

CHEM 1145 Principles of Chemistry I Spring 2006

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Lectures: Mon/Wed/Fri 1:00 – 1:50 p.m. Rm. 2240 Nursing/Chemistry

Labs: Wednesdays 2:00 - 4:50 p.m. Rm. 1204 Nursing/Chemistry

Course Text: *Chemistry: Molecular Nature of Matter and Change (4th ed)*, Silberberg.

Lab Text: GSU Lab Manual for Chemistry 1145

WebAssign Course Website: <http://www.webassign.net>

Course Goals/Outcomes: At the completion of the course students will be expected to understand:

the basic terms and concepts of chemistry in explaining and classifying matter

the scientific discoveries that shaped our current understanding of chemistry

the subatomic structure of atoms

- how structure relates to the properties of the atom

- how “electronic structure” controls the bonding of the atom

the bonding of atoms to form molecules

- how bonding influences the shape/structure of molecules

- how bonding influences the intermolecular forces between molecules

how intermolecular forces influence the bulk properties of compounds

the basics of chemical experimental procedures and laboratory apparatus

Assessment: Student progress toward these goals will be assessed through the grading of a series of homework assignments and periodic exams, as well as by completion of experimental laboratory activities. The weight of these activities is given in the table below:

<u>Grading</u>	<u>% Grade</u>	<u>Score</u>	<u>Grade</u>
Labs (average of 12 labs)	30%	90-100	A
Exams (average of 4 exams)	40%	80-89	B
Homework	10%	70-79	C
Final Exam	20%	60-69	D
		0-59	F

Labs: Laboratory experiments are designed to complement the material in the lecture (some course material may be presented during the pre-lab lectures before each lab). Many labs have an on-line “prelab tutorial” (<http://cost.georgiasouthern.edu/chemistry/prelabs/>) that you need to complete before coming to lab. **Note One Change:** Do not fill out the quizzes at the end of the tutorials. After completing the tutorial go online to the class WebAssign page and do the prelab quiz that is listed there. Lastly, any material broken during the course must be paid for or a grade of “**Incomplete**” will be received for the course.

Exams: Exams will last for the entire period for which they are scheduled and will cover all new material since the previous exam. The **Final Exam** will be comprehensive for the entire semester.

Homework: Something new in the chemistry department this year is the use of WebAssign for class

assignments (other classes on campus also use WebAssign, so if you already have an account you may use that account and do NOT need to go buy another just for chemistry). If you do not already have an account, you will need to purchase one online (or I believe the bookstore will have spare accounts not bundled inside a textbook). This category will be a variety of assignments. I myself am still learning about WebAssign so I may make changes and/or additions as we go through the semester. Many of these may be made with short notice, so be sure to watch the course website and be certain to ask a classmate if you miss class.

Attendance:

Lecture: While I do not record attendance in class, I ask you to please attend all scheduled lectures. I am here to guide your studies and help explain basic chemical concepts, which I can not do if you are not in class. If you miss a class you are responsible for obtaining notes from the missed material related to any assignment. I am here to help.

Lab: Any unexcused absence will result in a score of “0” for the missed laboratory exercise. Failure to dress safely and appropriately will result in expulsion from the lab and a zero grade for that assignment. Furthermore, while being slightly late to lab will result in a penalty, being excessively late is not fair to your partner, who has already started and done a majority of the work (getting setup is often the tedious part). Students later than 20 min after the start of the lab period will not be allowed to participate in that lab (and will receive a “0” score). Also note: Department Policy dictates that because chemistry is a “hands on” science, a student who misses three laboratory sessions (excused or unexcused) has missed one third of the laboratory exercises and hence has not been sufficiently exposed to chemical methods and will receive **no credit** for the entire laboratory portion of the course.

Academic Integrity: I am here to help each student gain an understanding of the basic concepts of Chemistry in terms he or she understands. I will work hard, answer questions, and give YOU my best. I expect each student to stand on his or her own merit. Know the student conduct code.

Calculators and Cell Phones: You WILL need a calculator in this course, so please remember to bring one to class and **especially to the exams!** I cannot, in good conscience, allow calculators to be handed back and forth. Also, no PDA's or cell phones may be used as calculators (cell phones should be off during exams anyways).

Chem1145 Class Schedule

A tentative class schedule is presented below.
Changes may be made as required during the semester.

Date	Day	Topic	Labs (Wednesdays)
Jan 9 Jan 11 Jan 13	Mon Wed Fri	Classifying Matter (Ch 1.1, 2.1, 2.9) Measurement & Calculations (Ch. 1.4-1.6, 13.4)	
Jan 16 Jan 18 Jan 20	Mon Wed Fri	Martin Luther King Jr Holiday – No Class The Mole Concept (Ch. 3.1-3.2)	<i>Check-In & Safety</i>
Jan 23 Jan 25 Jan 27	Mon Wed Fri	Naming Compounds (Ch. 2.7-2.8) EXAM 1	<i>Exp 1: Ink Analysis</i>
Jan 30 Feb 1 Feb 3	Mon Wed Fri		<i>Exp 2: Fun with Measurements</i>
Feb 6 Feb 8 Feb 10	Mon Wed Fri	Gases and Kinetic Molecular Theory (Ch. 5)	<i>Exp 3: Separation of a Mixture</i>
Feb 13 Feb 15 Feb 17	Mon Wed Fri	Atomic View of Matter (Ch. 1.2, 2.2-2.6) EXAM 2	<i>Exp 4: Nature of Matter – Internet Lab</i>
Feb 20 Feb 22 Feb 24	Mon Wed Fri		<i>Exp 5: A Study of Gases</i>
Feb 27 Mar 1 Mar 3	Mon Wed Fri	Quantum Theory & Atomic Structure (Ch. 7)	<i>Exp 6: Vapor Pressure</i>
Mar 6 Mar 8 Mar 10	Mon Wed Fri	Electron Configurations (Ch. 8)	<i>Exp 7: Atomic Absorption</i>
SPRING BREAK - NO CLASSES			
Mar 20 Mar 22 Mar 24	Mon Wed Fri	Chemical Bonding (Ch. 9)	<i>Exp 8: Periodic Trends & HyperChem</i>
Mar 27 Mar 29 Mar 31	Mon Wed Fri	The Shapes of Molecules (Ch. 10) EXAM 3	<i>Exp 9: Electrolytes & Solution Conductivity</i>
Apr 3 Apr 5 Apr 7	Mon Wed Fri	Orbital Hybridizations (Ch. 11.1 & 11.2)	<i>Exp 10: Study of Hydrates</i>
Apr 10 Apr 12 Apr 14	Mon Wed Fri	Intermolecular Forces (12.1-12.3)	<i>Exp 11: Molecular Models</i>
Apr 17 Apr 19 Apr 21	Mon Wed Fri	Liquid & Solution Properties (12.4-12.5, 13.1 - 13.3, 13.6)	<i>Exp 12: MW from Freezing Point Depression</i>
Apr 24 Apr 26 Apr 28	Mon Wed Fri	EXAM 4 Optional study day	

FINAL EXAM
Wednesday, May 3
12:30pm – 2:30pm Rm2240
Nursing/Chemistry