

**Ohio Articulation Number (OAN)
Course Submission Form
2005-2006**



College/University The University of Akron

Course(s) Submitted (Title & Course #) 3150:151 for
Ohio Articulation Number OSC008

Date 1-25-06 Course 1 of a 2 Course OAN mapping.

Name and title of individual submitting on behalf of the college/university

Name Dr. Michael J. Taschner Title Interim Dept. Chair, Chemistry

Address College of Arts & Sciences

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Credit Hours 3 qtr _____ sem X

Lecture Hours 3

Laboratory Hours _____ (if applicable)

Pre-Requisites(s) Course work (if applicable)

Placement Score (if applicable)

(Name of test)

(Domain) (Score)

Catalog/Course Description (Includes Course Title and Course #)

Introduction to basic facts and principles of chemistry including atomic and molecular structure, states of matter and thermodynamics. For chemistry majors, pre-medical students and most other science majors. Discussion (day sections).

Texts/Outside Readings/Ancillary Materials

Required

- *Chemistry: The Molecular Nature of Matter and Change*, 4th Edition by M.

Silberberg, McGraw Hill, 2006.

- CPSrf response pad.
- A scientific calculator. (Calculators used in math courses through 3450:223 should be fine.)

Optional

- Student Study Guide.
- Student Solutions Manual.

Copies of the textbook are on reserve in the Science Library Reserve room and KNCL 314.

Course Objectives and/or Plan of Work

Homework assignments will be announced regularly in lecture and posted on the course web site. The purpose of the homework assignments is to give you, the learner, first-hand experience in solving problems and thinking about chemistry, as well as to help you find trouble spots before exams.

Online homework assignments using WebAssign will be set regularly during the semester. You will have at least one week's notice before each due date. Problems in the online homework sets may come from the textbook end-of-chapter problems or from additional problems.

Attendance in lecture is recorded using the CPSrf response pads. You are responsible for all information, including assignments, policy changes, schedule changes, etc., announced in class whether you are present in class or not.

Description of Assessment and/or Evaluation of Student Learning

Exams Three exams will be given in class. Each of these exams will be given starting at the beginning of our regular class period. The lowest of the three hour exam scores will be replaced by the final exam score, if that score is higher.

Attendance/Participation (CPSrf pads) The CPSrf pads will be used to measure your attendance and participation in class each day beginning September 1. You will receive 2 points per day that you were present and participated in class as recorded by the CPSrf pads, to a maximum of 40 points.

Online Homework (WebAssign) You will complete weekly online homework assignments using WebAssign. Online homework sets must be completed by 7:00pm on the due date to receive credit. *Extensions can not be given.* Your ten best online quiz scores will be counted.

Final Exam The final exam will be an American Chemical Society standardized exam and cumulative over all material covered in CHEM 151.

Master Syllabi and Working Syllabi (if both are used)

Additional Documentation

Principles of Chemistry I

Section 001 (3150:151-001)

Fall 2005



Course Syllabus

Instructor Dr. Bill Donovan, KNCL 403, 972-6064, wdonovan@uakron.edu

Lectures TR 10:45am–12:00pm in MGH 111

Web Site <http://www2.uakron.edu/genchem/CHEM151/>
<http://webct.uakron.edu>

Learning Assistant Mr. James Engle, CH 2nd Floor

As a student in *Chemistry 151, Section 001*, you are responsible for knowing the policies and procedures for the course contained in this document.

Textbook and Supplementary Materials

Materials are available in the bookstores

Required

- *Chemistry: The Molecular Nature of Matter and Change*, 4th Edition by M. Silberberg, McGraw Hill, 2006.
- CPSrf response pad.
- A scientific calculator. (Calculators used in math courses through 3450:223 should be fine.)

Optional

- Student Study Guide.
- Student Solutions Manual.

Copies of the textbook are on reserve in the Science Library Reserve room and KNCL 314.

EXAM DATES:

Exam 1: Tuesday, October 4, 10:45am-12:00n

Exam 2: Tuesday, November 8, 10:45am-12:00n

Exam 3: Thursday, December 8, 10:45am-12:00n

Final Exam: Tuesday, December 13, 12:00-1:55pm

Important Dates:

Monday, September 12: Last day to drop without adviser's signature

Friday, October 21: Last day to drop without instructor's signature.

Friday, November 18: Final day to process withdrawals.

- Please turn off beepers and cell phones in class.
- Your UA e-mail account is essential in this course. If you do not use this account, set it up to forward messages to an account you do use.
- All e-mail messages to Dr. Donovan or your TA must be signed by you at the bottom. We will not reply to or acknowledge receipt of unsigned messages.
- Arriving late/leaving early? Please use the back doors and sit near the back of the room.
- Please do not request extra credit papers or projects. These are not offered.
- Don't wait until it's too late to ask for help.
- Ask for help or information now rather than asking for forgiveness later.

COURSE OUTLINE

<u>Week</u>	<u>Date</u>	<u>Day</u>	<u>Lecture Topics</u>	<u>Text Chapter*</u>
1	August 29	T	Preliminaries, Keys to the Study of Chemistry	1
	September 1	R	Keys to the Study of Chemistry	1
2	6	T	The Components of Matter	2
	8	R	The Components of Matter	2
3	13	T	Stoichiometry: Mole-Mass-Number Relationships in Chemical Systems	3
	15	R	Stoichiometry: Mole-Mass-Number Relationships ...	3
4	20	T	Stoichiometry: Mole-Mass-Number Relationships ...	3
	22	R	The Major Classes of Chemical Reactions	4
5	27	T	The Major Classes of Chemical Reactions	4
	29	R	The Major Classes of Chemical Reactions; Gases	4, 5
6	October 4	T	EXAM 1 (~Ch. 1, 2, 3, 4)	
	6	R	Gases and Kinetic-Molecular Theory	5
7	11	T	Gases and Kinetic-Molecular Theory	5
	13	R	Thermochemistry: Energy Flow and Chemical Change	6
8	18	T	Thermochemistry: Energy Flow and Chemical Change	6
	20	R	Quantum Theory and Atomic Structure	7
9	25	T	Quantum Theory; Electron Configuration	7, 8
	27	R	Electron Configuration and Chemical Periodicity	8
10	November 1	T	Electron Configuration and Chemical Periodicity	8
	3	R	Models of Chemical Bonding	9
11	8	T	EXAM 2 (~Ch. 5, 6, 7, 8)	
	10	R	Models of Chemical Bonding	9
12	15	T	The Shapes of Molecules	10
	17	R	The Shapes of Molecules	10
13	22	T	Theories of Covalent Bonding	11
	24	R	THANKSGIVING HOLIDAY. No classes.	
14	29	T	Theories of Covalent Bonding	11
	December 1	R	Intermolecular Forces: Liquids, Solids & Phase Changes	12
15	6	T	Intermolecular Forces: Liquids, Solids & Phase Changes	12
	8	R	EXAM 3 (~Ch. 9, 10, 11, 12)	
16	FINAL EXAM (comprehensive): Tuesday, December 13, 12:00-1:55pm, MGH 111			

It is possible that I may deviate slightly from the above schedule. Any changes will be announced in lecture.

- Chapter references are to *Chemistry: The Molecular Nature of Matter and Change* by Silberberg.

CHEM 151, Section 001, Policies and Procedures, Fall 2005

Homework

Homework assignments will be announced regularly in lecture and posted on the course web site. The purpose of the homework assignments is to give you, the learner, first-hand experience in solving problems and thinking about chemistry, as well as to help you find trouble spots before exams.

Online Homework

Online homework assignments using WebAssign will be set regularly during the semester. You will have at least one week's notice before each due date. Problems in the online homework sets may come from the textbook end-of-chapter problems or from additional problems.

Attendance

Attendance in lecture is recorded using the CPSrf response pads. You are responsible for all information, including assignments, policy changes, schedule changes, etc., announced in class whether you are present in class or not.

Grading

10 best online HW (6 pts each)	60 pts.
Attendance/Participation	40 pts.
3 Hour Exams (225 pts each)	675 pts.
<u>Comprehensive Final Exam</u>	<u>225 pts.</u>
TOTAL	1000 pts.

Your course grade will be determined based on the following guaranteed grade cutoffs. Lower cutoff ranges may be used if the faculty deem it

appropriate.

A	933-1000 pts.	C	733-766
A-	900-932	C-	700-732
B+	867-899	D+	667-699
B	833-866	D	633-666
B-	800-832	D-	600-632
C+	767-799	F	0-599

Evaluation of Your Learning

Hour Exams Three exams will be given in class. Each of these exams will be given starting at the beginning of our regular class period. The lowest of the three hour exam scores will be replaced by the final exam score, if that score is higher.

Exams missed for excused reasons with appropriate notice will be replaced with the final exam score. Exams missed for unexcused reasons will be recorded as a zero.

Do not arrive more than 20 minutes late to an exam. No one will be allowed to leave during the first 20 minutes of the exam. No one will be allowed to enter and begin the exam more than 20 minutes after the exam has begun.

Bring pencils, calculator, eraser, and Zip Card ID to each exam.

You may be required to erase the memory register of your calculator at any time before or during exams and quizzes. Palm devices, cell phones, and devices with a QWERTY keyboard are not acceptable for use during exams or quizzes. Each student is responsible for bringing his/her own calculator to each exam and quiz. Sharing of calculators by students is not allowed during exams.

Attendance/Participation (CPSrf pads) The CPSrf pads will be used to measure your attendance and participation in class each day beginning September 1. You will receive 2 points per day that you were present and participated in class as recorded by the CPSrf pads, to a maximum of 40 points.

Online Homework (WebAssign) You will complete weekly online homework assignments using WebAssign. Online homework sets must be completed by 7:00pm on the due date to receive credit. *Extensions can not be given.* Your ten best online quiz scores will be counted.

Final Exam The final exam will be an American Chemical Society standardized exam and cumulative over all material covered in CHEM 151.

Academic Integrity/Cheating

Cheating is a problem that I hope I will not have to deal with in this course. Violations of the Academic Integrity code include plagiarism, cheating, and other forms of academic dishonesty. The minimum penalty for violations of this policy is a grade of "F" in the course. In addition, University policy states that formal disciplinary probation, suspension, or dismissal may also occur.

Students with Disabilities

The University seeks to fully comply with the Americans with Disabilities Act. Students who may require classroom or testing modifications must discuss this matter with the instructor as soon as possible. Appropriate documentation must be provided before accommodations can be made.

Consistent daily study and problem solving are essential for your success in this course. Research shows that to succeed in chemistry, students usually need to spend two hours studying outside of class for every hour spent in class. It is expected that a minimum of six hours per week is required for proper preparation for this class (not including CHEM 152 lab).

Being a Customer in CHEM 151 at UA

A University is like a Health and Fitness Center for your Brain.

When you pay tuition to an academic institution such as UA, it is like paying fees to join a Health and Fitness Center. UA is a place to exercise and develop your brain "muscle"; health clubs or fitness centers focus on exercising other muscles of your body. Your membership in a "mental exercise club" such as UA gives you the opportunity to take advantage of the resources UA makes available to exercise your brain just as joining a health club gives you the opportunity to take advantage of the health club's equipment and resources. Simply being a member of either "club" does not guarantee success. As with a health club, the benefit you gain from a "mental exercise club" depends on the amount, and more importantly, the quality of effort you exert.

Strategies to Avoid if You Want to Improve Your Performance

- Blame your problem or situation on anyone or anything else except yourself.
- Assume that your "rights" come without "responsibilities".
- Assume that pleading ignorance or begging forgiveness will "get you off the hook".
- Reject the idea that you need to explore different ways of learning.
- Rely on student folklore and rumors as your main sources of information.
- Underestimate the amount of time and effort required to master content material.
- Assume you understand a topic simply by recognizing or recalling a word or phrase.
- Think that plugging-and-chugging through the math shows you understand the concepts.
- "Psych yourself out": Convince yourself that you just aren't "the type" to learn chemistry.
- Believe that your learning depends on "liking" the instructor or the instructor "liking" you or that you can't understand or learn from those who speak with an "accent" (refer to the first item on this list).

Strategies That Can Help Improve Your Performance

It is normal to feel a bit frustrated when learning something new. Only time, patience and practice will allow you to work through the frustration and to learn new things.

Attend Lectures: Listen and Participate

- "True" learning usually does not occur by seeing something once or watching someone else do the work. Learning something well requires repeated exposure and practice.
- Read the sections in your textbook that are relevant to lectures before and after lectures are given.

Review Lecture Information: Rewrite Lecture Notes, Review Notes with Your Study Group

- Use these techniques to provide yourself with repeated exposure to the topics.

Read Differently

- Read technical material (like your chemistry textbook) differently than you would read a novel. Read in short "chunks" and give yourself time to reflect and interpret the information presented. With technical material, it is often difficult to pick up the "story" in the second paragraph if you do not process the first paragraph.

- Read technical material in a "distraction free" environment. Processing technical information will be more effective in the absence of TVs, radios, headsets, etc.
- Read and interpret subheadings. With technical material, the subheadings often carry important information. This is different from the chapter titles in a novel, which usually contain no information.
- Use the textbook as a reference when you study your lecture notes or lab materials. Fill in any gaps and correct any incorrect information.

Practice, Practice, Practice

- For some students, the material in CHEM 151 will seem like a review of what you studied in high school. However, you may not remember the information well enough to be able to work quickly and accurately during a timed exam.
- Work additional problems at the end of each chapter that were not assigned as homework.
- Work problems on previous exams without the answers. (You will not have the safety net of answers during an exam.) Check your answers only after you have completed all of the problems you plan to work. Work as many problems as you can.
- Look for similarities and differences in problems (homework, recitation problems, lab problems, previous exams). Classify problems by the type of knowledge that is needed to solve the problem rather than by section number in the text.

Ask Questions

- Take advantage of the fact that we want to see you do well and are happy to answer any of your questions. However, we cannot read your minds—if you need help, you need to let us know!

Don't Procrastinate!!

- Learning new things and being able to work with those ideas quickly will take time and practice. Work several problems each day but don't spend hours trying to work a problem if you are getting nowhere. Make a note and seek help with the problem within the next day or two during office hours.
- Do not try to master several weeks of technical material like chemistry the night before the exam - despite what you might hear from other students, this simply does not work. Even if you have the information in your short-term memory, you will only forget the material and have to relearn it for later exams.
- Get sufficient rest to help maintain your physical and mental health. Staying up all night before an exam actually produces lower exam scores than studying the course material regularly and getting a good night's sleep before an exam.

Credits: Dr. Susan Nurrenbern

OBR Use	Action
Approved	
Additional Information Requested	
Rejected	
Date	