Chaminade University of Honolulu **Spring 2000**
CH 103L College Chemistry Lab

Instructor. Janet Jensen
Office: HH24 Phone: **735-4811**
email: jensenc001@hawaii.rr.com
Office hours: **MWF 11:30-12:30, TTh 9-10, or by appointment**

Lab section: 01 W 2-4:50 HH49

Materials:

Lab Manual: Stratten,WA, Chemistry in *Context*, 2nd Ed.,1997.
composition style notebook
safety glasses and covered footwear

This laboratory course accompanies the CHI 03 lecture course and is designed to give students a general understanding of experimental work in a chemistry laboratory. During the semester "hands-on" experience will be emphasized along with demonstrations, computer simulations, and work-shops.

The course grade will be based on lab participation as well as report sheets, quizzes and pre-lab assignments. The lab reports will be evaluated for completion and accuracy of the information required. There will be five quizzes given over the course of the semester. The dates and material covered will be announced in class.

As a general rule, there will be no make-up labs offered. If a student has a verified medical excuse (note from a doctor) then it may be possible to make up the missed lab work. If you are absent, please contact the instructor before the next lab meeting.

Finally, for your own safety — no eating, drinking, or smoking in the lab. You must also wear covered foo[illegible] and safety glasses in lab at all times.

CH103L Lab Schedule

Dates	Experiment	Reading Assignment
Jan 26	Weighing Air and Cooling **Water**	CIC: pp 2-1
Feb 2	Photochemical **Bromination; Electromagnetic** Radiation	hand-out computer simulation
Feb 9	**Preparation** and **Properties** of Gases in a Breath	CIC: **pp1-1**
Feb 16	Spectrophotometric Study of **Colored Solutions**	CIC: pp 3-1
Feb 23	Chemical Moles	CIC: pp 7-1
March 1	Energy Content of Fuels	CIC: pp 9-1
March 8	Analysis of Vinegar	CIC: pp 11-1
March 15	**The** Ubiquitous Styrofoam Cup	CIC: PP 19-1
March 22	**Classification and Identification** of Common Plastics	CIC: pp 20-1
Spring Break		
April 5	Salt in Soups and **Pickles**	CIC: pp 25-1
April 12	Synthesis of Aspirin	CIC: pp 22-1
April 19	Fat in Potato Chips and Hot Dogs	CIC: pp 23-1
April 26	Isolation of DNA	CIC: pp 28-1
May 3	Lab Exam	

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Required Textbook:

Schwartz, AT., Bunce, D.M., Silberman, R.G., Stanitski, C.L., Stratton, W.J., Zipp, AP., Chemistry in *Context: Applying Chemistry* to *Society*, Wm. C. Brown Publishers, 2nd ed. 1997.

The purpose of this course is to introduce the student to the general principles of chemistry and relate them to the socio-economic and environmental issues facing the world today.

The course grade will be based on three 45-minute midterms, quizzes, homework assignments, class discussions and a ninety minute comprehensive final.

Course Grade = 30% midterms
20% quizzes
1096 homework
10% class discussions
30% final

Date	Chapter	Subject
1/19	1	Introduction... My chemistry is called the central science
1/21	1	Chemicals... Elements, Atoms, Molecules, Compounds.. Chemical symbols... Stow of MOWN... Chemical reactions...
		Molecular formulas,.. Balancing chemical equations... The air we breathe... Pollutants, we they all man made?
1/26	2	Ozone: Structure, Environmental significance... Subatomic particles... Lewis
1/28	2	Radiation... Destruction at the ozone layer... Chloro-fluorocarbons...
1/31	3	Greenhouse effect and global warming... *The Greenhouse Gases" and What's shape got to do with It?.. Molecular geometry... Molecular vibrations...
212	3	The carbon cycle... Quantifying chemical processes... Make and molar mass... What do we do Win global warming?..
2/4	4	The ...odynamics: Social and molecular perspectives... Heats cl reactions...
2P	4	Energy of life... Energy and technology... Laws of thermodynamics...
2/9	5	Water: Molecular structure, Physical properties... Water and energy- Ionic compounds...
2111	5	Purification of water... Social and legal issues concerning water...
2/14	5	Review
2/16		FIRST MIDTERM EXAM
2/18	6	Add rain... What is acidic stout on add? Adds and bases... Molarity... pH...
2M	6	Acid Ecological damage... Politics of acid rain...
2/25	7	Onondaga LAW A case study.. Mercury poisoning...
2/28	8	Origin of radioactivity... The problem of nuclear waste...
3M	8	Nuclear Fission... Hazards of radioactivity...
W	9	Sun: The ultimate source of energy... Heat transfer... Is water also a heat source?
3/6	9	Electrochemistry and electron transfer...
3/8	9	Cells and batteries...
3/10	9	What is fusion?.. Cold Fusion: Breakthrough or fiction?
3M3	10	Polymers... Monomeric units of polymers... Polyethylene ...

Date	Chapter	Subject
3/15	10	Chain branching... Important polymers...
3/17	10	Condensation polymers... Polyamides... "Paper or plastic?"
3/20	10	Polymers and ecology...
3122		SECOND MIDTERM EXAM
3/24	11	What the doctor said... Should we consult a *kahuna* too? Do we expect mirades from drugs?
3127 - 3131		Spring Break
4/3	11	Organic chemistry clarifies a number of myths... Functional groups... Stereochemistry...
4/5	11	How aspirin works... Hormones... Steroids... "The per
417	11	Ethical considerations: Class discussion
4/10	12	Nutrition: What is a balanced diet?.. The macronutrients...
4/12	12	Carbohydrates and their metabolism...
4/14	12	Fats: Saturated and unsaturated... Cholesterol: facts and ncuon...
4/17	**12**	Proteins... Lipoproteins...
4/19	12	Metabolism: The thermodynamics of the body... Vitamins...
4/24	12	The hunger problem in the world... Food preservation; food additives... Ethical issues...
4/26		THIRD MIDTERM EXAM
4128	13	What chemists are promising for the future: Superconductors; Non-invasive diagnosis...
511	13	Catalysis... Enzymes...
513	13	Chemistry and beyond: Molecular biology...
515	13	Nucleic adds... DNA... Genetic engineering...
5111	Thursday	FINAL EXAM