

CHEMISTRY FUNDAMENTALS II (CHM2046.0002)  
FALL SEMESTER 2016 (Aug. 22 – Dec. 12)  
Lectures: MWF: 10:30 - 11:20 am; CB2 101

**Instructor:** Dr. Donovan A. Dixon

**Office hours:** (Tue: 10:30 am - 12:30 pm; Wed: 12:30 - 1:30 pm; 4 - 5 pm;  
Fri: 12:30 - 1:30 pm)<sup>a</sup>

**Office:** Chemistry Building, room 225 (across from the Theatre)

**Email:** [Donovan.Dixon@ucf.edu](mailto:Donovan.Dixon@ucf.edu); **ph:** 407-823-4052

Textbook: Chemistry: A Molecular Approach, 3rd edn., Nivaldo Tro.

Notes: Supplement for Chemistry Fundamental II; Donovan Dixon

Online homework/tutoring system: Mastering Chemistry course ID: **MCDIXON85283**

Please purchase an access code at the bookshop or at [masteringchemistry.com](http://masteringchemistry.com) to use along with the course ID above for enrollment in the course and having access to the homework problems. Always log in to mastering chemistry to see due dates for all assignments. No extensions will be given for missing due dates or not paying attention to due dates.

NOTE: ALL students' academic activity must be documented at the beginning of each course. In order to document that every student BEGAN this course (CHM2046.0002) please complete the academic activity (ASSIGNMENT 0 in webcourses) by the end of the first week of classes, August 26, 2016, or as soon as possible after adding this course. Failure to do so will result in a delay in the disbursement of your financial aid.

#### Course Goal

To make chemistry fun, understandable, and relevant via the investigation of *intermolecular forces, the various properties of solutions, chemical kinetics and equilibria, thermodynamics, electrochemistry, and nuclear chemistry.*

This course also prepares students for taking a standardized American Chemical Society (ACS) exam at the end of the semester, plus other chemistry and related science courses.

#### TOPICS

The topics to be covered in the course will include *intermolecular forces, properties of solutions, chemical kinetics, chemical equilibria, acids and bases, thermodynamics (entropy and free energy), electron transfer reactions, and nuclear chemistry.*

*At a minimum, this is chapter 11-19 in the course text.*

#### ASSESSMENTS

A valid photo ID is required for each test/quiz. Only non-programmable, scientific calculators will be allowed (e.g. TI-30X series). NO CELL PHONES, NOR GRAPHING CALCULATORS. Failure to comply will result in the award of an automatic "F".

Apart from the final, all tests/quizzes will be administered during class time in CB2 101 (see Table 2). If you are absent for one test, the percentage grade from your final test (test 5) will be substituted for the one missed test only. The **percentage** grade from the final test (test 5) will replace the **LOWEST** test grade if a test was not missed, and the final test grade (test 5) is the higher grade. The course grade is therefore based on five (5) tests – not four (4).

There will be no make up test/quiz, **except** for attendance at University events and **legitimate** medical emergencies! Documentation must always be provided.

Each regular course test is 50 minutes and will each be worth 100 points (%). Each quiz is 15 minutes and worth 25 points.

Test/Quiz Dates: See Table 2, and the interactive feature in myUCF for the final examination schedule (Fall exam schedule: <http://registrar.ucf.edu/exam/2016/fall> )

Tests/quizzes will be computer-graded, multiple-choice format, inclusive of calculations/conceptual questions taken from lectures, textbook (exercises, examples, suggested end-of-chapter homework problems) and other recommended resource material(s).

Each student must have a clean, flat, pink/raspberry NCS Test Form (scantron) for each computer graded test/quiz, and the correct pencil. Use of a pen is not recommended.

On average, grades for quizzes and tests become available within a week, and are posted in the Grades section of **webcourses**.

**Table 1: Grading**

Grading	
4 in-course tests, 100 points each	400 points
Final: test 5 (ACS)	100 points
4 quizzes (25 points per quiz)	100 points
Assignments (Mastering Chemistry)	20 points
<b>TOTAL</b>	<b>620 POINTS</b>

Based on the preceding information, there is NO 'curve' in this chemistry course. The course is graded A, B, C, D, or F (There is **No NC option, since it is not an NC course. See myUCF!!**).

Letter Grade: [90-100 % = **A**; 80-89.99% = **B**; 70-79.99% = **C**; 60-69.99% = **D**; < 60% = **F**]

Overall course grade will only be computed based on percentage points from tests, plus quizzes/assignments. The  $\pm$  designation is used if necessary.

### **Success in CHM 2046!!**

**Please, never lobby/negotiate/petition for any grade! The course grade earned is based solely on grades (homework, quizzes, tests) obtained throughout the semester. There are no other factors/conditions! So please do the required WORK on a consistent basis.....**

Attendance is required for all lectures. If you decide to skip lectures, you will need to make the time to get any missed information/notes from a student in the class who was in attendance. The students who attend classes and work consistently from day one, usually have a higher success rate in the course. So, get to lectures early, concentrate, stay focused, and pay attention to the material being covered. It is therefore **strongly** recommended that all students attend all lectures!! Being regularly absent, or a habitual late-comer, or departing early, is not conducive to being successful in the course.

Make the effort to UNDERSTAND the various facts/concepts/principles (including all important definitions/mathematical equations), which are vital in learning chemistry. Learn how to apply these in various problems. **Memorizing** is definitely NOT the solution!

Please review all required lecture material early and often, **before class and after class** - from the very first lecture. Do not wait until the last few hours before a test/quiz to do the necessary revision, as this is not the recommended way to learn the material for any course. Also, if you fall behind at the start, it is very difficult to catch up on the course material.

Review the worked **exercises and examples** in the textbook. Also at the end of each chapter are lists of key terms, concepts and equations. These are helpful review tools.

Find time to work on the suggested end-of-chapter problems. Perfect practice makes perfect. Review these as many times as necessary to gain a full understanding of the subject matter. About 2-3 hours per day of careful review and practice, etc, are required to be successful, as there are no shortcuts.

Do make use of any, or all University and Departmental resources provided to enhance students' success. These however, should not be substituted or used as an excuse for not attending lectures!!

All students are expected to have an understanding of basic algebra. Additionally, it is assumed that all students in this course have learnt/understood ALL relevant material from Chem. I (see text, chapters 1-10). This is extremely essential in understanding the material in this course, chem. fund II. Therefore, if needed, the revision of that body of knowledge from chem. 1 is always the responsibility of every student, regardless of when or where that course was actually taken.

All constants, data, and a periodic table will be supplied for each quiz/test, as appropriate.

## Table 2: Proposed Schedule

Please note that the information listed here are subject to change depending on the pace at which the topics are covered. Important or significant changes will be announced in class and/or posted in the announcement section of webcourses, if needed.

Week #: Date	Chapters from Tro Textbook (3rd edn)
1: Aug 22, 24, 26	Chapter 11.1 – 11.6;
2: Aug 29, 31; Sept 2	Chapter 11.7 – 11.9; 11.11 – 11.13
3: Sept 5, 7, 9	Chapter 12.1 – 12.7 <i>Quiz 1 (Wed. Sept. 12)</i>
4: Sept 12, 14, 16	Chapter 13.1 – 13.3 <i>Test 1 (Mon. Sept. 12)</i>
5: Sept 19, 21, 23	Chapter 13.4 – 13.7
6: Sept 26, 28, 30	Chapter 14.1 – 14.5 <i>Quiz 2 (Mon. Sept. 26)</i>
7: Oct 3, 5, 7	Chapter 14.6 – 14.9 <i>Test 2 (Mon. Oct. 3)</i>
8: Oct 10, 12, 14	Chapter 15.1 – 15.5
9: Oct 17, 19, 21	Chapter 15.6 – 15.8; Ch. 16.1 – 16.5
10: Oct 24, 26, 28	Chapter 16.8; Ch. 17.1 – 17.5 <i>Quiz 3 (Mon. Oct. 24)</i>
11: Oct 31; Nov. 2, 4	Chapter 17.6 – 17.9 <i>Test 3 (Mon. Oct. 31)</i>
12: Nov 7, 9, 11	Chapter 18.1 – 18.5
13: Nov 14, 16, 18	Chapter 18.6 – 18.8 <i>Quiz 4 (Fri. Nov. 18)</i>
14: Nov 21, 23, 25	Chapter 19.1 – 19.4 <i>Test 4 (Mon. Nov. 21)</i>
15: Nov 28, 30; Dec 2	Chapter 19.5 – 19.6; Review (time permitting)
Monday, Dec. 12	Final Exam: (10:00 am – 12:50 pm) in CB2 101

## Textbook Problems

Do the relevant odd-numbered problems/exercises (or others) at the end of each chapter in the text (chapters 11-19). **Please see webcourses for this information.**

## Students Registered with the UCF SDS Office

Please comply with all the relevant accommodations at all times.

## Other Policies and Expectations

As a courtesy, this course is also managed and supplemented using webcourses. Please check regularly for any announcements, the posting of partial class notes, an electronic copy of the syllabus (original, or if revised), and for any other vital information that may be of relevance to the organization of the course. Please do not use webcourses for sending emails to the Instructor.

In order to avoid disturbing other students, or disrupting the class, plan to arrive at all lectures on time. If you must leave early for any reasons, please do so quietly and discreetly.

ALL cell phones and ALL other electronic equipment/gadgets must be turned off and properly stored. *In that case there will be no video/audio recording, nor picture taking (flash bulbs).* Also, do not indulge in audible talking/whispering, as other students historically find such practices extremely distracting.

The many topics to be covered in this course represent a substantial body of work. As such, it is incumbent on all students to master these in order to be successful. No 'extra' work nor assignments of any type can therefore be added to the schedule outlined in Table 2.

## Academic Honesty

Only the required materials for taking tests and quizzes are allowed. As a reminder, graphing calculators are not allowed (no exceptions).

Academic integrity is expected at all times in this course. Therefore, do not allow other students to copy your work, and do not copy other students' work. Offenders will be reported to the appropriate University Office, so that the appropriate disciplinary action(s) can be taken. Please read and understand the relevant sections of the UCF's Undergraduate Catalog.

## Miscellaneous

- a) Please show up during times posted for office hours. If, and only if you are unable to make the scheduled office hours listed on the front page, please make an appointment.
- b) Drop/Swap deadline on myUCF: Thursday, Aug. 25, 2016, 11:59 PM.
- c) Add deadline: Aug. 26, 2016; 11:59 PM
- d) Withdrawal deadline: Oct. 31, 2016, 11:59 PM.
- e) Classes end: Dec. 3, 2016.
- f) Fall Holidays: Sept. 5 (Labor Day); Nov. 11 (Veterans Day); Nov. 24, 25 (Thanksgiving).

## N.B.

**Please be reminded that the Instructor reserves the right to modify/change any part of this schedule/syllabus if the need arises!**