Department of Chemistry and Biochemistry

Queens College of CUNY

Laboratory Syllabus and Schedule for Chemistry 102.1 Spring 2020

Required Text: **Bettelheim/Landesberg - Bundle: Custom Organic Chem Lab, 8th + Custom OWLv2 for Bettelheim/Brown/Campbell/Farrell/Torres' Introduction to General, Organic, and Biochemistry, 1 term Printed Access Card.**
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Organic Chemistry Laboratory Notebook: 100 Pages with Carbonless Copies **ISBN-13** 9781617319723

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RE 206B

Section: 1012 ( ): Day at Time; Room RE .

Lab Instructor:

Email:

Office Hour:

Course Objectives: Students will learn basic organic laboratory techniques including isolation and purification of organic compounds, and identification of organic compounds using chromatography and chemical tests; problem solving via understanding the use of the analytical tests is emphasized. Structural organic chemistry, which is a major focus of the lecture part of the course, will be covered in a molecular models session. Students will learn to carry out basic preparations of compounds and mixtures. At the conclusion, students will have a foundation that will allow them to carry out basic organic laboratory procedures, they will know how to keep an organic laboratory notebook, and they will know basic safety procedures including handling of hazardous waste.

Course Requirements:

Pre or corequisite: Chemistry 102.3 (C or better if prerequisite)

Prerequisites for Chemistry 102.1: C or better in Chemistry 101.3 and 101.1, or C or better in Chemistry 113.4 and 113.1

Note: a C- in any prerequisite will not permit you to take 102.3/102.1!

You must earn a C or better in Chemistry 102.3 and 102.1 to take Chemistry 103.3 and 103.1.

SAFETY FIRST!!!

The following safety guidelines must be followed *at all times*:

- **No cellphone allowed at any time during the lab**. You must have a calculator for calculations. You may not use a cellphone for that purpose.
- Goggles must be worn in the lab **at all times**, even if you have completed your experiment.
- Having and/or consuming food or drink in the laboratory is strictly prohibited.
- **Never** leave a flame unattended.
- Tie back long hair and secure all loose clothing before conducting any experiments.
- Feet must be completely covered during lab – **no open toed shoes** (sandals, flip-flops or the like).
- If an accident occurs, notify your lab instructor immediately.
- Do not run or throw anything in the lab.
- You **must** read the lab and procedure **prior to class**, as part of safety preparation. Failure to do so will result in an F for the particular lab you are unprepared for.
- Always listen carefully to your lab instructor for safety precautions and procedure modifications.
- **All chemical waste must be disposed of properly**. Your instructor will provide you with specific instructions at the beginning of each lab regarding how to handle the chemical waste for that experiment.
- **Failure to adhere to any of the above safety guidelines will result in points being deducted from your lab report and may result in your removal from the lab and an automatic failure for that experiment**.

Organic Chemistry Lab Attendance Policy

- Attendance in laboratory is mandatory. An absence of 3 or more labs will result in a grade of F for the lab.
- Students must report to lab on time. Late students may not be allowed in class. No lab make-up is allowed due to lateness for class.
- If you drop the course, you must check out of the laboratory.
- A missed laboratory class (for a *valid* reason – illness, verified by a note from a registered physician; court appearance, verified by a note from an officer of the court; death in the family, preferably your own) can be made-up by following this procedure:

- Only **1 make-up lab** per semester is allowed. It must be approved by your instructor, and by the lab coordinator

- Obtain a lab make-up form from the stockroom website should be obtained. http://chem.qc.cuny.edu/~chemdept/

- Provide the lab date and time which you would like to attend to make up the missed lab. Your instructor will email the lab instructor of your selected make-up day. It is not guaranteed that you will be allowed in, as there is a maximum allowed capacity of students in every lab, therefore wait for conformation from your instructor. Have another optional make-up date, just in case.

- Attend an alternate Chem. 102.1 laboratory class that is working on the same experiment that you missed during the week the experiment is being performed. Get **signed** permission from the instructor of the section you hope to attend to make-up a missed laboratory experiment.

Chemistry 102.1 Grading Rubric

Lab Notebook: You must obtain a carbonless organic chemistry notebook, as all of your work will be recorded in this notebook, and graded by its clarity and accuracy.

Assessment: Lab instructors will assess students by grading of lab notebooks, collecting laboratory products and assessing them for yield and purity and accuracy of reported results in the student notebook. In addition, students will be observed during lab, and assessed based on their technique and adherence to safety rules.

The lab notebooks comprise 50% of your overall grade, of which lab techniques are 10% in as must be part of your lab notebook writeup. You will also be given an online midterm exam, that will count as 10% of your overall grade, online pre lab and post lab assignments for each lab experiment preformed, which will count 25% of your grade, and an in class lab final exam, given on the last class (check out day), which is also 15% of your overall grade.

Your notebook counts as 50% of your lab grade. It has to include the following components for each experiment:

1. Experiment title, date preformed and Purpose of lab
2. Introduction: In this section you should summarize the objective of the experiment in your own words. Include any chemical formulas, structures, equation and reactions. Any relevant ideas regarding the experiment should also be written here.

3. Procedure: You will not be allowed to use your lab book during class. Summarize the procedure in the notebook in your own words. It must be clear and detailed enough, so you can follow it and preform the experiment based on your write-up. This can be written as a step by step, or a "shopping list" type. As long as it is detailed enough for you to perform the whole experiment without any additional resources.

4. Safety: Outline the chemicals used in this lab. their MSDS importance and safety precaution, as well as disposal of waste must be looked up and summarized. You can find the MSDS information by going to ChemWatch website at: http://jr.chemwatch.net/chemwatch.web.
   - Account: *queensmsds*
   - User name: *everyone*
   - Password: *eqkq+2SFEl4=*

5. Data-Sheet: Create a clear data sheet in your notebook. This may be the same data sheet from the book, but must be copied to the notebook and not paste on it. Be sure that any tables should be drawn using a ruler.

6. Conclusion / Discussion: Summarize your data, explain whether you were successful in the experiment, and any errors that may have occurred.

Note that 1-5 should be done **before** you attend lab. The instructor will check your notebook prior to the beginning of the lab and initial it. Failure to complete the notebook will result in a zero for the lab, and you will not be allowed to perform the experiment that day.

Your notebook will be collected at the completion of every 2 labs. You will have to submit the completed labs to your instructor. These will be graded, but will not be returned to you. You will get the grade from the instructor and may review it.

All laboratory experiments are to be performed **individually** (and evaluated by your instructor). There are **no** team experiments, unless your instructor decided to do so. Each person registered for lab is to perform each laboratory experiment individually. You will be graded on your class performance, and it is 10% of your lab grade. Class performance includes your lab techniques, efficiency of work, and cleaning of station as well as disposal of waste.

You are also scheduled to take a midterm and a final exam. These are not cumulative. Midterm is given during week 7, and includes the experiments preformed during weeks 2-6. Midterm exam will be given online. Final exam will be given during week 14 session, as an in - class exam and will include all labs preformed during weeks 7-13. Both exams are 45 **min long.**
The final exam will be a cumulative exam, scheduled as per syllabus. The exam will include conceptual and procedural questions from the variety of experiments done in class, and different questions pertaining to labs. There is no option for a make - up final exam. You must attend the exam as scheduled on this syllabus, not as per CUNYFirst.

Weekly Experiment Schedule – Spring 2020

Week	Experiment
	Experiment 6: Identification of Aldehydes and Ketones

Remember:

Lab notebook collected at the beginning of weeks 4, 6 8, 10, 12 and 14.

Midterm exam: week 7, online 45 min exam.

Final exam: week 14, In class 45 min long.

All Lab Section Schedule (In case of a Lab Makeup) – Spring 2020

Week # (Experiment)	**Mancusso** Monday 9:00 am - 11:50am **RE352**	**Ariel** Monday 1:40 pm- 4:30 pm **RE351**	**Ocando** Tuesday 6:30 pm- 9:20 pm **RE352**	**Katten** Wednesday 1:40 pm- 4:30 pm **RE351**	**Uddin** Thursday 9:40 am- 12:30 pm **RE351**	**Hans** Thursday 6:30 pm- 9:20 pm **RE351**
Midterm (online)						
in - class **Final Exam**)						

Important Dates:

- Wednesday, February 12 – College Closed
- Monday February 17 – College closed
- **April 7 is a Tuesday with a Wednesday schedule
- April 8-April 16 – Spring Recess, no classes