

I. Course Information

Course: CHEM 1310 - General Chemistry II/Lab Semester Credit Hours: 4.0 Course CRN and Section: 20130 - DA3, 20131 - DA4 Semester and Year: Fall 2017 Course Start and End Dates: 08/21/2017 - 12/10/2017 Building and Room: Carl DeSantis Building - 3045

II. Instructor Information

Professor: Dr. Jacilynn A Brant **Email: Phone:** 954) 262-8343 **Office Hours:**

Day	Time	Location
М	9:00am - 12:00pm	PARKER 349
R	10:00am - 12:00pm	PARKER 349

III. Class Schedule and Location

CRN	Day	Date	Time	Location	Building/Room
20130	М	08/21/2017 - 10/02/2017	2:05 PM - 4:50 PM	Ft Lauderdale/Davie Campus	Panza Science Annex-4
20130	MWF	08/21/2017 - 10/06/2017	1:00 PM - 1:50 PM	Ft Lauderdale/Davie Campus	Carl DeSantis Building-3045
20130	W	10/11/2017 - 10/11/2017	1:00 PM - 3:00 PM	Ft Lauderdale/Davie Campus	Carl DeSantis Building-3045
20130	М	10/16/2017 - 11/27/2017	2:05 PM - 4:50 PM	Ft Lauderdale/Davie Campus	Panza Science Annex-4
20130	MWF	10/16/2017 - 12/01/2017	1:00 PM - 1:50 PM	Ft Lauderdale/Davie Campus	Carl DeSantis Building-3045
20130	Т	12/05/2017 - 12/05/2017	8:00 AM - 10:00 AM	Ft Lauderdale/Davie Campus	Carl DeSantis Building-3035

20131	MWF	08/21/2017 - 10/06/2017	1:00 PM - 1:50 PM	Ft Lauderdale/Davie Campus	Carl DeSantis Building-3045
20131	W	08/23/2017 - 10/04/2017	2:05 PM - 4:50 PM	Ft Lauderdale/Davie Campus	Panza Science Annex-4
20131	W	10/11/2017 - 10/11/2017	1:00 PM - 3:00 PM	Ft Lauderdale/Davie Campus	Carl DeSantis Building-3045
20131	MWF	10/16/2017 - 12/01/2017	1:00 PM - 1:50 PM	Ft Lauderdale/Davie Campus	Carl DeSantis Building-3045
20131	W	10/18/2017 - 11/29/2017	2:05 PM - 4:50 PM	Ft Lauderdale/Davie Campus	Panza Science Annex-4
20131	Т	12/05/2017 - 12/05/2017	8:00 AM - 10:00 AM	Ft Lauderdale/Davie Campus	Carl DeSantis Building-3035

IV. Course Description

This course and the related lab is the second part of a two-semester sequence that studies atomic structure, molecular structure and bonding, states of matter/solutions, dynamics (kinetics and thermodynamics), equilibrium, electrochemistry, and laboratory chemistry including their applications. Prerequisite: CHEM 1300 OR CHEM 1300H. Frequency: Every Fall and Winter.

V. Course Objectives / Learning Outcomes

1) Describe the atomic structure, molecular structure and bonding.

2) Describe the states of matter/solutions, dynamics (kinetics and thermodynamics), equilibrium, and electrochemistry.

3) Demonstrate competent and prudent testing practices of chemical principles in the laboratory and describe how data collected in the laboratory is interpreted scientifically.

VI. Materials and Resources

Book Url: NSU Book Store Section Required Texts and Material: Principles of Chemistry: A Molecular Approach with Mastering Chemistry E Book, Ed. 3, 2016 Author: Nivaldo Tro Publisher: Pearson ISBN-13: <u>9780321971166</u> Laboratory Manual for Principles of General Chemistry, Ed. 10 Author: JA Beran Publisher: Wiley, John & Sons ISBN-13: <u>9781118621516</u>Scientific calculator (no graphing calculators) Laboratory supplies: A bound composition notebook, lab coat, safety glasses, USB drive, calculator, and black or blue pen

VII. Course Schedule and Topic Outline

Course Schedule: Lecture schedule:

Week	Date	Topics	Chap	pter
1	21-Aug	Lewis Structures, VSEPR Theory, MO	10,	11
	23-Aug	Theory		

	25-Aug	Liquid, Solids and Intermolecular Forces	
2	28-Aug	Liquid, Solids and Intermolecular Forces	11
	30-Aug		
	1-Sep		
3	4-Sep	No Class - Labor Day	12
	6-Sep	Solutions	
	8-Sep		
4	11-Sep	Solutions	12
	13-Sep		
	15-Sep	EXAM I	
5	18-Sep	Chemical Kinetics	13
	20-Sep		
	22-Sep		
6	25-Sep	Chemical Kinetics	13, 14
	27-Sep		
	29-Sep	Chemical Equilibrium	
7	2-Oct	Chemical Equilibrium	14
	4-Oct		
	6-Oct		
8	11-Oct	EXAM II	
		For information see Course Wizard	
9	16-Oct	Acids and Bases	15
	18-Oct		
	20-Oct		
10	23-Oct	Acids and Bases	16
	25-Oct		
	27-Oct	Aqueous Ionic Equilibrium	
11	30-Oct	Aqueous Ionic Equilibrium	16
	1-Nov		
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	3-Nov	EXAM III	
12	6-Nov	Free Energy and Thermodynamics	17
	8-Nov		
	10-Nov		
13	13-Nov	Free Energy and Thermodynamics	17, 18
	15-Nov		
	17-Nov	Electrochemistry	
14	20-Nov	Electrochemistry	18
	22-Nov		
	24-Nov	No Class - Thanksgiving Break	-
15	27-Nov	Electrochemistry	18
	29-Nov	EXAM IV	
	1-Dec	Review	
16	5-Dec	Final Exam (Comprehensive)	
		For information see Course Wizard	

** This schedule is intended only as a guide and may change during the course of the semester. **Laboratory schedule:**

The week of:	Lab Experiment
21-Aug	No lab
28-Aug	Safety and VSEPR Lab (handout available online)
4-Sep	<i>No Lab</i> - Take Home assignment: Dry Lab Molecular Orbital Theory (<i>handout available online</i>)
11-Sep	Intermolecular Forces (handout available online)
18-Sep	Experiment 14: Molar Mass of a Solid
25-Sep	Experiment 24: Determination of a Rate law
2-Oct	Experiment 34: Equilibrium Constant
9-Oct	No Lab - Midterm Week
16-Oct	Experiment 16: LeChatelier's Principle
23-Oct	Experiment 18: Potentiometric Analysis
30-Oct	Experiment 22: Molar Solubility

6-Nov	Experiment 26: Thermodynamics
13-Nov	Experiment 32: Electrochemistry
20-Nov	No lab
27-Nov	Lab Practical

VIII. Assessments

There will be four semester exams and a cumulative final exam. Additional assignments may come in the form of homework (Mastering Chemistry), quizzes, in class work, and/or discussions.

A Pre-Lab assignment is completed prior to the start of each lab experiment and must be <u>hand-written</u> in your laboratory notebook.

The Post-Lab assignment is due at the start of class exactly one week after the completion of the experiment.

IX. Grading Criteria

Final Grade:

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- Exam I, II, III, IV (15% each)	60%
- Final Exam	30%
- Homework, Assignments, Quizzes	10%

Laboratory (25%): Pre-lab, in-lab, and post-lab assignments

Grading Scale: A: 85 and above

A-: <u>80.0-84.9</u> B+: <u>75.0-79.9</u> B: <u>70.0-74.9</u> B-: <u>65.0-69.9</u> C+: <u>60.0-64.9</u> C: <u>55.0-59.9</u> D: <u>50.0-54.9</u> F: below 50

X. Course Policies

General Policy:

Attend lecture and lab (attendance will be recorded). Not attending lectures will limit your success in the course. If you miss class, you are responsible for any material and announcements missed. Not attending lab will result in a zero for that specific lab assignment. There are no make-up labs.

Read assigned material **before** class and be prepared for class questions and discussion.

Follow class notes, which are available online (Blackboard) and take good class notes. Use your textbook as your primary reference book and study manual.

Practice chemistry as much as you can. The more problems you do the better you will perform in this course. Do ALL end-of-chapter problems

The online homework (Mastering Chemistry) is due within the prescribed time. Late homework assignments will not be accepted.

Studying in groups to review the course material will help tremendously.

Attend lab sessions and arrive on time. You will <u>not</u> have the opportunity to perform a missed experiment in an alternate lab section.

You must attend the lecture prior to your lab or you will not be allowed complete the laboratory experiment that day.

If you do not come to lab with your notebook, lab coat, safety goggles, and closed toe shoes, you will <u>not</u> be allowed to perform the experiment. Additionally, if you arrive after the lab quiz has been collected, <u>you will not be permitted to stay</u> and complete the experiment.

Before lab a Pre-Lab must be completed and hand-written in your lab notebook. Failure to complete your Pre-Lab will result in a 50% deduction in your Lab Report grade.

<u>Quizzes will be administered</u> prior to the start of each lab. The quizzes will include concepts that will be covered that day in lab. Only lab notebooks and scientific calculators can be used during a quiz. There will be <u>no</u> makeup quizzes.

Submit well-written lab reports by the date and time they are due. <u>Late reports</u> will receive a 20% deduction in points for each day it is late. Reports received 5 days late will receive a grade of zero.

• Once graded lab reports and quizzes are returned to you, you will have one week to address any concerns regarding your grade. After that time there will be no changes to your grade.

There will be no dropped labs.

- **Observe all laboratory safety precautions and procedures**. Unsafe behavior in the laboratory will result in immediate dismissal from the lab at my discretion.
- Partners in the lab <u>can share only the data</u> they jointly produce, but each student needs to complete the lab report, including data analysis and report writing, independently. Producing the lab report in <u>any</u> joint effort or fashion by lab partners will be considered plagiarism and will not be tolerated.

Display college-level writing ability in written lab reports, exams and homework, in accordance with the Writing Across the Curriculum policy.

If you are having difficulties, contact the professor as soon as possible!

Additional Policies:

No cell phones are allowed in class or lab. Cell phones must be turned off during class and lab. You will need a scientific calculator, and during exams it must only be used for computing purposes. Recording lectures is not allowed unless you get approval from the instructor.

It is the student's responsibility to take all exams and attend all lab sessions on the scheduled dates. Failure to do so will result in a zero for that exam or that lab session. You will not be allowed to perform lab

experiment in an alternate lab section. There will be NO makeup exams, quizzes or labs unless your absence is due to special circumstances beyond your control (documentation in written form must be presented either BEFORE the exam or WITHIN 24 HOURS following the exam).

No exams, quizzes, homework assignments or lab reports will be dropped.

Academic dishonesty (cheating, plagiarism, etc.) on exams, homework assignments and lab reports will be dealt with harsh penalty, at minimum, with a failing grade.

Partners in the lab share only the data they jointly produce, but each student needs to complete the lab report, including data analysis and report writing, independently and individually. Producing the lab report in any joint effort or fashion by lab partners will be considered plagiarism.

XI. University Policies

Students should visit <u>http://www.nova.edu/academic-affairs/nsu-syllabus-policy.html</u> to access additional required college-wide policies. It is your responsibility to access and carefully read these policies to ensure you are fully informed. As a student in this class, you are obligated to follow these college-wide policies in addition to the policies established by your instructor.

The following policies are described on this website:

- Academic misconduct
- Last day to withdraw
- Email policy
- Student course evaluations
- Student responsibility to register
- Student responsibility for course prerequisites

Academic Resources

Nova Southeastern University offers a variety of resources that may aid in student success. Among these

resources are:

Accommodations for students with documented disabilities: For more information about ADA policy, services, and procedures, students may call the Office of Student Disability Services at 954-262-7189 or visit <u>http://www.nova.edu/disabilityservices</u>.

Tutoring and testing center:

Students are encouraged to use the free, individualized tutoring services offered by the Tutoring and Testing Center (TTC). TTC provides a supportive atmosphere in which tutors and students work collaboratively on improving students' writing, math and/or science skills. <u>http://www.nova.edu/tutoring-testing/index.html</u>