

Course Syllabus

Survey of Chemistry I

Valdosta State University, Kingsbay, Georgia
CHEM 1151K, Fall 2008, A08 (82511)

Instructor: Dr. Lucas (Stephen Lukacs, Ph.D.).

Class Hours: Face-to-Face on Mondays 17:30 – 22:30 and Online via VSU's WebCT.

Laboratory Hours: Wednesdays 17:30 – 20:00 at Camden County High School (CCHS) Room B9.

Email: sjlukacs@valdosta.edu

Texts: Below are the required texts and materials which are available in the Kingsbay Bookstore and will be used in the Kingsbay CHEM 1152K course.

1. McMurry, John, Castellion, Mary E., Ballantine, David S., *Fundamentals of General, Organic, and Biological Chemistry, 5th Ed.*, Prentice Hall: New Jersey, (2007), ISBN-10: 0131877488, ISBN-13: 9780131877481.
2. Woodfield, Brian F., Asplund, Matthew C., Haderlie, Steven, *Virtual ChemLab: General Chemistry, Student Lab Manual / Workbook, 5th Ed.*, Prentice Hall: New Jersey, (2007), ISBN-10: 0131743074, ISBN-13: 9780131743076.
3. A scientific calculator with its owners manual. You do not need one with graphing. You can purchase one for as little as \$5 – \$20, but it must be a “scientific” calculator.

This optional supplement contains chapter outlines, worked solutions, and answered self tests for the entire textbook.

1. McMurry, Susan E., *Study Guide and Full Solutions Manual, 5th Ed.*, Prentice Hall: New Jersey, (2007), ISBN-10: 0131877747, ISBN-13: 9780131877740.

Purpose: The intent of this course is to introduce the concepts of chemistry. Chemistry is the study of our natural world. It is the basis of all life, the sky, the sun, the oceans, all of industry, and the commercial products you use. Literally, everything you touch and see is chemistry, including your own body. To understand the concepts of chemistry is to bring you closer to nature and our physical world.

The concepts of chemistry can be difficult to understand, therefore, I suggest that each student work to form their own personal perspective of chemistry, and the concepts therein. This is usually done through studying various perspectives on chemistry and then bringing these different perspectives together to form your own personal perspective. This approach has proven invaluable, for it allows you, the student, to really understand the concepts and apply them to your everyday life and surroundings. This personal understanding will persist with you after the course is completed.

The course is designed to bridge the gap between the physical and biological natures. It is also designed to exercise “reading to understand” or reading comprehension, grammatically skilled writing, conceptualization, arithmetic and mathematics, as well as, practical word and problem solving. These mental exercises are invaluable in our modern world and work-force.

Expectations and Grading: Each student is expected to study each assigned chapter of the text, work and solve required problems and worksheets, and frequent the online course materials and lectures.

Working in groups for study and problem solving is permissible, however, performance and understanding will be tested and judged on an individual basis. Therefore, study in groups if you feel you need it, and it will aid you in your own personal understanding of the material.

The quizzes and exams will contain multiple choice, calculation, and essay questions. There will be at least a few essay questions per test. They will be graded on their content, spelling, grammar, and sentence structure. When you type on a test be sure to use proper and formal written English. Also, the essay questions must be in your own words, not copied from the lectures, book, or any other material. All quizzes and tests will be manually graded within WebCT.

	Points
6 Laboratory Reports (Neat & Typed)	30 each, 6 x 30 = 180 total, 18% of total.
4 Quizzes (WebCT)	50 each, 4 x 50 = 200 total, 21% of total.
2 Exams (WebCT)	300 each, 2 x 300 = 600 total, 61% of total.
Total	980 total

Class Schedule

<i>Aug. 11</i>	Chapters 1 & 2. Introduction and Measurements. Online Lectures - “Conversions”. Lab 1 – VCL 1-1, 2-1, 2-2, 2-3, & 2-4. Elements and Measuring Mass, Density, Temperature, & Heat.
Aug. 18 Quiz 1 Aug. 22 - 24	Chapter 3. Atoms and the Periodic Table. Online Lectures - “The Nature and Structure of Energy” and “Electron Configurations” Lab 2 – VCL 3-1, 3-2, & 3-3. Discovering the Electron. Thomson's Cathode Ray & Millikan's Oil Drop Experiments. Discovering the Nucleus. Rutherford's Experiment.
Aug. 25 Quiz 2 Aug. 29 - 31	Chapters 4 & 5. Ionic and Covalent (Molecular) Compounds. Worksheet – Worksheet 4. Lab 3 – Experiment 17, “Lewis Structures and Molecular Models”. Bring in toothpicks and two large and six small styrofoam balls and the lab printout off WebCT.
Sept. 1	Labor Day – No Class.
Sept. 8	Chapter 6. Chemical Reactions: Classification and Stoichiometry. Online Lectures - “The Four Steps to Writing and Using Proper Chemical Reactions”, “Reactions ‘Speak’ in Terms of the Mole”, and “How Much Pollution is Produced by a Single Tank of Gas?” Worksheets – Worksheets 6, 7, & 8. Lab 4 – VCL 3-4 & 3-5. Emission Spectra.
Sept. 11 - 14	Test 1. All of the above chapters/sections and online lecture and supplemental materials.
Sept. 15 Quiz 3 Sept. 19 - 21	Chapter 7. Chemical Reactions: Energy, Rates, and Equilibria. Lab 5 – VCL 7-3, 7-4, & 7-5. Heats of Combustion: Chicken Fat, Sugar, & TNT.
Sept. 22 Quiz 4 Sept. 26 - 28	Chapter 8 & 9. Gases, Liquids, and Solids & Solutions. Online Lecture - “The Ideal Gas Law” Lab 6 – VCL 7-6 & 7-7. Heats of Reaction: NaOH + HCl & MgO + HCl
Sept. 29	Chapter 10. Acids and Bases.
Oct. 2 - 5	Test 2. All of the above, from August 11th, chapters/sections and online lecture and supplemental materials.

WebCT Layout

Syllabus – This syllabus in WebCT format. The above Course Schedule is your weekly calendar and tempo of the course.

Lectures – The online lectures. If you have trouble printing them accurately, they are also available in the Resources link in a Microsoft Word file format.

Worksheets – Worksheets of problems and solutions of common problems from prior semesters. These do not replace the questions and problems at the end of each assigned chapter. You are responsible for the problems in each chapter also.

Resources – Chemistry Resources. You should printout the “Conversions and Constants (Word)” and the “Periodic Table (Word)” files. These are very handy resources for the entire semester. The other resources are the online lectures in Word format.

Assessments – This is location of the online quizzes and tests. This section will show quizzes, tests, and allow you to print graded tests, as they become available. After you complete an assessment it is a good idea to print it and bring it to class to discuss any of the questions.

Discussions – Online discussion forum. This is where you ask questions and I or other students in the course attempt to help you with your difficulty. It is here that participation will be counted.

Mail – Online private mail. Use this mail to email me, the entire class, or selected students within the class. **Important:** Do **not** email me through normal internet email. This allows for full encapsulation of all email within the WebCT format.

Additional Notes and Disclaimer

The contents of this syllabus are subject to change, and the changes are at the discretion of the instructor.

It is the personal responsibility of the student to ensure that any missed points are formally brought to the attention of the instructor. Written and formal proof of excuse must be presented in a timely manner, within one week of the missed assignment, quiz, or exam. If the issue is not resolved with the instructor in a timely manner, then the points can not be made up. It is at the instructor’s discretion to allow the student to makeup such missed points and the method in which the missed points will be recounted.

All students are bound by the College Honor Code as described in the College Handbook. Any student who submits work not entirely of his/her own creation or aids another in doing so will receive a failing grade for that assignment. Other penalties may be enacted depending on the severity of the offense and in accordance with college policies.

Warning: Do not plagiarize for any reason or with any material within this course, including, but not exclude to, laboratory reports, essay questions on tests, or makeup assignments. Plagiarizing includes paraphrasing. Therefore, do not plagiarize or paraphrase. All work must be originally yours and in your own words.