Chemistry 211 L

INSTRUCTOR	OFFICE	PHONE
Dr. Dawson	CW 216	321-3464

Room	Class Time
AH 206	T, W, or R 2:00 p.m. – 6:00 p.m.

Email Address
ddawson@cbu.edu

Office Hours: 30 minutes before lab.

Required Text: The Organic Chem Lab Survival Manual, A Student's Guide to Techniques by James W. Zubrick. The 8th Edition is available but any addition will work.

Required Text: Most of the procedures will be from Experiments in Organic Chemistry by Hill and Barbaro, 3rd edition. The procedures that are not copyright protected will be posted on the following website. (http://www.cbu.edu/~ddawson/211L/procedures/)

Recommended Notebook: The Official Laboratory Research Notebook. This notebook has lots of useful information on the last page. The only requirement for the notebook is that it be bound.

Lab Web Sites: www.cbu.edu/~ddawson/211L

Required for Lab: Goggles, a breakage card, a completed safety quiz and a willingness to learn. The breakage card will be upgraded from Chemistry 114 and students have the first two labs to pay for the upgrade. Failure to upgrade the card in the first two labs will result in dismissal from lab. The safety quiz will be collected before the second lab and entry into lab will be denied if a safety quiz is missing or incomplete. Gloves may be purchased at Walgreens, Walmart, etc and are HIGHLY recommended.

From the Catalog: **CHEM 211L. ORGANIC CHEMISTRY I LABORATORY**
This course is designed to teach the student the techniques of organic chemistry as well as to carry out reactions discussed in class. Some of the techniques presented are distillation, recrystallization, and extraction. The experiments will teach the proper methods of carrying out reactions. Prerequisites: CHEM 114, 114L. Prerequisite or co-requisite: CHEM 211. Offered in the Fall semester. One semester; one credit.

Objective: The objective of the lab is to teach the student how to carry out a reaction safely, how to separate products from each other and finally, how to identify the products formed in the reaction. The importance of keeping a notebook will also be stressed.

Grading: Grading: The grade will consist of six sections.

1) Experiments

2) Advanced Study Assignments
3) Lab Skills
4) Notebooks
5) Final Exam
6) Safety Quiz

Experiments are worth 25 points.
Lab Skills are worth 10 points.
Advanced Study Assignments, and Notebooks are worth 5 points.
Final Exam is worth 200 points.

Safety Quiz	20 X 1 = 20
Experiments	25 X 11 = 275
Lab Skills	10 X 11 = 110
Notebook	5 X 11 = 55
Advanced Study Assignment	5 X 11 = 55
Final Exam	200
	715

Experiments and Lab Skills

Lab skills are given each lab. Failure to follow safety rules, repeated failures in lab procedures and not being prepared for lab will result in a reduction in the lab skills grade.

LAB SKILLS WILL BE DEDUCTED FOR EACH DIRTY DISH, PIPETTE, or UNLABELED GLASSWARE LEFT IN HOODS. For example, if 10 pipettes are left out after lab is over, all 10 lab skills points for the lab that day will be deducted from EVERYONE IN THE LAB EVEN if you left lab before everyone left.

Data sheets will be provided for the results in the lab. The data sheets will be handed out at the beginning of lab. Data sheets will be have a due date posted on the website. The last two experiments are due on the last day of class.

LATE DATA SHEETS WILL NOT BE ACCEPTED.IF YOU TURN IN ANY DATA SHEET AFTER THE LAST DAY OF CLASS, IT WILL NOT BE ACCEPTED.

If a student turns in a data sheet after the experiment has been graded, the maximum grade possible for the data sheet will be the lowest standard grade that was made. For example, if for experiment three, everyone who turns in a data sheet on time loses one point for the mechanism and one point for calculations, thirteen will be the maximum score allowed for anyone else turning in a data sheet for experiment three.

Advance Study Assignments (ASA)

Advance study assignments will be handed out before lab and will be collected before the lab starts. Failure to have the ASA complete will result in a student not being allowed to

start lab. ASA's must be worked independently with no outside help except books and the internet. The ASA must be complete of everything on the procedure.

IT MAY BE ADVISABLE TO COPY YOUR ASA BEFORE YOU TURN IT IN.

Final Exam

The final exam will be a combination of the techniques and experiments carried out in lab.

Notebook

The notebook will consist of five sections: Purpose, Safety, Procedure, Observations, and Conclusions. The first three sections should be done before lab and will be checked before lab starts. Failure to have these three sections complete will result in you not being allowed to start the lab. If you are seen copying this data from someone else you will also not be allowed to start the lab. The observations should be completed in lab and will be checked when you leave lab. Failure to be checked out of lab will result in partial credit. Information should be written in your notebook first and then transferred to your data sheet. If students are seen writing information down on the data sheet first, the data sheet will be confiscated and not returned. Conclusions will be checked shortly after completion of the lab.

Lab details: The lab will end by 6:00 pm. There are no exceptions so plan your lab period accordingly. Calculators will be used in lab and **CANNOT** be shared. Permission is required to restart a lab if an error was made. Failure to get permission will result in the lab **NOT** being counted.

Lab Room Check: The lab will be checked after every student has left the lab. Points will be deducted if the lab is found to be in a dirty state or something is left open. Some examples of previous lab penalty points are the following: the tops left off of solvent or reagent bottles, disposable pipettes left sitting on the benches or hoods, leaving a hot plate turned on, chemicals left on the balance, chemicals left in a beaker, a chemical spill that was not cleaned up. This list is not a complete list. It is okay to leave Variacs, heating mantles, and hot plates on the lab bench if they are still hot/warm.

Three strikes rule

Organic lab follows the three strikes rule. A student that has three strikes against them in one lab period will be excused from lab. In certain cases, one strike may be enough to be dismissed from lab. Some examples of strikes in lab (not a complete list) would be not wearing safety glasses, not following safety directives or doing something that endangers other students. Students cannot appeal strikes and some strikes may be assigned to students in an arbitrary fashion and at the discretion of the professor. Labs in which a student has been dismissed **CANNOT BE MADE UP**.

IF YOU ARE EXCUSED FROM LAB, YOU HAVE TO LEAVE LAB. IF YOU DO NOT LEAVE LAB, SECURITY WILL BE CALLED.

Absences: Attendance is required at every lab. If you have to miss a lab due to an illness, a death in the family or school business, a lab will be given at the end of the semester to make up for the lab that was missed. ***YOU CAN ONLY MAKE UP ONE LAB.***

Outside Lab Work: Lab work can only be carried out when Dr. Dawson is present. You must work in pairs if you are doing lab work outside of scheduled times.

Significant Figures: Molecular weight, formula weights, and compound weights should be measured to four significant figures.

Schedule: The chapter numbers correspond to the Chapter in Hill and Barbaro. The schedule below corresponds to the Tuesday of the week.

Fall 2011

Experiment #	Date	Experiment Name	Chapter #
0	8/23	Safety	G1-1 – G3-4 T9 – 1 – T9 - 5
1	8/30	Part 1 - Purification of an Unknown Solid by Recrystallization and Identification by Melting Point	T2 -1 – T3 -6 E1 -1 – E1 - 4
2	9/13	Part 2 - Purification of an Unknown Solid by Recrystallization and Identification by Melting Point	T2 -1 – T3 -6 E1 -1 – E1 - 4
3	9/20	Distillation	T4 -1 – T4 -10 E2 – 1 – E2 - 6
4	9/27	Extraction of Excedrin TLC	Handout T7-1 – T7 – 8 E3 -1 E3-3
5	10/4	NMR/IR/GC-MS	Handout
6	10/11	Alkyl halides (Part 1)	Experiment 8B E8-7 – E8 - 8

7	10/25	Alkyl halides (Part 2)	Experiment 8A E8 - 1 – E8 – 6
8	11/1	Dehydration of Alcohols	Experiment 5A E5 -1 – E5-4
9	11/8	Alkene addition	Handout
10	11/15	Polymers	Handout
11	11/29	Qualitative Analysis	Handout
	12/6	Check-Out	