Chemistry 332

Fall 2016

Organic Chemistry Lab I

Instructor: Wayne Baran

Contact Information: Office: Faraday Hall 335
Email: wbaran@niu.edu

Teaching Assistants: Monday 2:00 – 4:50 Ryan Troxell jtroxell1@niu.edu
Tuesday 6:00 – 8:50 Sami Varjosaari svarjosaari@niu.edu
Wednesday 2:00 – 4:50 Sami Varjosaari svarjosaari@niu.edu
Monday 6:00 - 8:50 PM Ryan Troxell jtroxell1@niu.edu

Textbook Information:

Experimental Organic Chemistry – A Miniscale and Microscale Approach
John C. Gilbert, Stephen F. Martin. 6th Edition

Safety:

In organic chemistry safety is the number one priority. All chemicals can be toxic to vary degrees. **ALL STUDENTS MUST WERE EYE PROTECTION AND CLOSED-TOE SHOES AT ALL TIMES DURING THE CLASS. LEG COVERINGS ARE ALSO REQUIRED.** Goggles are available free of charge at the chemistry department and they must be the type approved by the chemistry department. Food and drink are not permitted in the lab. Waste chemicals must be properly disposed of in the proper containers. Notify the TA of any glassware breakage, chemical spills, or emergencies immediately. Prior to leaving your lab area, lab equipment, etc. must be cleaned. The textbook has a more comprehensive discussion on safety. The Department of Chemistry has a zero tolerance policy for safety violates and points will be deducted for violating the safety rules (see the section in grading). Students that are pregnant should consult with their doctors regarding the risks of being enrolled in this and any other laboratory-based classes.

Class Attendance and General Advice

Regular attendance is essential for a success and enjoyable experience in organic chemistry laboratory. Do not be late to lab. You must attend every lab session unless you have a university-sanctioned excuse, of which you have to inform your TA in advance. If for some reason you will not be able to attend lab, please alert your TA and your instructor as soon as possible. There will be no make-up labs and unexcused absence during a lab will result in a zero for that experiment. Some labs may require multiple periods; you must attend all sessions to

receive credit for the experiment. The use of technology of any kind (e.g. phone, computer, and tablet) in the lab is unnecessary and prohibited unless previously approved by the TA and the Instructor.

Pre-Lab

Before showing up to class read all the material in the textbook pertaining to the lab.

Note Books

During the lab your data must be recorded in a laboratory notebook (in black or blue ink). Prior to leaving the TA must initial the data pages. Laboratory notebooks must be neat and have duplicate, numbered pages. Regular paper notebook pages or composition notebooks are not permitted.

Lab Reports

Lab reports must be in your own writing and any copied lab report will receive a grade of zero. Even if you work in pairs, the lab reports, all calculations and all questions must be done individually. Lab reports are due at the start of the following lab period after which an experiment is completed and be written legibly in blue or black ink. The following information should be included:

1) Name and Date
2) Experimental Title
3) Purpose: A brief summary of what you are trying to accomplish and/or learn for the experiment. This is not a restatement of the title. List method, etc.
4) Data and Calculations. You should include all the important information that you should know prior to coming to lab. This includes chemical structures, important physical properties such as the molecular weight, melting or boiling point. The reaction mechanism must be in the lab notebook and can be obtained from the lab manual. Calculations such as theoretical and percent yield should be performed and shown if they pertain to the experiment. Include equations and quantities of materials needed.
5) Procedure: You are expected to write a general procedure that will be performed during the lab on the day. Copying the procedure word for word for the lab text book is not permitted.
6) Observations: While performing the experiment, record any observations such as changes in color, temperature (warmed/cooled) etc.
7) Results: This is where you record the data. These include the temperature values such as for a distillation or the melting point ranges for a recrystallization, etc.
8) Conclusions: A brief but informative conclusion to the lab. If the procedure did not go as well as expected state the possible errors and what you would have done to improve

the results. These should be included in the conclusion as they may improve your future techniques.

9) Questions/Answers – Answer the questions that will be assigned for the lab.

Lab report grading

The grade will be assigned based on the points from the lab experiments such as the quality/quantity of the reaction products and the reports. Quizzes and the final exam will be given. It is strongly advised that prior to the lab you prepare the lab notebook. This would include structures of materials, equations of experiments, short descriptions of the procedures and the quantities of materials that are needed.

During the lab record your data in your notebook in ink. The information recorded will be used for your lab reports. Points will be assigned based on the quality of the data and the presentation of the results. Typical lab reports are provided in the textbook. Copied lab reports as well an unexcused absences will result in a grade of ZERO. Late lab reports will be deduced 10 points a day.

Quizzes

There will be short quizzes sometimes at start of the class period. These will cover information such as theory, procedure, reactions and calculations. A quiz may not be given every class period.

Final

The final will be in the class at the normal lab time and room. It will be 100 points.

Point Distribution

Lab reports (10 at 50 points each)	500 points
Quizzes	50 points
Final Exam	100 points
Total	650 points

Grading Scale

		A	92-100	A-	90-91
B+	87-89	B	82-86	B-	80-81
C+	77-79	C	70-76		
		D	60-69		
		F	0-59		

Safety Violations

Because safety violations can harm you and others, lab points will be deduced from the lab reports. A person who is not wearing appropriate lab attire will not be permitted to be in the lab.

Showing up late	10 points
No Goggles	20 points
Not cleaning up chemical spills	10 points
Food/Drink/Gum in lab	10 points
Improper waste disposal	10 points

Course Schedule

Week of	Experiment
August 22	Check in
August 29	Experiment 3.2A Recrystallization and Melting Point of Benzoic Acid
September 5	Labor Day (No lab)
September 12	Experiment 4.3 Simple Distillation
September 19	Experiment 4.4 Fractional Distillation
September 26	Experiment 5.3A One-Base Extraction
October 3	TLC of Drugs
October 10	Experiment 14.4 Preparation of 1-bromobutane
October 17	Experiment 14.5 Preparation of 2-Chloro-2-methylbutane
October 24	Experiment 10.6 Bromination of (E)-Stilbene
October 31	Dehydration of 4-methylcyclohexanol
November 7	Experiment 15.3 Friedel-Crafts Acylation of Anisole
November 14	Check-out/Review
November 21	Thanksgiving Break No lab
November 28	Final Exam

Requests for Regrades

Submissions for regrade will be accepted for one week after the day the lab reports are distributed in class. The entire lab report will be regraded. The regraded report will be returned the next lab period. If the lab report pages are altered in any way, the request for regrade will be denied.

Important Dates:

Consult your academic adviser and the NUI website.

Thursday September 1	Last day to drop course via self-service in MyNIU
Friday, September 2	Last day to drop course with approval of major college
Friday, September 9	Last day to change course from credit to audit or audit to credit
Friday, October 16	Last day to withdraw from course

Outcome Expectation Statement

On completion of this course students are expected:

-Learn how to write chemical formulas, write chemical reactions, name compounds, perform chemical calculations, make observations and record the data from those observations.

-Be familiar with the chemical and physical properties of organic compounds

-Learn how to work safely in a chemistry laboratory

-Learn how to properly use scientific equipment and to carry out laboratory experiments.

Student Code of Conduct: http://www.niu.edu/communitystandards/pdf/SCC.PDF

Academic Dishonesty (cheating)

Academic dishonesty includes looking at another student's exam during a testing session, allowing another student to copy your work, use of unauthorized materials such as notes, crib sheets, textbooks, prohibited electronic devices such as smart phones, cell phones, I-pads or programmable calculators that contain stored equations, formulas or text during an exam. Violation of any of these will result in assignment of a score of zero for the exam, quiz or assignment in question. **Academic dishonesty in any form will not be tolerated and may result in failure of the entire course**.

Notification of Services for Students with Documented Disabilities

NIU abides by Section 504 of the Rehabilitation Act of 1973 which mandates reasonable accommodation by provide for qualified students with disabilities. If you have a disability and may require some type of instructional and/or examinations accommodation, you will need to register with the Center for Access-Ability Resources (CAAR), the designated office on campus to provide services and administer exams with accommodations for students with disabilities. The CAAR office is located on the 4th floor of the University Health Services building (815-753-1303). Accommodations are not retroactive. Please contact me early in the semester so that I can provide or facilitate in providing accommodations you may need. You must for each exam have a form filled out about 10 business days in advance to be sure to have a CAAR test time appointment.