

**Syllabus**  
**CHEM 2240L (Organic Chemistry II Laboratory)**  
**Spring Semester 2012, 1 semester hour**

**Sections, Instructors, Classrooms, and Contact Information**

Section	Day	Time	Location	Instructor	Office #	Phone #	e-mail
5	M	11:00-1:50	NCF 377	Dr. Payton-Stewart	311	7381	<a href="mailto:flpayton@xula.edu">flpayton@xula.edu</a>
1	M	1:00-3:50	NCF 361	Dr. Weaver	317	5080	<a href="mailto:Sweaver1@xula.edu">Sweaver1@xula.edu</a>
2	M	2:00-4:50	NCF 377	Dr. Kelley	305	7373	<a href="mailto:atkelley@xula.edu">atkelley@xula.edu</a>
3	T	7:50-10:40	NCF 377	Dr. Abrams	301B	5075	<a href="mailto:jabrams@xula.edu">jabrams@xula.edu</a>
4	T	1:15-4:05	NCF 377	Dr. Weaver	317	5080	<a href="mailto:Sweaver1@xula.edu">Sweaver1@xula.edu</a>
6	W	1:00-3:50	NCF 361	Dr. Kelley	305	7373	<a href="mailto:atkelley@xula.edu">atkelley@xula.edu</a>
7	W	2:00-4:50	NCF 377	Dr. Weaver	317	5080	<a href="mailto:Sweaver1@xula.edu">Sweaver1@xula.edu</a>
8	R	7:50-10:40	NCF 377	Dr. Abrams	301B	5075	<a href="mailto:jabrams@xula.edu">jabrams@xula.edu</a>
9	R	1:15-4:05	NCF 377	Dr. Kelley	305	7373	<a href="mailto:atkelley@xula.edu">atkelley@xula.edu</a>
10	F	11:00-1:50	NCF 377	Dr. Payton-Stewart	311	7381	<a href="mailto:flpayton@xula.edu">flpayton@xula.edu</a>
11	F	2:00-4:50	NCF 377	Dr. Abrams	301B	5075	<a href="mailto:jabrams@xula.edu">jabrams@xula.edu</a>

**Office Hours:**

Dr. Abrams: M 12-1, T 11-12, W 12-1, R 11-12, F 11-1

Dr. Kelley: M 8:30-10:30, W 9-11 R 9-11

Dr. Payton-Stewart: M 8:30-10:30, T 1-3, W 9-10

Dr. Weaver: M 11-12, T 4:30-5:30, W 12-1, R 9-11 & 430-5:30

**Required Materials:**

1- Lab. Manual/Notebook: K. Crago, S. DiMaggio, M. Foroozesh, V. Giannamore, G. Goloverda, T. Jordan, K. Morgan, M. Polito, I. Politzer, T. Ross, and J. Sevenair, "*Organic Chemistry Laboratory Manual*", Sixth Edition, Wiley Custom Services, 2005. No other edition is acceptable.

2. Updated procedures and notes are located at: <http://www.xula.edu/chemistry/crs-orgleclab.php>

3- Lab Coat

4- Safety goggles

5- Full Shoes

6- Non-programmable calculator (Phones may not be used during quizzes or tests).

\*\*\*The goggles and lab coats are sold in the chemistry stockroom, while the text book and the manual are sold in the University Book Store. **You will not be allowed to perform any experiments without your goggles, lab coat and full shoes.**

**Useful Additional Materials**

Textbook: Williamson, Kenneth L. *Macroscale and Microscale Organic Experiments*, Fourth Edition, Houghton Mifflin Company, Boston, 2003. (This is not required but may be helpful.)

**Course Description**

Students are introduced to microscale and macroscale organic laboratory techniques, selected instrumental analysis, and chemical safety. Students learn to critically assess their data and observations, and to prepare organized, scientific reports from their findings. In the second semester, these techniques are applied to experiments which correlate with material presented in the lecture. Students get hands-on experience with organic reactions, syntheses, instrumental analyses, and interpretations as well as presentation of results.

**Course Objectives:**

Students use the organic laboratory techniques they learned in first semester when carrying out a variety of common organic synthetic procedures. The students continue to learn selected instrumental analyses and chemical safety. Students learn to critically assess their data and observations, and to prepare organized scientific reports from their findings. The experiments conducted in second semester are highly correlated with the material presented in the lecture. Students get hands-on experience with organic reactions, syntheses, instrumental analyses, and interpretations as well as writing proper laboratory reports.

Corequisites: CHEM 2220/2220D.

Prerequisites; CHEM 2210/2210D and CHEM 2230L. *See page 9 of the lab manual for a more complete explanation of corequisites and prerequisites.*

### **Course Requirements:**

Each student is expected to come fully prepared for each lab. Students should read the experiment in the laboratory manual and read the supporting notes on the internet before coming to class (<http://www.xula.edu/chemistry/crs-orgleclab.php>). Students must be dressed appropriately in order to conduct the experiment in a safe manner. Any student who fails to complete more than two labs will receive a grade of F for the course. Any experiments missed must be made up or prorated at the discretion of your instructor. Otherwise, you will receive no points for that experiment. You may not turn in a lab report for any experiment you did not carry out. You are expected to be on time for each class. See page 10 of the manual for more details.

Any student who is dressed unsafely, or acts in an unsafe manner will be asked to leave the laboratory. This will be recorded as an absence.

There are 11 experiments scheduled for this semester. There will be a quiz, a laboratory notebook write-up grade, and a lab report grade for each experiment. There will also be a cumulative final examination and a performance grade. These are further described below.

### **Grading**

A total of 510 points will be available during this course. Your grade in the class will be based on the number of these possible points you earn.

A mid-semester grade will be assigned by October 18th. The grade given at that time will be based on the percentage of possible points obtained (90% ≥ A, 80% ≥ B, 70% ≥ C, 60% ≥ D, 60% < F).

Percent Yield Assignment. 10 points (2 %). This yield calculation assignment is given during the first day of lab. The material covered will help students in carrying out calculations for the rest of the course. No-make ups will be available to any student registered at the time of the class.

Quizzes. 150 points (30 %). A quiz will be given at the beginning of each lab. Each quiz is worth 15 points. The lowest two scores from the twelve quizzes will be dropped. If you come late you will not receive additional time. If you miss the quiz you will receive a zero. The quiz covers what was done last week as well as what will be done this week. Approximately 10 of the 15 points are on what was completed the previous week. Approximately 5 of the 15 points are on what will be done the current week. Questions may be taken from the lab manual, **the lab notes posted on the internet**, and the discussion material presented by your instructor. There are a total of twelve quizzes with the lowest two being dropped. (15 x 10 = 150). A zero obtained on a quiz due to academic dishonesty issues will not be dropped. See the attached lab schedule for more details.

Laboratory Report or Datasheet. 155 points (28%). Each lab report or datasheet is worth 15 points, except Qual 3 which is worth 20. A typed laboratory report (or in some cases a completed data sheet) must be turned in at the start of the class following the class in which the experiment was conducted. Students must carry out each experiment. A lab report will not be accepted for a lab not conducted the week prior. (If a student is retaking this class, they must do the experiments again.) Eleven lab reports or datasheets will be collected. The lowest lab report/datasheet will be dropped. A

zero obtained on a lab report due to academic dishonesty issues will not be dropped. A late penalty of 4 points for each 24 hours late will be assigned. (If the report is turned in 6 hours late, the maximum points possible is 11, 30 hours late 7 points.) No reports will be accepted after graded reports have been returned. Chemistry laboratory reports must be typed and must follow the proscribed format the details of which are covered in chapter 3 of the manual, and additional information will be provided by your instructor. Write in your own words what was done, seen, and understood. Do not copy from others, do not plagiarize. Typically the conclusion section is responsible for the largest percentage of points. A typical grading rubric is provided below. Each instructor may use a slightly different grading schedule and the points assigned for each section will vary somewhat from experiment to experiment. All reports in a single section will be graded according to the same grade scheme.

Section	Points
Intro-Purpose	1-2
Reactions and Structures	2-3
References	1-2
Data-Observations	2-4
Calculations	2-4
Conclusions	3-5
Total	15

Each lab report must be submitted in electronic format to Turnitin before a grade for that report is assigned. A report which is not submitted to Turnitin will receive a zero. Detailed instructions on how to submit reports to Turnitin will be given before the first report is due.

Notebook grade. 45 points (9 %). Five points are possible for the 10 experiments, the lowest grade will be dropped. This is normally based on your laboratory notebook write-up and good data keeping, although different criteria will be used for a few experiments with little pre-lab material. This includes the GC lab and Qual III. You must have your pre-lab prepared before coming to class. If your pre-lab is not complete before the start of class, you will lose 6 points, plus you will not be allowed to work independently during this experiment. At the end of class you will turn in the original pages (leave the duplicate pages for yourself) of your notebook which contain the data and observations for the day's experiment before you leave the lab.

Back Calculation. 10 points (2 %) Toward the end of the semester, the topic of back calculations will be covered. An assignment will be graded for 10 points.

Final examination 100 points (20 %). The final exam is comprehensive and will cover all concepts covered in class. There will be theory, application, and practical based questions. This typically is a difficult exam and it is not uncommon for students to drop a letter grade due to poor performance. Do not take the final lightly. The final will be given during normal lab periods during the last week of classes. See the attached schedule for more details.

Daily Performance grade. 40 points (8 %). Each student may earn up to 4 points during each of the 11 lab classes. The lowest grade will be dropped. Points will be deducted for each of the following; not wearing safety goggles, lab coats or closed toes shoes, arriving very late or finishing late, having a phone visible during class, texting during class (-4), not paying attention during pre-lab lecture, talking during pre-lab lecture, improper disposal of waste, improper equipment usage, improper recording of data in notebooks (not paper), lack of focus or general preparedness in class, and asking excessive questions about items covered in pre-lab lecture. An average grade in this section is approximately 34.

All of these categories combine to give the below breakdown of grades

Percent Yield	10	( 2%)
Quizzes	150	(29%)
Lab Reports	155	(30%)
Notebook	45	(9%)
Back Calculation	10	(2 %)
Final Exam	100	(20 %)
Performance	40	(8%)
<b>Total points</b>	<b>510</b>	<b>(100%)</b>

<b>Points Earned</b>	<b>Grade Earned</b>
459 to 510	A
408 to 458	B
357 to 407	C
306 to 356	D
305 or below, or >2 absences	F

The instructor may or may not lower the thresholds, so as to reflect a “curve” of overall class performance. The thresholds will not under any circumstances be raised. Recently the curve has been very small to zero.

### **Safety**

Many materials used in organic chemistry laboratories are hazardous to human health, especially if used incorrectly or in certain situations. Students need to use prudent judgment and follow all safety precautions while in the laboratory.

### **Pregnancy:**

Risks to the fetus during pregnancy may be different or greater than the common hazards associated with chemicals. If you are pregnant or become pregnant during the semester, immediately consult with your doctor about whether or not you should remain in this class. We highly recommend you inform your instructor, so special safety issues may be addressed. A list of all chemicals used in this lab may be found on the course website. We will be happy to provide you and your doctor with all MSDS (material safety data sheets) that you request. This is a serious decision that should be made with the full participation of your physician.

### **Student Behavior and Classroom Decorum:**

Free discussion, inquiry and expression are encouraged in this class. However, classroom behavior that interferes with the instructor’s ability to conduct the class or undermines the ability of any student to benefit from instruction is not acceptable. Examples include, but are not limited to: being disrespectful to the instructor or another student, disruptive interactions with another student, and holding side conversations while the instructor is lecturing. Please be aware of your own behavior and how it may negatively impact others’ ability to learn.

### **Cell Phones.**

Turn off phones when entering the classroom. Keep cell phones put away during class. Do not text message, use the calculator function, or answer the phone during class. If there is an extenuating circumstance for having the phone on in class, or the need to accept a call during class, then please inform professor prior to class. Having a cell phone visible during class will result in a lowering of daily performance grade. Texting during class will result in a multi-point deduction. Having a cell

phone within reach while taking a quiz or test is grounds for reporting an incident of Academic Dishonesty.

### **Academic Integrity**

The CAS Academic Integrity Policy will be followed in this course. According to the policy, academic misconduct includes, but is not limited to, the following:

1. Using unauthorized materials in completion of an exam, quiz, or assignment.
2. Assisting or gaining assistance from an unauthorized source during an exam, quiz, or assignment.
3. Providing assistance to another student in a manner not authorized by the instructor.
4. Obtaining an examination or assignment in an unauthorized manner.
5. Using material from a source without giving proper citation.
6. Fabricating or altering data.
7. Submitting work to one class that is substantially similar to work submitted for another class without prior approval from the instructors involved.
8. Submitting written work that is not completely one's own or allowing others to submit one's work.
9. Destroying or altering the work of another student.
10. Committing any other violation of academic integrity as described in this syllabus.

Specific examples of academic misconduct include:

- the use of a cell phone during an exam or quiz for any reason (even as a calculator);
- talking during an exam or quiz;
- using anything other than explicitly authorized materials on a quiz or exam;
- attempting to read from another student's quiz or exam;
- copying class assignments, including sharing files to analyze or present data;
- using data that you did not collect in a report without proper attribution;
- working with others on any assignments (in or out of class) when not authorized.

You are responsible for arriving on time for all quizzes or exams, as you will not be permitted to begin after any other student has left the room. You are responsible for all written materials on, under, and near your seat during quizzes and exams, so it is in your best interest to ensure that the desk surface is clear of writing and that no extraneous papers are within your line of sight (both when you begin and finish). Cell phones should always be off and inside a bag during a quiz or exam; your instructor will not give you the benefit of the doubt if a cell phone is used or visible. The CAS policy makes no distinction between the person receiving unauthorized assistance (copying an assignment) and the person providing the assistance (allowing work to be copied); both actions are academic misconduct.

Disciplinary action in response to incidents of academic dishonesty may range from a lowered grade on an individual assignment, a zero on the assignment, to an F being given in the class. Premeditated academic misconduct during an exam (for example, using a cell phone to text or preparing a "cheat sheet") will result in the student being asked to leave immediately and a failing grade for the course. In accordance with Xavier Policy, instances of lowering of grades due to Academic Dishonesty will be reported in writing to the dean of the college of arts and sciences. Repeated incidents of academic dishonesty, will be dealt with by Academic Affairs, and may result in temporary or permanent expulsion from the university.

Refer to [http://www.xula.edu/cas/documents/cas\\_academicIntegrity.pdf](http://www.xula.edu/cas/documents/cas_academicIntegrity.pdf) for the full CAS Academic Integrity policy.

Additional discussion of academic integrity and various course policies and requirements in the first four chapters of the lab manual. Those items are considered to be part of the syllabus.

Do not copy the work of another student. Do not try to pass off another's student work as your own. Keep your eyes on your own paper during all quizzes and tests. Do not have a cell phone within reach when taking a quiz or exam. Write, in your own words, do your own data sheets.

Cheating is absolutely not tolerated. In cases where cheating on any activity has clearly been demonstrated, the student will receive an F in the course.

### **Emergency Response**

In the event on an emergency, including but not limited to a hurricane evacuation, please check the Blackboard page for this section, your xula e-mail account, and the university emergency web site at <http://www.xula.edu/temp/emergency/index2.html>.

Summary of Points Available throughout CHEM 2240L, Spring 2010

Week, Experiment	Quiz	Notebook	Datasheet	or Lab Report	Perform.	Other
Week 0, Intro, Percent Yield	-x-	-x-	-x-	-x-	___/4	10 : percent yield worksheet
Week 1, NMR	___/15	___/5	15	-x-	___/4	-x-
Week 2, Dehydration	___/15	___/5	-15-		___/4	-x-
Week 3, GC Workshop	___/15	___/5		-15-	___/4	-x-
Week 4, Oxidation	___/15	___/5	15	-x-	___/4	-x-
Week 5 Oxime Deriv	___/15	___/5	-x-	15	___/4	-x-
Week 6, EAS	___/15	___/5	15	-x-	___/4	-x-
Week 7, Diels-Alder	___/15	___/5	-x-	15	___/4	-x-
Week 8, Aspirin	___/15	___/5	-x-	15	___/4	10 : Back Calculation
Week 9, Aldol	___/15	___/5	-x-	15	___/4	-x-
Week 10, Qual II	___/15	___/5	15	-x-	___/4	-x-
Week 11, Qual III	___/15		20	-x-	___/4	-x-
Week nylon 12,	___/15					
Week 14, Final exam	-x-	-x-	-x-	-x-	___/4	100: Final Exam
Total	___/180	___/50	___/170		___/44	___/120
Lowest	___/15	___/5	___/15		___/4	0
Subtract lowest from 4 columns for Adjusted Total	___/150	___/45	___/155		___/40	___/120

Sum Adjusted total points=

Final Grade is based on this value.

Total adjusted points possible =510

**Points Earned**

459 to 510

408 to 458

357 to 407

306 to 356

305 or below, or >2 absences

**Grade Earned**

A

B

C

D

F