absences and alternate arrangements are only made by the instructor.**
- A grade of zero will be recorded for any work (homework, lab, exam) missed due to an unexcused absence.
- Late homework will not be accepted for any reason. The online submission deadline is a hard deadline and cannot be changed.

**Lab Clothing:** You must wear sleeved shirts, and pants or skirts long enough to cover your knees, closed-toed shoes, and a pair of splash goggles. Without this attire, you will not be permitted to participate in lab!

**In-Class Device Policy:** You must bring a scientific calculator with you for every class period. You may not use a cell phone, PDA, or any other electronic device that has a function other than a calculator. Cell phones should be put on do not disturb and stowed away during class.

**Accessibility Statement:** Westminster College actively strives for the full inclusion of all our students. Students with disabilities who require access solutions for environmental or curricular barriers should contact Faith Craig, Director of Disability Resources, located in 209 Thompson-Clark Hall. (email: craigfa@westminster.edu; phone: 724-946-7192)
**Academic Integrity:** Details of the Westminster College Academic Integrity Policy (AIP) can be found in the *Westminster College Undergraduate Catalog*. Violations of the AIP include cheating, misconduct, plagiarism, and providing false information (including experimental results). Academic dishonesty will not be tolerated. The first citation of academic dishonesty will result in a grade of zero for the specific assignment. The second citation will result in a failing grade for the course. All citations of academic dishonesty will be reported to the Dean of the College, in accordance with college policy.

In this course you will often work in pairs and groups and sometimes with the same data. We will share approaches to problems, but unless explicitly instructed otherwise, the work you turn in must be your own: state ideas in your own words, and complete mathematical work independently. With the exception of raw data, do not share electronic files (e.g. documents or spreadsheets) of course-work with your classmates. If in doubt, check with your instructor BEFORE sharing work.

**Student Expectations:**
- Read and consider the assigned material prior to class.
- Bring your course packet, the necessary handouts, a pencil, and a calculator to every class meeting.
- Participate in classroom discussion and team assignments.
- Complete all assignments on time.
- Write down your questions and bring them to class, or send your instructor an e-mail message.

  **It is expected that students spend a minimum of 2 hours outside of class for every hour spent in class!**

**Additional Help:** Chemistry 117 proceeds at a very rapid pace. Keep up with the material! Do ALL suggested problems! For additional help, come see me (stop by my office or make an appointment), attend help sessions, and/or contact the Learning Center (x6700)