SYLLABUS FOR CHEMISTRY 2181 (Summer 1st 5-WK 2015)
ORGANIC CHEMISTRY LABORATORY 1

Section	Briefing	Lab	TA	Professor
001	SH331	CPB203	Trog	Foss
002	SH331	CPB205	Talebi	Foss
003	SH315	CPB203	Palacios	Foss

SH: Science Hall CPB: Chemistry and Physics Building

Information about various aspects of CHEM 2181, including TA office hours, will be available on Blackboard (http://elearn.uta.edu). For reasons of web security, faculty, staff, and students must use their official UT Arlington e-mail address for all university-related business.

Pre-requisite: CHEM 1442 or equivalent, with a grade of C or better. Students enrolled in CHEM 2181 must also be enrolled in CHEM 2321 or have prior credit for CHEM 2321 or an equivalent course. Others will be dropped from CHEM 2181. If you are dropped from this class for non-payment of tuition, you may secure an Enrollment Loan through the Bursar's Office. **You may not continue to attend class until your Enrollment Loan has been applied to outstanding tuition fees.**

This course is intended to familiarize you with many common procedures and techniques for preparing, identifying, and purifying organic compounds. On completion of this course it is expected that you will:

a) know how to correctly assemble and operate common laboratory glassware and equipment required for the synthesis, purification, and identification of organic compounds.
b) demonstrate habits of careful workmanship in the laboratory, including skills of observation, measurement, and record-keeping.
c) perform laboratory work in accordance with accepted regulations with due regard for your own and others' safety.

REQUIREMENTS:

Text: *Experiments for Organic Chemistry I*. (available @ bookstore) Please read the PREFACE of the manual **prior** to coming into the lab for the first time. You should read and be familiar with all of the assigned experiments **before** they are scheduled to be performed. You should also complete the appropriate pre-lab exercises in your notebook **before** starting the experiments.

Notebook: A **hard-bound notebook** (not spiral-bound) is required. The notebook should be kept **in ink**. The pages should be numbered sequentially, and there must be a table of contents at the beginning. Each experiment must include specific information. (See specific details below and example notebook entry on Blackboard.)

Mandatory Online Safety Training: Students registered for this course must complete the University's required "Lab Safety Training" prior to entering the lab and undertaking any activities. Students will be notified via MavMail when their online training is available. Once notified, students should complete the required module as soon as possible, but no later than their first lab meeting. Until all required Lab Safety Training is completed, a student will not be given access to lab facilities, will not be able to participate in any lab activities, and will earn a grade of zero for any uncompleted work.

Accessing Online Safety Training:

1. You should have received an email from the UTA Compliance Department. Click on the link in the email (or navigate to https://training.uta.edu for the login page)
2. Log on using your network log-on ID and password (email credentials). Don't know your NetID password, visit https://webapps.uta.edu/oit/selfservice/
3. The available courses for completion will be listed. For Chemistry 2181, complete the course entitled 'Student Lab Safety Training'

4. If you did not receive the training email and you have not already completed the training you will need to contact the training helpline (817-272-2080) or email compliance@uta.edu to arrange for your training.
5. Students who have not completed the training by census date may be dropped from the lab.

Lab Safety Training is valid for the remainder of the same academic year (i.e. through next August) for all courses that include a lab. Training will be required again for lab courses in a subsequent academic year
All questions/problems with online training should be directed to the University Compliance Services Training Helpline at 817-272-2080 or by emailing compliance@uta.edu.

Lab Attire/Etiquette:

1. Goggles, gloves and aprons are provided and are required at all times.
2. Shoes that cover the entire foot are required at all times. No sandals, Crocs, etc., even with socks. *Absolutely no exceptions will be made to this guideline. Warnings will not be issued.*
3. Long pants and sleeves are highly recommended.
4. Contact lenses should not be worn in the lab.
5. Long hair should be tied back.
6. All cellphones and wireless devices must be turned off, or placed in airport mode, during class.
7. The use of cell phones and other electronic devices is not permitted during the lab time.
8. Students must stay with their experiments during lab time unless permitted to leave temporarily by their TA.
9. Students may only enter their lab during scheduled times. Do not allow others into the lab, or visit other labs.

IMPORTANT! You will be exposed to hazardous chemicals in this class. Personal protective equipment (PPE) is necessary to protect your body. You will not be admitted into the lab if any of the following guidelines are not met. If you violate any of the following guidelines, you may be asked to leave the lab. All missed work will receive zero credit.

ASSESSMENT:

Grading: Practical I (20%), Practical II (20%), Other Experiments (20%), Notebook (15%, pre-lab exercises are 25% of the notebook grade), Online Quizzes (10%), Final Exam (15%). Course grades: Each section will be assigned letter grades individually to assure consistency in grading between TA's. However, in general, a 90% or higher-A, 89-80%-B, 79-70%-C, 69-60%-D, lower than 60%-F.

***Quizzes** will be given for each new experiment, which will be administered via Blackboard. The quiz must be completed one hour before your lab is due to start; failure to comply will result in the award of zero for that lab.*
Pre-lab exercises must be finished and stapled in your notebook before you begin the experiment.

Notebooks will be taken up for grading (unannounced) two or three times during the semester. Your notebooks will also be examined by the TAs periodically to insure you are complying with the 10 steps listed below.
Notebook Content (An example can be viewed on Blackboard, but carefully read the following.):
COMPLETED BEFORE COMING TO THE LAB:

1. Title of the experiment and date.
2. Balanced equation(s) for any reactions.
3. Data for all reactants: molecular weights, moles and grams/volume used, physical constants and calculation of limiting reagent. **Look up and note major hazard classes** for each reagent used in the experiment, which can be found on each chemical's Material Safety Data Sheet (MSDS) online.
4. Sketch and names of apparatus used in experiment.
5. **Outline the experiment in sufficient detail that the experiment can be conducted without your lab text**. Note items related to safety. Include a scheme for purification of the product, as needed. **Each experiment must be conducted from the outline you write in your notebook. No Lab Manuals are allowed during the performance of any laboratory experiment.**
6. Calculate the theoretical yield of your product (show calculations).
7. Answer assigned questions.

COMPLETED DURING THE LAB:

8. Record what you do and observe during the experiment. Weights are to be recorded using the method, Tare

+ compound – Tare = weight, unless you use an automatic tare. If using an automatic Tare, record this in your notebook. The boiling point or melting point **range** is to be recorded.

COMPLETED IMMEDIATELY AFTER THE LAB

9. Calculate the percent yield (show all calculations).
10. Conclusion: Comment about or discuss any part of the experiment you think appropriate (e.g., an explanation of why the yield is too low, a suggestion for improving some part of the experiment, etc.).

Laboratory Make-ups are allowed only for Practical I or II, and only for students who have an excused and documented absence. With a documented excuse, there will be no deduction of points for completing a make-up. **Make-ups must be scheduled by turning in a completed Request Form to Dr. Conrad (114 CPB) by 4 PM on July 7th (no exceptions)**. All Make-ups will be scheduled only for **July 9th at 6 PM.**

Practical Re-do: A single practical grade may be improved marginally (max. 85% grade) by re-doing the practical experiment during the Make Up day. **Re-do's must be scheduled by turning in a completed Request Form to Dr. Conrad (114 CPB) by 4 PM on July 7th (no exceptions)**. All Re-do's will be scheduled only for **July 9th at 6 PM.**

Non-practical Make-ups are not allowed. Unexcused absences result in 10% deductions from your course grade. If more than one experiment is missed, either an incomplete (with excused absences) or failing grade (with unexcused absences) will be given for the course. Students cannot earn a passing grade if two experiments are missed.

EQUIPMENT AND ACCOMODATIONS

Material on Loan from the Stockroom must be returned the same day it is checked out. Broken, missing, or excessively dirty glassware must be replaced at cost to the student it was assigned to.

Check-out is completed on the assigned day, unless students have a legitimate, documented excuse. Students failing to check-out on the assigned day will receive a point penalty of 5% from their final grade. If check-out is still not complete one week after the assigned date, the stockroom will check out the student and assess a check-out fee, a key fee, and the cost of any broken, missing or excessively dirty glassware.

Fees are non-refundable once they have been billed.

Note: If you decide to drop or stop attending the lab, YOU need to:

1. Contact the Chemistry Stockroom, 110 CPB, to check out on or before the scheduled check-out date.
2. Drop the class in the Chemistry Office, 130 CPB.

UTA will bill your account and it will have to be paid before you will be allowed to register for the next semester. This will show up on your tuition bill as "chemical breakage."

Students with Disabilities: Students who are registered with the Office of Student Dissabilities should arrange to meet with the laboratory coordinator to see that they are appropriately accommodated.

Students and Pregnancies: For students who are pregnant, it is recommended by the Chemistry and Biochemistry Department that you do not enroll into a chemistry lab at this time. If you become pregnant during the semester, we recommend dropping the course as soon as possible; and special provisions will be made to assist you in finishing the course at a later date. ***Please see your faculty instructor.***

Academic Integrity: All students enrolled in this course are expected to adhere to the UT Arlington Honor Code.

UT ARLINGTON HONOR CODE:

I pledge, on my honor, to uphold UT Arlington's tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence.

I promise that I will submit only work that I personally create or contribute to group collaborations, and I will appropriately reference any work from other sources. I will follow the highest standards of integrity and uphold the spirit of the Honor Code.

Per UT System *Regents' Rule* 50101, §2.2, suspected violations of university's standards for academic integrity (including the Honor Code) will be referred to the Office of Student Conduct. Violators will be disciplined in accordance with University policy, which may result in the student's suspension or expulsion from the University.

Academic dishonesty: UTA considers academic dishonesty a completely unacceptable mode of conduct, and the University will not tolerate it in any form. Academic dishonesty includes (but is not limited to) cheating, falsification of data, plagiarism, and contracting/collusion with others to do your test or do your work. Cheating is the use or acquisition of information (data, constants, formulas, textual material, etc.) from either unauthorized sources or in an unauthorized manner. Examples include but are not limited to:

1) exchanging information during a test or quiz.
2) looking at another student's paper during a test or quiz.
3) bringing information in any form into a test or quiz other than personal knowledge. This includes written notes (crib sheets) and digitally stored information (formulas, constants, textual, etc.)
4) looking at a book or any other unauthorized source during the test or quiz.
5) accessing information by any electronic means (cellular phones, pages, personal stereos, etc.). **None of these items are to be brought into examinations.**
6) processing data or information in an unauthorized manner using a programmable calculator or computer, i.e., there should be no use of a computer program. You are only permitted to use simple calculators that perform arithmetical, logarithmic, and trigonometric functions.

In the event that a test proctor determines that a student is cheating, the following actions will be taken:

1) the student will be notified and, if the situation merits, asked to explain his/her actions.
2) the source of the unauthorized information will be removed during the remainder of the test period and returned to the student following the test, if appropriate.
3) the student may be removed to a different location to complete the test.
4) calculator/computer memory will be cleared of the stored information and programs as appropriate. In some cases the proctor will need to temporarily examine the calculator to verify unauthorized use. The calculator will be returned to the student to finish the test.
5) a record of the events and actions surrounding the alleged act of cheating will be submitted to the Associate Vice Provost for Student Affairs for further action. See Undergraduate Catalog for further information.

Emergency Exit Procedures: Should we experience an emergency event that requires us to vacate the building, students should exit the room and move toward the nearest building exit. When exiting the building during an emergency, one should never take an elevator but should use the stairwells. Faculty members and instructional staff will assist students in selecting the safest route for evacuation and will make arrangements to aid handicapped individuals.

Schedule:

June 8, 9	Students and lab briefing and check into the lab drawer. Instructor: *In the lab, demonstrate the use of the fire extinguisher, eye wash, and safety shower.* Students: *Check equipment and replace any missing or damaged pieces from the Stockroom. Remember, you are responsible for equipment being in good condition when it is checked back in at semester's end.*
And	
	Separation of Spinach Pigments by TLC. Work in groups of four--one solvent system per student.
June 10, 11	Determination of Melting points
June 15,16	Recrystallization
June 17,18	Separation of a Mixture by Acid-Base Extraction
June 22, 23	**Practical I.** Resolution of Racemic 1-Phenylethanamine There should be **no communication** with other students in the lab. Direct all questions to your TA.
And	Oxidative Cleavage of Alkenes
June 24, 25	Dehydration of Cyclohexanol
June 29, 30	Complete Practical I. Determine the weight of your product, compute the %-yield and determine the specific rotation. There should be **no communication** with other students in the lab. Direct all questions to your TA.
July 1, 2	**Practical II.** SN1 Reactivity There should be **no communication** with other students in the lab. Direct all questions to your TA.
July 6, 7	Complete Practical II. Compute your yield and turn in your product to your instructor.
July 8, 9	Bromination of (E)-cinnamic acid
July 9th	**Practical Make-ups:** Approved make-ups will be scheduled for **6 PM on 7/9**, no exceptions.
July 13	**Final Examination, 1:00 – 3:00 p.m.** Location TBA. Exam will emphasize procedures and techniques. **Bring a SCANTRON form 882 ES and your LAB NOTEBOOK to the examination.**
And	**3:30 – 5:00 pm – All sections check in equipment. Broken and excessively dirty or lost equipment must be replaced.**