

Che 110-002

Introduction to Chemistry

Spring '04

MW 6:15 – 7:30

SC 308

Instructor: David Ledden

SC 308

MW 5:30

Home: (859) 727-8885

School: (859) 525-0255

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

4 Tests @ 100 **400 [64%]**

6 Quizzes @ 25 **100 [16%]**

(drop lowest 2 scores)

Standardized Final **125 [20%]**

(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.

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’.

TENTATIVE SYLLABUS

		<u>Tues</u>			<u>Thurs</u>
JAN	11	Introduction [1.5; 2.2-5; 4.5] Sci. notation; Ratio % Proportion Metric system; Chemical symbols	13		Factor-label method [2.6-8; 3.1-8]; Matter and Energy
	18	Density / use of formulas [2.9; 4.1-5]; Gross structure of atoms Isotopes	20		{Q-1} % composition [6.6-7; 5.11] Atomic weights Formula weights
	25	Empirical formulas [6.9; 9.5,6 Electron arrangement / notes	27		{Q-2} Periodic Table [4.6; 9.7-8] regions of / relation to electron arrangement
		Molecular formulas			Significant figures
FEB	1	Ion formation [4.7; 5.5-7] Ionic bonding / nomenclature 'Facts About Atoms' Error Analysis / simple stats	3		TEST 1
	8	Trends on P – Table [4.6; 9.7,8] Transition metals / polyatomic ions Properties of ionic compounds	10		Lewis symbols [5.8,10; 3.7; Covalent bonding / [7.3,4] nomenclature; Balancing equations
	15	Diatomic elements [Notes; 7.10] Multiple bonds Types of reactions	17		{Q-3} Coordinate bonds [6.3; 10.8] Violations of Rule of 8 Bond polarity / electro- negativity
	22	Mole concept [8.2-4; 10.7,8] Avogadro's number Molecular polarity / influence of shape of molecule	24		TEST 2
MAR	1	VSEPR method for [notes] determining shapes of molecules/ consequences of	3		{Q-4} Stoichiometry I [8.1-4]
	8	Spring Break	10		Spring Break
	15	Stoichiometry II [8.5,6] % Yield	17		Intro to states of matter [12.1] Changes of state / KE vs. IMF
	22	Types of IMF [12.3-8] Solids / Liquids I	24		TEST 3
	29	Liquids II [11.1-3] Gases: temperature & pressure	31		{Q – 5} Charles's law / [11.4,5] Boyle's law : format for

			solving gas law problems
APR	5	Gay-Lussac's law [11.6; 13.1-3] 'Combined' gas laws Introduction to solutions	7 Solubility / solubility [notes;13.7] curves. Dilution of solutions
	12	Ideal Gas Equation [11.8, 6] Electrolyte vs. non-electrolytes Molarity	14 {Q – 6} Intro to acids /bases [14.1-4, 9] pH scale / Arrhenius Theory
	19	Colligative [13.9-10; 14.9] properties of solutions pH calculations Bronsted-Lowry Theory	21 TEST 4
	26	{Q-8} Neutralization [14.5,6] reactions / Titrations Indicators	28 Course Evaluation Exam Review
MAY	3	Final Exam 6:45 – 8:45	