CHEMISTRY 100

CRN: 91842

SPRING 2013

Professor: Dr. Dwayne D. Gergens

I the undersigned, have received and read a copy of the following course materials,

Syllabus and Information for Chemistry 100,

have established a Blackboard account for Chemistry 100 at

http://www.sdccdonline.net/login/

and have completed the syllabus quiz in Blackboard due February 8.

IMPORTANT: You will be automatically dropped if you fail to complete the syllabus quiz by its due date.

Signature: _____

Printed Name: _____

Date: _____

Syllabus - CHEM 100 CRN: 91842 **Spring 2013**

Professor: Dwayne D. Gergens, Ph.D., San Diego Mesa College

Office & Phone: I3-407, 619-388-2609

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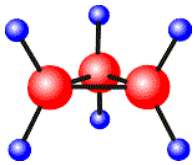
E-mail: dgergens@sdccd.edu



Course Welcome Page: http://homework.sdmesa.edu/dgergens/chem100/welcome.html

PodCasts: using iTunes - search key word "gergens"

Chemistry Club: http://homework.sdmesa.edu/dgergens/saacs/index.html

Course Title, Hours per Week, & Units

Fundamentals of Chemistry - Chemistry 100: 3 hours/week; 3.0 units

Catalog Course Description: This course is an introductory study of the language and tools of chemistry. Basic concepts of the structure, properties, interactions of matter and energy are studied, both qualitatively and quantitatively. Emphasis is placed on matter, chemical changes, chemical conversions, chemical bonding, and acid-base chemistry. This course is taken by students majoring in nursing, nutrition, or animal health technology and provides a foundation for further coursework in chemistry, in particular for introductory organic chemistry. Completion of Chemistry 100 or equivalent with a grade of "C" or better is a prerequisite for Chemistry 130&130L Please read through the most current issue of the San Diego Mesa Catalog for general information about the college.

Prerequisite: Mathematics 46 (Elementary Algebra and Geometry) with a grade of "C" or better, or equivalent, or assessment Skill Level M40.

Corequisite: Completion of or concurrent enrollment in Chemistry 100L with a grade of "C" or better, or equivalent.

Advisory: English 48 (College Reading and Study Skills II) and English 49 (Basic Composition), each with a grade of "C" or better, or equivalent, or assessment Skill Levels R5 and W5.

CHEM100 & CHEM100L are courses applicable for nursing, nutrition, allied health sciences, animal health technology majors, and are required in the preparation for ANHL120, ANHL145 & 145L, BIOL205, CHEM130 & 130L and CHEM161.	Students planning to enroll in CHEM200 & 200L, CHEM255 and/or BIOL210A, for example, plan to major in science or satisfy prerequisites for professional schools should take CHEM152 & 152L preparatory courses in chemistry instead of CHEM100.

Required Textbooks******: **IMPORTANT** !!!!!!! Students who plan to go on to CHEM130 should purchase required textbooks (1 & 3). If not continuing onto CHEM130, buy required textbooks (2 & 3).

(1) Timberlake/Alexander; Organic & Biological Chem 3 text package San Diego Mesa, ISBN 0-558-75178-4

(2*****) Timberlake, K. Basic Chemistry (Custom), ISBN 0-558-80658-9 and (3)

(3) Gergens, D., Chem 100; Fundamentals of Chemistry, found in our SD Mesa College bookstore published by Montezuma Publishing, 2003 ISBN 0-744-22416-0

*** NOTE**:Timberlake, K. Basic Chemistry, ISBN 0-321-66310-1 can be used a "noncustom" substitute for text (2)

(Optional Study Guide) Timberlake, K. Basic Chemistry, Solution and Study Guide, ISBN 0-321-49635-3

Additional course materials: Blackboard account; a scientific calculator; 3 x 5 cards; an e-mail address

Office & Tutoring Center Hours: Please come to office and tutoring hours, or by scheduling an appointment. Hours are posted on my office door, I3-407.

****** Alternate textbooks are listed at http://homework.sdmesa.edu/dgergens/chem100/index.html

Student Learning Outcomes - Course Objectives:

Upon successful completion of this course, students will be able to:

1. Use appropriate vocabulary to explain the steps of the scientific method.
2. Compare and contrast the properties of the states of matter, classify matter and explain how it can be altered through chemical and physical changes, and describe how matter and energy interact.
3. Use English, metric and SI units to express measurements of length, volume, mass, density, temperature and energy, and perform unit conversions using dimensional analysis.
4. Explain the key concepts, models and experiments leading to the development of atomic theory.
5. Apply concepts regarding the structure of the nucleus to explain principles of isotopes, nuclear stability and nuclear reactions.
6. Apply the concepts of modern atomic theory to write the electron configurations of the first twenty elements on the periodic table.
7. Use the periodic table of the elements to identify metals, nonmetals, metalloids, groups, periods, atomic numbers and atomic masses, and explain periodic trends in the properties of the elements.
8. Compare and contrast different types of bonding, and use Lewis structures and the valence shell electron pair repulsion (VSEPR) model to determine the shapes and polarities of molecular substances.
9. Describe the effects of bond type and molecular polarity on interparticle forces and the properties of substances.
10. Name and write chemical formulae for binary covalent compounds, simple ionic compounds and acids, and derive quantitative information from the formulae.
11. Classify chemical reactions (combustion, oxidation-reduction, and double replacement) and write balanced chemical equations to express those reactions.
12. Use the mole concept and Avogadro's number to perform mole and stoichiometric calculations.
13. Employ Boyle's Law, Charles' Law and the Ideal Gas Law to study the relationships among pressure, volume, temperature and quantity of gases, and use the kinetic molecular theory to explain these relationships.
14. Explain the factors that affect the formation of solutions and perform concentration calculations, including dilution and solution preparation problems.
15. Describe the properties of acids and bases, and compare and contrast the Arrhenius and Bronsted-Lowry definitions of acids and bases.
16. Explain the concept of equilibrium and apply it to explain the differences between strong and weak electrolytes and between strong and weak acids.
17. Relate pH to hydrogen/hydronium ion and hydroxide ion concentrations and perform pH calculations for strong acids and bases.

Outline of Topics:

The following topics are included in the framework of the course but are not intended as limits on content. The order of presentation and relative emphasis will vary with each instructor.

I. Scientific Method
- A. Observations and experimentation
- B. Hypothesis formulation and testing
- C. Theory

II. Matter and energy
- A. States of matter
- B. Chemical and physical properties of matter
- C. Classification of matter
- D. Chemical and physical changes of matter
- E. Interaction of matter and energy

III. Scientific data
- A. Quantitative values
    1. Scientific notation
    2. Measurement and error
    3. Significant figures
- B. Units
    1. English versus metric and SI systems
    2. Dimensional analysis

IV. Atomic theory
- A. Dalton's theory
- B. Subatomic particles and isotopes
- C. Rutherford's alpha-scattering experiment
- D. Bohr model
- E. Modern atomic theory
    1. Electron configurations
    2. Atomic structure and the periodic table
    3. Periodicity

V. Chemical bonding
- A. Octet rule
- B. Ionic bonding
- C. Covalent bonding
    1. Lewis structures
    2. Bond polarity
    3. VSEPR theory
    4. Molecular polarity
    5. Intermolecular forces
    6. Effects on properties of substances

VI. Nomenclature and chemical formulae
- A. Inorganic nomenclature
    1. Binary covalent compounds
    2. Ionic compounds
    3. Acids
- B. Formula writing
- C. Quantitative aspects of chemical formulae
    1. Percent composition
    2. Empirical and molecular formulae

VII. Chemical equations
- A. Types of chemical reactions
    1. Combustion
    2. Oxidation-reduction
    3. Double replacement
- B. Writing balanced chemical equation

Outline of Topics continued

VIII. Chemical calculations
- A. Mole calculations
    1. Avogadro's number
    2. Molar mass B. Stoichiometry

IX. Gases
- A. Kinetic molecular theory
- B. Gas laws
    1. Boyle's Law
    2. Charles' Law
    3. Ideal Gas Law C. Absolute zero
- D. Kelvin temperature scale

X. Solutions
- A. Solution formation
    1. Solute-solvent interactions
    2. Electrolytes
    3. Rate of dissolving a solid in a liquid
    4. Solubility
- B. Molarity
- C. Solution preparation calculations
    1. Solute mass
    2. Dilution

XI. Acids and bases
- A. Properties
- B. Acid-base theories
    1. Arrhenius theory
    2. Bronsted-Lowry theory
        a. Hydronium ion
        b. Conjugate acid-base pairs
- C. Equilibrium and acid strength
- D. pH calculations
- E. Buffers in concept

XII. Nuclear chemistry
- A. Isotopes
- B. Nuclear stability
- C. Nuclear reactions
    1. Types of nuclear reactions
    2. Applications
        a. Dating
        b. Medical applications

Student Learning Outcomes

I. Measurements — Scientific Measurements

II. Atom/Compounds — Models of the Atom and Chemical Bonding

III. Nomenclature — Nomenclature

IV. Structure — Structure and Physical Properties

V. Equations — Chemical Equations

Attendance/Performance: Students in my courses make better grades when they regularly attend class and/or participate online. It is a student's responsibility to withdraw if he/she is unable to continue in attendance, but a student in poor attendance meaning lack of regular and consistent attendance (2 unexcused absences or truancies- for example, two missed activities and/or one or more weeks of nonparticipation in class and/or online occurrences) in or before the "Last Day to Withdraw with a "W" on Student's Transcript" date may be dropped by the professor. By district policy, you may be dropped from class if you miss the first day; see the calendar on pages 10 and 11 in this syllabus for important dates.

Absences: Students are responsible for ALL work, announcements, assignments and handouts that they have missed during their absence. There are two types of absences—excused and unexcused.

- Excused absence (your limit is one). The absence will be marked excused if you inform me prior or on the day of your absence that you will not be participating class. Only under the most extenuating circumstances will I allow for more than one excused absence but I am not obligated to do so.
- Unexcused absence. You are responsible for attending class, accessing and completing all activities within a specific availability period and before their due date. Failure to complete any online assignment during its availability period will be considered an unexcused absence and you may be automatically denied access to your Blackboard account. If you are locked out of your Blackboard account, contact your instructor immediately at dgergens@sdccd.edu . Likewise, any other absence or truancy—late arrival or early exit—from class and/or not scheduling a meeting with me to grade your grade sheet & portfolio will be considered as an unexcused absence.

Assistance during an absence: If you have or intend to miss class, contact me by phone, fax, or e-mail so we can make arrangements to keep you informed on lecture topics, handouts and assignments. Failure to make arrangements prior to or during your absence will result in forfeiting the right for extra assistance.

Making-up a missing activity: An arrangement to make-up a missing activity only can be made for an excused absence. However, upon your immediate return to class, failure to arrange to complete the missing work on time will result in the student forfeiting the right for a make-up. A missing activity will receive zero credit.

Methods of Evaluation**:**

Student success will be evaluated based on a number of class activities relevant to the student learning objectives. At my discretion, an activity and its due date will be posted to Blackboard calendar, announced online by e-mail and/or displayed under exercises. It is therefore crucial that you frequent your Blackboard account and attend all class sessions. The points earned within each activity category will count toward the final course grade. The activities and their weights are as follows:

Course Activity	Percent of Final Grade	Overall Percentage Grade Calculation
Exercises	28%	([(combined exercise scores)/(total exercise pts)*0.28] +
Cooperative Learning	8%	[(combined cooperative learning scores)/(total cooperative learning pts)*0.08] +
Mid-Term1	14%	[(mid-term1)/(total mid-term1 pts)*0.14] +
Mid-Term2	14%	[(mid-term2)/(total mid-term2 pts)*0.14] +
Final	30%	[(final score)/(total final pts)*0.30] +
Portfolio Grade Sheet	2%	[(portfolio grade sheet score)/(total portfolio grade sheet pts)*0.02] +
Nomenclature Exam	4%	[(nomenclature score)/(total nomenclature pts)*0.04]) x 100%

Overall Grade Calculation: A student's overall grade will be derived from a culmination of points received during the semester and then applied to the grading system guidelines. A ≥ 90% B ≥ 80% C ≥ 70% D ≥ 60% F < 60%

A warning about turning activities in late: Any course activity not submitted when asked to do so by the instructor and/or when prompted to so by Blackboard will be receive a grade reduction; one-percent grade reduction per every one-minute late. Any mailed exercise will received 10% grade reduction per every day past-due the submission postmark date.

Learning chemistry involves a tremendous amount of work. There is no substitute for working problems or asking questions to ensure a concept is understood. Your grade will be based on your success - not on your effort. I'll go out of my way to help you if you try. However, your effort will determine how much I help.

Chapter Readings: Read and understand assigned chapter readings and online lecture notes. You are responsible for the material in the text (unless otherwise advised) and all material in the online Course Content notes. It is good practice to go over the material at least three times. First, quickly read each topic sentence for each paragraph and read the caption for each figure in a given chapter before reading the entire chapter. Second, read more in depth for comprehension to understand the fundamental ideas and lastly, review and reflect on the concepts that were covered. The end of the chapter summary will highlight the major concepts that were covered in a chapter.

Exercises: Multiple measures of performance and understanding will be given in the form of in- and out-of-class exercises and includes a multimedia project. In general, an exercise will cover recent lecture, text and handout material, but questions may also over laboratory assignments, and review questions from previous chapters may also be added. An exercise may include, but is not limited to, the following: a problem set, on-line exercise, announced and/or unannounced quiz, oral, written, and/or multimedia presentation, outside reading and/or written essay related to course objectives, and effective participation in class activities. At my discretion, an exercise and its due date will be announced online by e-mail, posted to Blackboard calendar and/or displayed under exercises. It is therefore crucial that you attend all class sessions and frequent your Blackboard account.

Cooperative Learning: There will be cooperative learning exercises. Active, not passive learning is essential in this course. Asking questions in class by posting your questions to the discussion board—and in the professor's office—is an important part in making the learning experience more participatory. Although all students are expected to have completed their assignments individually, work together in study groups. Working in groups is especially recommended for preparing for examinations. During the semester, you may be asked to provide input on a particular topic. This will be accomplished through online practice problems, chat sessions, calibrated peer review and/or discussion postings, where you are asked to be involved in this learning community by expressing your opinion or questions. Participation in these opportunities will be calculated as part of your exercise grade. Refer to the Calendar Tool for specific dates and times. More information will be provided throughout the semester. Also, by responding to your fellow students' questions on the Discussion Board, you will maintain a positive cooperative learning grade. If you have a question of a general nature, remember that it is likely that your fellow students may also have the same question and will benefit from a public response. It is also possible that some students may be able to answer your question. So, before e-mailing your instructor, first post your question to the Discussion Board. All postings will be considered as cooperative learning. Keep in mind that your question may not be answered immediately by your peers (it may take 24 hours). Therefore, do not wait until the last minute to ask questions.

Mid-Terms and Final: Mid-terms will cover all material discussed up until the day of the scheduled mid-term. A comprehensive final will cover all material discussed over the entire semester. Several sample exams are available at the course home page. All exams may include, but is not limited to, scantron-type questions (multiple choice, matching, true/false), short essay, fill in the blank, and mathematical computation.

Grade Sheet & Portfolio of all Graded Assignments: Keeping a grade sheet & portfolio should serve as both a study guide for exams as well as proof of completion for this course. See the attached calendar for the date your grade sheet will need to be e-mailed to me:

- A grade sheet record of points earned. The grade sheet can be found at the end of this syllabus and is also web accessible. Students enrolled completely online will only have to e-mail me their grade sheet for grading.
- all graded activities returned to you,
- your supplemental packet and all supplemental handouts given in class,
- all nongraded out of class activities and/or work you completed on your own outside of class.

Nomenclature Exam: You will be tested on naming elements, monatomic and polyatomic ions, and acids for both inorganic and organic substances, writing their chemical formulas, and functional group classification. Additional nomenclature practice and a sample nomenclature exam are posted on the course home page.

Special Incentive Project Points: Additional "bonus" points, up to 2% toward your final grade, may be obtained by completing a special project to be agreed upon between student and me. A due date for final incentive projects is listed on the calendar.

1. Review and write a report on a chemistry related newspaper or journal article, comic strip, and/or advertisement using the following format: (1) Give a brief written summary, evaluation, and opinion of the topic at hand; (2) Correctly reference your source in your summary; and (3) identify how an instructor might use your review in the classroom to teach the given topic. E-mail the report and article to me and attach a scanned copy of the original article. A scanner is available in the LRC.
2. Prepare a multimedia presentation (video, PowerPoint, web page, etc.) over a particular chemistry topic related to the course. This is to be agreed upon between the production group and the professor. Students will need to narrow the subject to a manageable amount of material and present the most important aspects of the topic that will help your audience to learn about the subject. The presentation should answer the question, "Why is this topic relevant and/or interesting?" Where appropriate be creative and add pizzazz (e.g., create a poem, song, video, etc.). Finally, include a question and answer section at the end of the presentation; each member of the group will be responsible for writing a minimum of two questions with answers. Use and cite at least three literary references, one of which should have been published by either Chemical & Engineering News, Chematters, or the New York Times; these literary references are available on in our library.
3. Develop a community outreach plan to be agreed upon between the student and the professor and begin its implementation. For example, create a lesson plan on polymers. Then present it to an audience. Include hands-on demonstrations that will help them learn about the topic and to draw connections between their health and the environment in which they live. The plan should also present science in a way that encourages students to continue their science education and to consider careers in sciences.

Asking questions from your perspective: Get the benefit of a further explanation or an interesting discussion by asking questions in class. **ALWAYS ASK QUESTIONS** if you do not understand and when given the opportunity to do so. Since the material presented in this course is cumulative, the questions students ask provide their professors with information about how carefully the students have been listening, possible areas of confusion, and, most importantly, how a professor might adjust their style of teaching to meet your needs. When you ask questions you become a participant rather than a spectator in an academic dialogue.

Library Resources & Services - San Diego Mesa College LRC: Use IT! Hours of operation are listed in Schedule of Classes; 619-388-2695.

Free Supervised Tutoring Help: At no cost to you, please enroll into the Tutoring Program using the CRN listed under chemistry in the schedule of classes, or come to the Tutoring Center, Room I-207(M). The Mesa College Tutoring Center provides tutoring in a variety of subjects for all Mesa College students on a walk-in basis in I-207(M). The Center is open day and evening hours. Tutoring is provided by trained peer tutors and faculty volunteers; 619-388-2898.

Errors in grading: Errors – hopefully none – may be made in grading. Please see me in person to challenge any question one feels has been incorrectly scored or to point out errors in a calculated score.

Academic Poicies

Academic Policies: Please read through the most recent college catalog for details regarding the following:

Accommodation Of Disability: Students with disabilities who may need academic accommodations should schedule an appointment with their professor to discuss options immediately during the first two weeks of class.

Classroom Behavior and Student Code of Conduct: Students are expected to respect and obey standards of student conduct while in class and on the campus. The student Code of Conduct, disciplinary procedure, and student due process (Policy 3100, 3100.1 and 3100.2) can be found in the current college catalog in the section Academic Information and Regulations, and at the office of the Dean of Student Affairs (H-500). Charges of misconduct and disciplinary sanctions may be imposed upon students who violate these standards of conduct or provisions of college regulations.

Academic Honesty Policy – Students' conduct, rights, and responsibilities are governed and supported by District Policy 3100. This policy will be absolutely upheld in this course and is available for review in the Vice President, Student Services and the Dean of Student Affairs offices. Any lecture or laboratory material—lab reports, exams, homework, etc.—prepared in a manner that is in violation with Policy 3100 will NOT be graded or counted.

Add, Drop and Withdrawal Policy: It is the student's responsibility to add, drop and withdrawal from classes before the deadlines stated in the class schedule. If you stop attending class and you fail to withdraw by the deadline stated in the class schedule, a final grade must be assigned to you.

Eating, Smoking, or Drinking is not permitted in the classroom or laboratory.

Course Home Page: Other materials relevant to the course can be found on the internet at the following address:
http://homework.sdmesa.edu/dgergens/chem100/index.html

This syllabus is intended to help the student plan his/her work in this course and is no way considered to be a contract. It is subject to change at any time by the professor should a change be in the best interest of the class.

Classroom Discussion

Active, not passive learning is essential in this course. Please raise your hand in class to ask questions, and refrain from verbal outbursts in class. Safe questions students should ask their instructors are:

- "Where do you feel most students have difficulties in understanding this material?"
- "From your experience, what are common mistakes students make in solving this type of problem?"
- "What do you find most interesting or intriguing about the material just presented to us?"
- "What questions should we be asking that we are not?"

Out of Class Activities

For this course, significant preparation time outside of class time will be needed per week to satisfactorily meet the student learning outcomes for the course.

Keep track of your completed out of class activities. These should be saved and placed into your portfolio. Keeping a grade sheet & portfolio should serve as both a study guide for exams as well as proof of completion for this course which will consist of a 3-ring binder containing the following:

- A grade sheet record of points earned. The grade sheet can be found at the end of this syllabus and is also web accessible.
- your supplemental packet,
- all supplemental handouts given in class,
- all nongraded out of class activities and/or work you completed on your own outside of class.

Out of class activities may include, but will not be limited to such exercises as: problem solving exercises assigned from the textbook, study guide, instructor packets and/or electronic media; solving interactive tutorial problems; topic search assignments, which may involve use of the library or the internet (*Blackboard*); visits to local research, analytical, or production chemical laboratories; attendance of local seminars or conferences pertinent to topics covered in this course.

Problems from your textbook completed on your own and at your own pace

A recommended list of problem solving exercises from chapters in your textbook will available on Blackboard.

- **Complete as many of these problems as possible and place your work into your portfolio.**

Below is the recommended approach to completing textbook problems:

1) Begin each chapter by reading the chapter review at the end of each chapter, and consider the language of chemistry by studying the key terms.
2) Skim through the chapter by reading each topic sentence of each paragraph noting major topics and examples. Study the diagrams and pictures, and read the captions.
3) Glance at the assigned problems to see which concepts and topics are emphasized.
4) Go through the reading thoroughly beginning with chapter review at the end of the chapter and then by reading each paragraph in its entirety.
5) Do the sample problems in the chapter and check your work.
6) Do the assigned problems. Do not devote more than five minutes to a problem which you are not making progress. Leave room for corrections and additions.
7) During the class discussion over the assignment, make further corrections, if necessary.
8) Resolve any questions as soon as possible. The professor has office hours expressly for this purpose.
9) Complete any self-tests or sample exams made available to you by your instructor.
10) Study with others and use the free tutors available in the I-207(M).

Chemistry 100 Lecture Schedule* Spring 2013

Week		TOPIC
1.	Jan. 28	CH 1 Introductions and Blackboard accounts - What is Chemistry? What's the Matter, Matter of Fact
	only	CH 1 The Scientific Method
	sections	CH 3.1 Physical & Chemical Properties & Classification of Matter Chart (see Blackboard for handout)
	3.1-3.3	CH 3.2-3.3 Elements & Compounds as Pure Substances, and Homogeneous and Heterogenous Mixtures
2.		CH 2 Bring Your Calculator, Numbers in Chemistry, Exponential Notation & Significant Figures
		CH 2 What Is a Measurement? Precision & Accuracy, Units
	Feb. 8	**LAST DAY TO WITHDRAW WITHOUT A "W" ON STUDENT'S TRANSCRIPT**
3.		CH 2 Problem Solving; Factor Label Method of Conversions / Dimensional Analysis
		CH 2 Dimensional Analysis & Density
4.		CH 4 Periodic Table Overview (Video); Names and Symbols; Dalton's Atomic Theory
		CH 4 Inside the Atom: Charge Balance with J.J. Thomsom & The Nucleus with Ernest Rutherford
5.	Feb. 18	**HOLIDAY**
		CH 4 Natural Abundance of the Elements, Isotopes & Nuclear Chemistry CH 16.1, 16.2, 16.4, 16.6
		extra Bohr Model of the Atom and Monatomic Ions, & Electromagnetic Radiation
		extra Electronic Structure, Valance Electrons, and Periodicity
6.		CH 5 Modern Atomic Theory (Quantum Number Model), Electron Arrangements, & Atomic Properties
		CH 5 Summary of Periodic Trends: Atomic and Ionic Size, Ionization Energy, & Electronegativity
	Mar. 4	**LAST DAY TO APPLY FOR Credit/No Credit**
7.		CH 6 Naming Monoatomic, Polyatomic Ions & Ionic Compounds
		CH 6 Chemical Bonding; Lewis Dot Structures; Oxidation Numbers
8.		CH 10 Covalent Compounds, Acids, and Oxyacids; Ionic versus Covalent
		CH 10 Molecular Geometry, VSEPR Model, Bond & Molecular Polarity, and Resonance
	Mar. 20	**MTO**
9.	Mar. 25	**Spring Break**
10.		CH 7 Chemical Quantities - Calculation of Molar Mass (MM) and Mole Concept
		CH 7 Chemical Composition & Calculation of Empirical Formulas
		CH 8 Chemical Recipes: Types of Chemical Reactions
	April 3	**MID-TERM 1** CH's 1-5, 16^, Bohr's Model, Naming Monoatomic, Polyatomic Ions & Ionic Compounds
11.		CH 8 Chemical Recipes: Writing Balanced Chemical Equations
		CH 9 Stoichiometry, Limiting Reagent and Percent Yield
		Grade sheet - E-mail me your completed grade sheet, page 11, no grade sheet no credit
	April 12	**LAST DAY TO WITHDRAW WITH A "W" ON STUDENT'S TRANSCRIPT**
		CH 10 Intermolecular (Nonbonding) Forces between Molecular Compounds - Gases and Liquids
		CH 10 The Solid State: Intermolecular Forces between Nonmolecular Compounds
12.		CH 12 Solutions: Solute-Solvent Interactions, Electrolytes
		CH 12 Reactions in Aqueous Solutions and Solubility Rules & Making Reaction Predictions
13.	Apr. 24	**MID-TERM 2** CH's 6-10
		CH 12 Concepts in Concentration and Dilution
14.		CH 14 Acid-Base Solution Stoichiometry - Concepts in Solubility and Separation
		CH 14 Acids, Bases, and Salts
15.		**XTR Credit due**
		CH 14 Acids, Bases, Dynamic Equilibrium, and pH
16.		CH 11 Gases, Too Much Pressure
		CH 11 The Gas We Live In: A Little Less Pressure & The Combined Gas Law
		CH 11 The Universal Gas Law, PV=nRT
17.	May 20	**FINAL** (comprehensive)
	May 22	**NOMENCLATURE EXAM**

**Note: Material contained in Chapters 1-12 & 14 will be covered in their entirety. For Chapter 16, sections 16.1, 16.2, 16.4, 16.6 will be emphasized. Chapter 13 will not be discussed but the concept of equilibrium will be discussed.*

Fundamentals of Chemistry Calendar

January

WEEK	Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2	3	4	5
	6	7	8	9	10	11	12
	13	14	15	16	17	18	19
	20	21	22	23	24	25	26
1	27	28	29	30	31		

February

WEEK	Sun	Mon	Tue	Wed	Thu	Fri	Sat
1						1	2
2	3	4	5	6	7	8 **Dp1**	9
3	10	11	12	13	14	15 NS	16
4	17	18 NS	19	20	21	22	23
5	24	25	26	27	28		

March

	Sun	Mon	Tue	Wed	Thu	Fri	Sat
5						1	2
6	3	4 **CNC**	5	6	7	8	9
7	10	11	12	13	14	15	16
8	17	18	19	20 **MTO**	21	22	23
9	24	25 NS	26 NS	27 NS	28 NS	29 NS	30
10	31						

April

	Sun	Mon	Tue	Wed	Thu	Fri	Sat
10		1	2	3 **MT1**	4	5	6
11	7	8 **GS**	9 **GS**	10 **GS**	11	12 **Dp2**	13
12	14	15	16	17	18	19	20
13	21	22	23	24 **MT2**	25	26	27
14	28	29	30				

May

	Sun	Mon	Tue	Wed	Thu	Fri	Sat
14				1	2	3	4
15	5	6 **XTR**	7	8	9	10	11
16	12	13	14	15	16	17	18
17	19	20 **F**	21	22 **NE**	23	24	25
	26	27	28	29	30	31	

Dp1 = February 8 - Last day to receive and process an add code issued by the instructor. Last day to process and pay for add codes. Deadline to drop classes with no "W" recorded.

Dp2 = April 12 - Withdrawal deadline. No drops accepted after this date.

CNC = March 4 - Last day to apply for Pass/No Pass grade option (Credit-No Credit)

Legend:

GS = Grade Sheet & Portfolio due
XTR = Incentive Project due, see page 6 of syllabus
MTO = MT1, Out of Class Takehome Portion
MT1 = Mid-Term 1
MT2 = Mid-Term 2
F = Final
NE = Nomenclature Exam

NS = Holiday
Dp1 = First Drop Date
Dp2 = Second Drop Date
CNC = Last day to apply for Pass/No Pass option (Credit-No Credit)

GS = Grade Sheet Check
E-mail me your completed grade sheet to receive full credit.
see page 12 of this sylllabus for details.

Student Summary (activities)

Name:_____

- Keep track of all points earned in this course and record your scores on this grade sheet.
- The grade sheet can also be downloaded as an excel spread sheet from the course homepage.
- The completed grade sheet will be turned in and it will be graded.

Course Activity	your score		total possible pts			Percent of Final Grade		points toward overall grade
Exercises (E) (28%)								
E1								
E2								
E3								
E4								
E5								
E6								
E7								
E8								
E9								
E10								
E11								
E12								
E13								
E14								
E15								
E16								
E17								
E18								
E19								
E's score subtotal		÷		=		×	0.28	=
Cooperavtive Learning (CL) (8%)								
CL1								
CL2								
CL3								
CL4								
CL5								
CL6								
CL's score subtotal		÷		=		×	0.08	=
Mid-Term1 (MT1) (14%)		÷		=		×	0.14	=
Mid-Term2 (MT2) (14%)		÷		=		×	0.14	=
Final (F) (30%)		÷		=		×	0.30	=
Portfolio Grade Sheet (PT) (2%)		÷		=		×	0.02	=
Nomenclature Exam (NE) (4%)		÷		=		×	0.04	=
							subtotal	
Incentive Project (XTR) points		÷	20	=			0.02	=
							pt total	
							final grade percent	

Safety in the Chemical Laboratory at San Diego Mesa College

1) KNOW THE LOCATION AND USE OF ALL SAFETY APPLIANCES IN YOUR LABORATORY.
   a) Fire extinguisher
   b) Safety Shower
   c) Bicarbonate solution
   d) Fire blanket
   e) Eye wash fountain
   f) Nearest available phone
   g) waste container
   h) Evacuation procedures

2) SAFETY GOGGLES, not glasses MUST BE WORN AT ALL TIMES.

3) SAFETY LABORATORY PROCEDURES MUST BE FOLLOWED AT ALL TIMES.

4) Eating, Smoking, or Drinking is not permitted in the classroom.

5) Each student wear a lab coat, or lab apron, during experimentation. Shorts and mini-skirts provide little protection from splashed chemicals and are *not* safe lab attire. Sandals and *bare feet are absolutely forbidden in the laboratory.*

6) Hygiene: Individuals wearing long hair must tie it back to minimize contact with burners and other equipment. Similarly, necklaces, bracelets, and other loose articles can cause accidents and could prevent emergency evacuation from a dangerous area.

7) Waste glass and chemicals must be disposed of in proper containers.

8) EMERGENCIES: In case of serious illness, accident, injury or fire requiring urgent action, phone campus 911 for emergency service.

9) ACCIDENTS: BE SURE TO KNOW HOW TO CARE FOR YOURSELF AND OTHERS (FIRST AID)
   a. Chemical splashes. Wash immediately with plenty of water. Use safety shower if necessary. Consult your instructor if further care is needed.
   b. Fires. Use a fire extinguisher whenever it is safe to do so. IMPORTANT: Never replace an used fire extinguisher on its rack, but exchange it for a full one.
   c. Cuts and abrasions. If bleeding is serious, use direct pressure with a sterile compress, or use arterial pressure.
   d. Burns: Place under cold running water until pain subsides.
   e. Report all injuries. Tell your laboratory instructor of any injuries; minor and major.