

LANCASTER GENERAL COLLEGE OF NURSING AND HEALTH SCIENCES

Course Syllabus – Spring Semester 2005

- I. Title: **CHE 100 General Chemistry**
- II. Course Description: Chemistry 100 is a course designed to provide an overview of the essential concepts and principles of general and organic chemistry along with some introductory biochemistry topics that are necessary for a student to pursue a career of nursing and related health sciences. Important themes include atomic and molecular structure, chemical bonding and reactions, aqueous solutions, and acid – base equilibria. The nomenclature, structure, properties and reactions of organic compounds and selected biochemical substances will also be studied. The laboratory component of the course includes a variety of activities designed to reinforce the lecture material. Both qualitative and quantitative experiments will provide hands-on experience with lab procedures and data treatment and opportunities for critical thinking in the application of scientific principles.
- III. Faculty: Wilmer Nolt
Contacts –
Email - wgnolt@lancastergeneral.org
- nolts@paonline.com
Or - Campus mailbox – See receptionist in main lobby
- IV. Class Meetings: Lecture - Tuesday 12:30 – 2:30 p.m. Room 106
Lab - Thursday 12:30 – 2:30 p.m. Room 212 (Science Lab)
- V. Credits: (3)
- VI. Textbook: Essentials of General, Organic, and Biological Chemistry.
H. Stephen Stoker, Houghton-Mifflin, First Edition, 2003
- VII. School Policies: Students are held accountable for all policies in the Student Handbook and any revisions made to those policies during the academic year.
- VIII. Grading Policy:
- A. Examinations and Laboratories:
- | | |
|---------------------------------------|------------------|
| 1. 4 Lecture Exams (100 points each) | 400 points |
| 2. 12 Lab reports (15 points each) | 180 points |
| 3. 1 Lab Exam | 20 points |
| 4. 10 Study Guides (5 points each) | 50 points |
| 5. Class Attendance and Participation | <u>50 points</u> |
| | 700 points |
- B. Make-up Exams:
If a legitimate reason prevents a student from taking an exam at the scheduled time, he or she must notify the instructor in advance and arrange to take the exam at

another time. If a pre-arranged time is not scheduled, the final exam grade will be counted as the missed exam grade.

C. Laboratory Format:

Laboratory sessions will begin with a pre-lab discussion of the activity for that day. Attendance will be taken. A student must be present for the entire lab session to receive full credit for a graded lab report. Consult the handout sheet for the correct report format. Lab books will usually be collected for grading at the end of each laboratory session. A legitimate reason will be required for make-up work.

D. Grading Scale:

Grade	Description	Quality Points	Point Range	Percent
A	Excellent	4.0	658 – 700	94 - 100
A ⁻		3.7	630 – 657	90 - 93
B ⁺		3.3	609 – 629	87 -89
B	Good	3.0	588 – 608	84 -86
B ⁻		2.7	560 – 587	80 -83
C ⁺		2.2	539 – 559	77 -79
C	Acceptable	2.0	518 – 538	74 -76
C ⁻		1.7	490 – 517	70 -73
D ⁺		1.3	469 – 489	67 -69
D	Poor	1.0	448 – 468	64 -66
D ⁻		0.7	420 – 447	60 -63
F	Fail	0.0	<420	< 60
I	Incomplete			
W	Withdrawal			

IX. Objectives:

Course objectives are that each student will:

1. Be familiar with the classification of matter and the physical and chemical changes that occur during chemical reactions.
2. Understand how chemical bonding as well as molecular structure and polarity affect the chemical properties of substances.
3. Perform calculations using atomic and molecular weights and solution concentrations based on the mole concept.
4. Describe the states of matter in terms of kinetic molecular theory.
5. Understand the importance of acid-base equilibria and buffer systems in chemical and biochemical reactions.

6. Be familiar with the nomenclature, properties, and reactions of hydrocarbons and their derivatives.
7. Know the structural characteristics and properties of several classes of biochemical compounds such as carbohydrates, lipids, and proteins.
8. Measure, record, and analyze laboratory data and report the results in a meaningful format.
9. Appreciate the importance of chemistry in the academic preparation necessary for a career in nursing and other health care fields.

X. Schedule:

TUESDAY LECTURE			THURSDAY LAB	
Week	Date	Subject Matter	Date	Topic
1	Jan. 18	Introduction, Ch.1 Matter	Jan. 20	Safety, I.D. of Chemical Unknown
2	Jan. 25	Ch. 2 Measurements Ch. 3a Atomic Structure	Jan. 27	Measurements, Density
3	Feb.1	Ch. 3b,c Periodic Chart Radioactivity	Feb. 3	Visible Spectroscopy
4	Feb. 8	Ch. 4 Chemical Bonding	Feb. 10	Molecular Structure and Isomers
5	Feb. 15	Ch. 5 Chemical Calculations & Equations	Feb. 17	EXAM I (Ch.1- 4)
6	Feb. 22	Ch. 6 Gases, Liquids, & Solids	Feb. 24	Chemical Reactions and Mole Calcs.
7	Mar. 1	Ch. 7 Solutions	Mar. 3	Solubility and Precipitates
8	Mar. 8	Ch. 8 Chemical reactions	Mar. 10	Blue Bottle Reaction
9	Mar.15	EXAM II (Ch. 5-8) Ch.9a Intro. Acid & Base	Mar. 17	Chemical Equilibria
	Mar. 22	SPRING BREAK	Mar. 24	SPRING BREAK
10	Mar.29	Ch. 9b Acids, Bases, and Salts	Mar. 31	Acid – Base Titration
11	April 5	Ch.10 & 11 Saturated and Unsaturated Hydrocarbons	April 7	pH, Indicators, and Buffers
12	April 12	Ch. 12 Hydrocarbon Derivatives I	April 14	Organic Isomers
13	April 19	EXAM III (Ch. 9-12) Ch.13 Hydrocarbon Der. II	April 21	Spectrophotometry
14	April 26	Ch. 16 Amino Acids and Proteins	April 28	Amino Acid Chromatography
15	May 3	Ch. 14 Carbohydrates	May 5	Review
16	May 10	Final Exam		

