

CAHS 125
Introduction to College Chemistry
Fall 2007
George E. Perry Ed. D., NREMT-P
(304) 260-4397
Meeting times: Lecture: Wednesday 12:25-3:05
Laboratory
Mon- 2:00-3:50
Wed- 3:30-5:20

Office Hours- Tues, Thur, 9-12

COURSE INFORMATION

Course Description: This course is for students with little or no prior background in chemistry, whose program (health sciences, for example) requires one semester of chemistry, or who require preparation for additional course work in chemistry. Emphasis is on calculations and measurement, dimensional analysis, formulas and equations, stoichiometry, atomic structure, and molecular geometry, gas laws and solutions.

Required Materials

Textbook: Hein/Arena, *Foundations of College Chemistry*, 12th Ed.

Programmed Text: Sackheim, *An Introduction to Chemistry for Biology Students*, 9th Ed.

Lab manual: Hein/Peisen, et. al., *Foundations of College Chemistry in the Laboratory*, 12th Ed.

Calculator:

Student Learning Outcomes

At the completion of this course, students should be able to:

1. Apply fundamental mathematical skills, scientific notation, and significant figures to chemical concepts and data;
2. Organize and evaluate numerical measurements using dimensional analysis to setup and solve problems;
3. Access, interpret, and communicate chemical information using symbols, formulas, equations, and appropriate IUPAC nomenclature.
4. Connect the abstract theories of science/chemistry to macroscopic observations and empirical data; to information accessed from the real world, and to other disciplines and situations;
5. Use technology to make laboratory measurements, analyze and present data, and collect relevant information;
6. Use the atomic structure and electron configuration of elements to determine bonding behavior, molecular geometry, and properties of compounds; and
7. Continue into a more advanced level of science successfully

Outcomes Assessment

Assessment includes more than the tests, and graded assignments discussed below. Assessment will also be accomplished by non-graded, in class, individual, and group projects. Participation in these projects and all other class activities is required. Ten percent of the final grade is determined by attendance and participation. Students who attend class and participate in class room discussion and activities will receive 2 points per class. Students who attend but choose not to participate could receive 1 point. Non- attendance (without prior excuse from the instructor) will result in no points.

Course Policies

Attendance

Introduction to Chemistry and Chemistry Lab are by their nature participatory curricula. Attendance at all lectures, labs and other activities dealing with this course is required. An attendance record will be kept and participation will be a factor in determining your grade for the course. If for any reason you must miss a class, prior notification of the instructor is required. Preferably this would be direct verbal communication, but at the very least a message must be left on my answering machine, which is time and date stamped, prior to the beginning of class. Without this notification the absence will be considered unexcused. Students who miss class, either excused or unexcused, are responsible for all material, quizzes, and activities covered in that class.

Laboratory Requirements:

Students are required to turn in written laboratory reports at the beginning of the next scheduled laboratory session. There will be quizzes associated with most labs. Absences from laboratory classes cannot be made up and students are responsible for the all material in every lab on the laboratory exams even if they were absent.

Grading Calculation: Final grades for the semester will be computed on the basis of a lecture average, a lab average, and a comprehensive final exam.

Quizzes/Homework 25%	Exams 30%	Lab Grade 25%	Final Exam 20%
Quizzes (Periodic Announced throughout semester)	3 exams	Lab reports/quizzes	Comprehensive
Homework (Unannounced checks throughout semester)		Lab midterm	
		Lab final	

90-100%	A
80-89%	B
70-79%	C
60-69%	D
Below 59%	F

Week	Lecture Topic	Homework All odd	Readings	Lab Exercise
Aug 20	Introduction Measurement and Significant Digits Dimensional Analysis	Pg 42 1-45	CH 1 -1-9 CH 2 -10-22	Safety/Lab Techniques #1
Aug 27	Metric System, Density Matter and Energy Quiz 1	Pg 44 49-55 Pg 62 1-23 Pg 77 1-11	CH 2 -23-40 CH 3 - 47-58 CH 4 – 66-72	Measurements, #2
Sept 3	Atomic Theory and Structure Modern Atomic Theory Quiz2	Pg 100 5,17,19 & 21-49 PG 220 1-41	CH 5 – 85-100 CH 10 – 203-223 PT – 3-18	Freezing Points/Graphing of Data # 6
Sept 10	No Class NAEMSE CONFERENCE			NO LAB NAEMSE CONFERENCE
Sept 17	Periodic Table Exam 1		CH 11 – 224 – 237 PT - 19-27 CH 1-5 and 10	
Sept 24	Periodic Table, Ionic Bonding, Covalent Bonding, VSEPR , Naming Inorganic Compounds Quiz 3	Pg 257 1-41	CH 11 237-256 CH 6 102 – 116 PT – 29-42 PT - 102-125	Water in Hydrates # 7
Oct 1	Periodic Table, Ionic Bonding, Covalent Bonding, VSEPR , Naming Inorganic Compounds Quiz 3	Pg 257 1-41	CH 11 237-256 CH 6 102 – 116 PT – 29-42 PT - 102-125	Properties of Solutions # 8
Oct 8	Naming Inorganic Compounds, Quantitative Analysis Quiz 4	Pg 122 1-25 Pg 146 1-27	CH 6 117-120 CH 7 128-138	Lab Midterm
Oct 15	Writing/Balancing Equations Types of Reactions Exam 2	Pg 172 1-39	CH 8 150 – 167 CH 6,7,8, and 11	Resuscitation Day
Oct 22	Stoichiometry, , Quiz 5	Pg 193 1-17	CH 9 177-192	% Comp. Potassium Chlorate, #9
Oct 29	Gas Laws Quiz 6	Pg 301 1-47	CH 12 265 – 295	Displacement Reactions Double, #10,
Nov 5	Properties of Water, Solutions and Concentrations, Acids, Bases, Salts, and pH Quiz 7	Pg 332 1-25 Pg 365 1-25 Pg 401 1-15	CH 13 308-326 CH 14 337-355 Ch 15 373-394 PT 43-80	Neutralization Titration # 22
Nov 12	Chemical Equilibrium, Radioactivity; Nuclear Chemistry Exam 3	Pg 442 1-17	CH 16 405 – 416, CH 16 426- 429 CH 18 468- 489	Lewis Structures and Molecular Models # 17
Nov 19	THANKSGIVING NO CLASS			NO LAB
Nov 26	Organic Chemistry, Biochemistry- Carbohydrates Quiz 8		CH 19 495- 532 PT 128-150 CH 20 541-547 PT 172-180	Alcohols etc. # 28
Dec 3	Biochemistry- Lipids, Proteins, Nucleic Acids Quiz 9		CH 20 547-557 PT 182-208	Final Lab Exam
Dec 10	Comprehensive Exam		All Chapters	No Class

