

Che 110-003

Introduction to Chemistry

Fall '04

MW 6:15 – 7:30

SC 305

Instructor: David Ledden

SC 305

MW 5:30

Home: (859) 727-8885

School: (859) 525-0255

Planning period is 9:30 – 10:00. School ends at 2:35.

I can meet with you after school, by prior arrangement,

at St. Henry H.S. (Erlanger), where I teach during the day.

Text: *Introductory Chemistry*, Nivaldo J. Tro

Grading Scale:	90 – 100	A
	80 - 89	B
	70 - 79	C
	60 - 69	D
	Below 60	F

3 Tests @ 100 **300 [50%]**

8 Quizzes @ 25 **150 [25%]**

(drop lowest 2 scores)

Standardized Final **150 [25%]**

(Comprehensive exam,
given to all 110 sections)

No makeup Tests or Quizzes will be given. Contact instructor if you must miss a test or quiz (or have missed one because of an emergency or illness), so that an alternative *time* can be arranged for you to complete the missed work. In general, you will have until the next class period to take a missed quiz. This can include coming to St. Henry to take it, or coming to NKU at 5:30 the next class meeting night – or other arrangements we agree upon. Please contact me ASAP to make such arrangements. *Note: it is best to call school on class days, as I often do not go home prior to coming to NKU, and may miss your call.*

I will be available before each class and can stay afterwards for a while if you need help. We can also meet at St. Henry after 2:45 or so. Please call the school office to check on my availability before coming to school, or pre-arrange such a meeting with me. I have an answering machine on my home phone if you need to leave a message. *Please include a number where you can be reached!*

The regular chemistry faculty at NKU are a good source of help if you are on campus during the day, or cannot get with me. Check their offices for times of availability or set an appointment. They are generally willing to help students when they can. The Chemistry Department Office is on the second floor of the Science Building (where we have class) towards the Regent's Hall side of the building. You can leave a message there for me, or turn in materials, etc. I have a mailbox in the office area.

Attendance is important – vital, really – in this course in order for you to gain information, insights, and clarification of the text materials, and to receive help with the problems. Scheduled quizzes and tests are noted on the attached Tentative Syllabus { Quizzes are denoted as Q – x }. Homework will be assigned on a regular basis to help you learn and practice the details of chemistry. It will not be collected or graded, but will be discussed in class and/or answers will be provided for self-checking purposes. *It is extremely important that you attempt the homework exercises – it will prepare you for the quizzes and tests, as well as aid you in your understanding of chemistry.*

There is much material to cover – and time is short, really – so keep ‘plugging away’ at it; a consistent effort pays back much more than last-minute ‘cramming’. And don’t forget to seek help when you need it. I will make myself as available as possible; sometimes a short phone call can clear something up for you. Don’t forget that other NKU chemistry faculty members are on campus by day and can help you. Try to find a ‘study buddy’ to help each other. I generally offer help session(s) before each test at a time(s) convenient for me and the majority of students. I will also provide a test ‘preview’ before each test to aid you in preparing for it. Good luck in your study of the interesting and important world of chemistry!

You will need a scientific type calculator. I recommend a solar [light-powered] type. It does not have to be a graphing type calculator, unless you already have one. A suitable calculator can be purchased for around \$12-20 in many stores. Look for sales! A notebook (for lecture notes) and some folders with pockets (to keep track of handouts, tests, quizzes, etc.) will also be helpful to have on hand.

A **Tentative Syllabus** for the course is attached. This will be subject to adjustments as the course progresses, Quiz and Test dates are firm, unless you are notified otherwise. The numbers in [] refer to chapters and sections in your text where information pertinent to the topic may be found.

The FINAL EXAM will be a standardized, comprehensive exam taken by all students in the Chem 110 sections. More details will be given as they become available.

Refer to the NKU Catalog of Courses for important dates concerning dropping the course, etc. Also, if you cannot finish the course, please do not just ‘stop’ coming, as happens many times. Visit the Bursar’s Office to officially withdraw [‘W’]. Otherwise, I have no choice at the end of the course but to assign a grade of ‘F’.

T E N T A T I V E S Y L L A B U S

MON

WED

AUG	23	Introduction [1.5; 2.2; 4.5] Sci. Notation / Ratio and Proportion / Metric System Chemical Symbols	25	Energy / Matter [1.1-3; 3.1-6, 8; Factor-Label method 2.6-8]
SEP	30	Sig. Figs. [2.3,4; 4.1-5, 8 Conversion factors Gross structure of atoms / Isotopes	1	{Q – 1} Density / use [2.9; 4.9; 5.11] of formulas Atomic weights / ‘Weighted’ average / Formula Wts.
	6	Labor Day Holiday	8	% Composition [6.6-8 ; Notes] Empirical formulas Error analysis I
	13	Molecular formulas [6.9; 8.5 – 6] Error Analysis II Electron arrangement – importance of	15	{Q – 2} Periodic Table: [4.6; 9.7-8] ‘regions’ of / relation to electron arrangement
	20	‘Facts About Atoms’ [Notes; 4.7; Ion formation 5.5 – 7] Ionic bonding / nomenclature	22	TEST 1
3.7;	27	Trends on P – Table [4.6; 9.8,9] Transition metals / polyatomic ions Properties of ionic compounds	29	{Q – 3} Lewis symbols [5.8, 10; Covalent bonding 7.3-4] Nomenclature Balancing equations
OCT	4	Diatomic elements [7.10; Notes] Multiple bonds Lewis structures Types of reactions	6	{Q - 4} Coordinate bonds [6.3; 10.8] Violations of ‘Rule of 8’ Lewis structures / resonance
	11	Bond polarity [Notes; 10.7,8] Electronegativity Mole concept / Avogadro’s number	13	Molecular polarity [8.1-4;] consequences of // influence of shape Stoichiometry I
	18	Fall Break – No Class	20	{Q – 5} VSEPR method [Notes] for dterm’g shapes of consequences of

molecules

	25	Stoichiometry II [8.5,6] % Yield / Limiting reactant	27	TEST 2	
NOV	1	Intro to states of matter [12. 1] Changes of state KE vs. IMF	3	Types of IMF [12.3 – 8] Solids Liquids I	
	8	{Q – 6} Liquids II [11.1-3] Gases: temperature and pressure	10	Charles’s law [11.4,5; 13.1 –4] Boyle’s law : format for solving gas problems Intro to solutions	
	15	{Q – 8} Gay-Lussac’s [11.6; Notes] law / “combined” laws Solubility / Solubility curves	17	Precipitation rxns [Notes; 13.3, 6] Electrolyte vs. non-electrolyte solutions Molarity	
	22	TEST 3	24	Thanksgiving Holiday	
	29	Ideal gas equation [11.8,9; 14] Intro to Acids and Bases pH scale / Arrhenius Theory	1	Applications of Ideal Gas Eqn [Notes; Bronsted-Lowry Theory Neutralization Rxns	
DEC	6	{Q – 8} Strong / Weak [14.7,10; 13.9] acids/bases Colligative properties of solutions	8	Titrations [14.6] Indicators Course Evaluation	
	13	FINAL EXAM			