

Principles of General Chemistry

CHM 1032C, 20161, Fall 2015

Ref # 424077 : G103/C206(lab) MWF 8:00 – 9:50 am

Ref # 424079: G103/C206(lab) MWF 10:00 – 11:50 am

Instructor: **Stephen Milczanowski** Office hours: T: 8-10:20 ; MW: 12-1
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Course Description:

Corequisite: MAT 1033. Students will benefit by taking high school algebra or MAT 1033 prior to enrolling in this course. This course is an introduction to the concepts of inorganic chemistry including structures of matter, atomic theory, nomenclature, bonding, acids, bases and introduction to organic chemistry. This course is for students who have had no previous chemistry and plan to major in dental hygiene, medical technology, nursing or health related fields. Six contact hours: four lecture/discussion hours, two laboratory hours.

Required:

- Textbook: Smith, J.; General Organic, and Bio Chemistry, 2nd edition McGraw Hill, 2013. (FSCJ edition ISBN: 9781259152993)
- Scientific calculator that has log, and EE or EXP function keys.
- Safety glasses, lab text (3 hole punched packet, with Milczanowski on the cover), lab notebook (Hayden-McNeil publishing) and glass marking pen (Sharpie Brand) for the laboratory.

DISABILITIES: Appropriate accommodations (such as note takers, extra time on tests, quiet testing, etc.) will be available to assist students with disabilities, provided written instructions are sent to the instructor by the Disabled Student Services Counselor. (R. Nicole Dyer : 646-2191)

Expectations/Attendance:

You are responsible for all material presented in class, including announcements about course procedures or schedules. Exams, quizzes, and homework often include questions on material presented only in class, so performance on these indirectly reflects attendance. Attendance will only be taken for the first two weeks of the semester. Students who do not attend class during the first two weeks of class will be removed from the class. Withdrawal deadline March 26th.

Cell phones, beepers and other electronic devices must be turned off according to college policies.

Breaches in classroom etiquette may result in grade penalties up to failure for the class. See web site for classroom etiquette. Academic dishonesty may result in a course grade of F. For rules regarding academic dishonesty look at the following web page: http://www.fscj.edu/catalogs/2001_2002/Rules/dueproc.html or current catalog.

Learning outcomes for the semester

- Explain and apply major concepts in inorganic chemistry including structures of matter, atomic theory, nomenclature, bonding, bases and an introduction to organic chemistry.
- Demonstrate knowledge of scientific method.
- Communicate scientific ideas through oral or written assignments.
- Interpret scientific models such as formulas, graphs, tables and schematics, draw inferences from them and recognize their limitations.
- Demonstrate problem-solving methods in situations that are encountered outside of the classroom.
- Demonstrate proper laboratory technique including safety in the use and care of laboratory equipment and materials.
- Maintain a laboratory notebook

Evaluation:

- There will be four exams in the regular semester. Each exam is worth 20% of the course grade.
- The final exam is worth 20% of the course grade.
- The lowest grade among the 4 tests and the final will be dropped.
- The laboratory reports are worth 20% of the course grade.

- Course grades will be assigned as follows:
A: 90% - 100% B: 80% - 89.99% C: 70% - 79.99%
D: 60% - 69.99% F: below 60%

The "FN" grade may be given immediately after the withdrawal deadline for students who have stopped attending class and are failing. An FN grade will be assigned if a student misses two tests including the final or fails to complete more than 3 labs. Incompletes will be given only if: a) at least 75% of the work is completed at the time of the request and b) the student is passing with at least a "D" at the time of the request, and c) there is a valid reason such as illness, an accident, etc. . . . Doctor's notes are required for granting incomplete grades. Other grades such as "W" (withdrawal) and "X" (audit) may be assigned according to college policies. See above for reference to academic dishonesty.

Examinations: Examinations usually contain a multiple-choice section, and a problems section.

MAKE-UP EXAMS: Because the lowest lab score and lowest exam score are dropped there should be no make-ups for labs or exams.

Lectures: Lectures will be presented in a combined PowerPoint/whiteboard format. Students will have an opportunity to printout handouts from the class web site.

Students may repeat a course in an attempt to improve a grade previously earned. State Board Rule 6A-14.0301 limits such attempts to courses where a "D", "F" or "FN" grade was earned, and limits to two the number of times a course grade may be forgiven. The official grade and the grade used for calculating the GPA shall be the last grade earned in the course. In other words, a student may not repeat a course for which they have received a "C" or better.

A student may have only three total attempts in any course, including the original grade, repeat grades and withdrawals. Upon the third attempt in a course, the student must be given an "A", "B", "C", "D", or "F". A fourth attempt may be allowed only through a general appeals process based on extenuating circumstances. On the 3rd attempt, out-of-state tuition is charged which is about four times the in-state tuition.

Chemistry Lab

Safety

- Safety goggles or glasses must be brought to every lab, and worn during lab.
- Follow safety instructions. Safety infractions will result in grade penalties or expulsion from the lab.
- Long pants or the equivalent must be worn during lab. A lab apron is encouraged.

Before Lab:

- Read the experiment.
- Prepare your notebook to take data. That means that you should copy into your notebook any data tables or other notes that you need to collect data. Also include the title and the purpose. Do any pre-lab questions.
- Write down questions you have about the lab and ask your instructor those questions before you begin the experiment. Failure to prepare for lab may result expulsion or non-admittance to lab.

During Lab:

- All data taken in the laboratory must be recorded in ink in your notebook
- Write down all observations. Be sure to include any additional comments that may be important.
- Initial and date each page.
- You must obtain your instructor's initials in your data table before you leave the lab.

Laboratory Reports:

- Failure to complete more than 3 labs will result in an automatic failure (FN) for the class. ***
- Lab reports are typically due at the beginning of the next laboratory period. Unless your instructor gives you a previous extension, late lab reports (up to 1 week late) will be graded with a 20% grade reduction. Labs will not be accepted more than 1 week late. (The last lab may have different rules.)
- Labs are graded on a scale of 0 to 10. For the safety lab you will not receive a grade. Your final lab grade will be the average lab grade scaled to 100, after dropping your lowest grade.
- Most reports will be instant laboratory reports. They already contain the correct structure. Fill in the appropriate areas. One or two of the labs will require full lab reports. You **MUST** use the format described in your lab text.
- While students often work in pairs in the lab, lab reports must be written individually. Do not plagiarize.

Student work in this class may be collected by the College for the purpose of assessing institutional effectiveness and measuring general education competencies. The artifacts collected and submitted for this purpose will be done so anonymously.

Student Assistance Program: Any FSCJ student who is experiencing personal problems that might affect him/her in or out of school can now receive free counseling through Corporate Care Works, Inc. Issues may include stress, conflict, family worries, financial/legal issues, and balancing work and home. This Student Assistance Program (SAP) is delivered within Federal Confidentiality Guidelines and helps students solve challenges in a confidential manner. If you are interested in this service, please call (904) 384-1800. For further information, please visit:

<http://www.fscj.edu/mydegree/counseling-advising/student-assistance.php>

CHM1032C Fall 2015 (20161)

MON	TUES	WED	THURS	FRI
AUG 24 Classes Begin Ch 1	AUG 25	AUG 26 Ch 1	AUG 27	AUG 28 Safety Lab
AUG 31 Ch 2 Drop Deadline	SEPT 1	SEPT 2 Ch 2	SEPT 3	SEPT 4 Measurements Lab
SEPT 7 Labor Day College Closed	SEPT 8	SEPT 9 Ch 10	SEPT 10	SEPT 11 Density Lab
SEPT 14 Review	SEPT 15	SEPT 16 Test 1 (1, 2, 10)	SEPT 17	SEPT 18 Graphing Lab
SEPT 21 Ch 3	SEPT 22	SEPT 23 Ch 4	SEPT 24	SEPT 25 Naming Lab
SEPT 28 Ch 4	SEPT 29	SEPT 30 Ch 11/12	OCT 1	OCT 2 Models Lab
OCT 5 Ch 11/12	OCT 6	OCT 7 Review	OCT 8	OCT 9 Organic Lab
OCT 12 Test 2 (3, 4, 11, 12)	OCT 13	OCT 14 Ch 5	OCT 15	OCT 16 Reactions Lab
OCT 19 Ch 5	OCT 20	OCT 21 Ch 5	OCT 22	OCT 23 Gas Laws Lab
OCT 26 Ch 7	OCT 27	OCT 28 Ch 7 Withdrawal Deadline	OCT 29	OCT 30 Protein Lab
NOV 2 Review	NOV 3	NOV 4 Test 3 (5,7)	NOV 5	NOV 6 Ch 6
NOV 9 Ch 6	NOV 10	NOV 11 Veterans Day College Closed	NOV 12	NOV 13 Equilibrium Lab
NOV 16 Ch 8	NOV 17	NOV 18 Ch 8	NOV 19	NOV 20 pH Lab
NOV 23 Ch 9	NOV 24	NOV 25 Ch 9	NOV 26 Thanksgiving College Closed	NOV 27 College Closed
NOV 30 Review	DEC 1	DEC 2 Test 4 (6, 8, 9)	DEC 3	DEC 4 Review
DEC 7 Final Exam	DEC 8	DEC 9	DEC 10	DEC 11 Term Ends

Homework, CHM 1032C

There is no perfect way to study for this course. Each of you has a recipe for success in classes and you should do what you feel is necessary for you. I recommend skimming the chapter before lecture, come to class and take notes, read the book thoroughly and then do the problems. I do not collect or grade homework.

If you have time you should recopy all your notes. Many people do not have that kind of time. If you do not recopy all your notes, please reread them before you go to bed that night. You may find that you can remember things that you need to add. Fifteen minutes before class please skim your notes again. You may find that this lets your mind "boot up" into chemistry mode. It will also remind you to ask about anything that was unclear about the last material covered.

South Campus Science Learning Center: G-200/G301 Hours: M-R: 7:30 a.m.–8 p.m.; F: 7:30 a.m.–2 p.m., Sat 1-5 p.m.

Names and symbols of the elements.

For test 1 you will be required to know the names and symbols of the 1st 18 elements.

The homework problems in this book are labeled in a decimal notation where the number to the left of the decimal is the chapter and the number to the right is the problem number. Problem number 23 in chapter 1 is therefore problem **1.23**.

Homework for test 1

Chapter 1

Ch 1: 35, 39, 41, 45-47, 51-59 odd, 65, 69, 69, 71, 73, 81, 83, 91, 99

Extra Problems:

1. Energy can take many different forms. There is radiant energy, electrical energy, chemical energy, thermal energy and mechanical energy. Please discuss energy conversions in these everyday situations:

- Running a hair dryer from an electrical outlet.
- Heating water on a gas stove.
- Eating a pasta meal and then running 11 miles.

Be sure to describe the types of energy that are being converted and whether the energy is potential or kinetic energy.

- 725 mg is the same mass as _____g.
- How many significant figures are in the number 0.02008?
- How many centimeters (cm) are there in 1 foot? (report your answer to 3 significant figures.)
- There were 24 students in my laboratory class. Is that an exact number or a measurement?
- Acetone has a density of 0.82g/ml. What is the volume (in ml) of 56 g of acetone?
- What is your weight in kg? What is your height in meters?

Chapter 2

Problems: 34, 35, 39, 41, 43, 45, 53, 55, 57, 59, 63, 65, 66, 67a, 68a, 75, 79,85

Extra Problems:

- A molecule has 26 electrons, 28 protons and 30 neutrons. What is the element ? How would you write it? (Use the form described in class with the chemical symbol, atomic number, charge and mass number.)
- How many electrons are permitted in a d subshell?
- How many electrons are permitted in a d orbital?
- The maximum number of electrons that may occupy the second electron shell is ___?
- Please describe the physical significances of the quantum numbers n (principle quantum number), l (angular momentum quantum number), and m (magnetic quantum number) and s (spin). (Please use complete sentences.)
- Write the shell-subshell notation for Na, Mg, C, Si, S, Se, Fe, Ag, Sn

Chapter 10.

Problems: 23, 25, 27,31-41 odd, 45, 55, 59, 60, 63