

# CHEMISTRY 1402

## Syllabus

Textbook: **ESSENTIAL CHEMISTRY: Raymond Chang**

Lab Manual: **Freshman Chemistry Lab Manual by Rangra and Houston**

OBJECTIVE: **You** should be able to understand rules that govern the coexistence of different Phases -- -- Do you know that there are twelve different kinds of ice, and all except one, are heavier than water; Colligative properties such as lowering of freezing point, and vapor pressure; increase in the boiling point, osmotic pressure of a solvent as impurities are added; concept of Equilibrium; concept of Strong and Weak acids / bases; concept and determination of pH; Heat flow between the surroundings and a system; difference between a food and a scientific Calorie; Reaction kinetics, and Redox reactions etc., by the **end of this session.**

**Serious effort will be made to cover the following chapters during this session:**

	Balancing of Chemical Reaction Equation
<b>Chapter 6 &amp; 18:</b>	Thermodynamics
<b>Chapter 14:</b>	Chemical Kinetics
<b>Chapter 15:</b>	Chemical Equilibrium
<b>Chapter 16 &amp; 17:</b>	Acid -Base-Salt systems; pH determination; Solubility equilibria
<b>Chapter 12:</b>	Intermolecular Forces and Liquids
<b>Chapter 13:</b>	Physical Properties of Solutions
<b>Chapter 19:</b>	Electrochemistry

These Chapters numbers out of the seventh edition... In case you have a different edition... the chapter numbers may be different.

## Grading Policy

A.	Three (3) one hour Exams	40 %
B.	Final Exam.... will cover almost all the topics	20 %
C.	Lab	20 %
D.	Home Work.... Includes	20%
	1. Assignments from the back of the chapters, and out of the lectures	
	2. Attendance in the class on certain days picked at random depending on my whims	
	3. Summarizing articles that I will give you periodically	

**PLEASE DO NOT UNDERESTIMATE THE IMPORTANCE OF ANY ONE OF THESE ITEMS**

Each and every one of you is responsible for turning in your assignments on time..... Your absence from the class does not excuse you from your obligations. Assignment turned in within twenty four (24) hours of the deadline will be accepted if cleared with me in advance.....

Hello..... My name is **Avinash K. Rangra**, my Office is in room WSB 320 . voice mail is 837-8116..... cell

number is 432-386-3712..... e-mail is **arangra @ sulross.edu**, ... You will find my office hours posted outside the office....

Drop by my office ... no appointment is needed..... to seek assistance or gripe about your favorite/not favorite topic..... In case you show up, and I am not in my office, please leave a brief note with your name and phone number..... I will get in touch.

I need for you to give me a five digit code name before you leave today..... It will be used to post grades that will be upgraded periodically, and posted outside WSB 320.... You must not overlook this important information.... in case you have question(s)..... see me before the next update for corrections..... Also I need your consent to post these grades with a simple .....**IT IS OK TO POST MY GRADES.**

REMEMBER..... **Chemistry is User friendly**.... You can not live without it. Learn to like it. Learn to live with it.... You will enjoy it.....

**IMPORTANT:** It is Sul Ross State University policy to provide reasonable accommodation to students with disabilities. If you would like to request such accommodations because of a physical, mental, or learning disability, please contact the Disabilities Services Coordinator in the University Center, Room 211, or call (432) 837-8037.

**'Dare.....Strive for the Impossible'**

# CHEMISTRY 1402

## LAB SCHEDULE

#	TITLE	Page
1.	Heat of Reaction	118
2.	Enthalpy of Solutions	Print out
3.	Rates of Chemical Reactions	107
4.	Solubility of practically insoluble salts	Printout
5.	Acid-Base Titration	94
6.	Titration of Polyprotic acids	Printout
7.	Determination of Dissociation Constant of a weak acid	113
8.	Colligative Properties: freezing point and Molecular weight	101
9.	Instrumental analysis.... determination of Iron in water	Printout
10.	Analysis of metals in water samples	131/136
11.	Analysis of nonmetals in water samples	123/127

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Some of these Labs will take more than one week.....Please turn in your report one week after completing your Lab .....

YOUR REPORTS MUST BE CLEAN, NEAT, and STAPLED TO AVOID LOSING OUTRIGHT 10% OF THE GRADE .....

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