Organic Chemistry Laboratory II

Chemistry 2325
Dr. Harris
Spring 2016 Course Syllabus
1 credit

Dates		Experiment/Activity
January	19th – 25th	Course Policies – Safety Review – Check In
January/February	26th – 1st	Unknown Problem Set – Mass Spec/IR demonstrations
February	2nd – 8th	Unknown Problem Set – NMR demonstration
February	9th – 16th	Gas Chromatography **(Monday lab sections attend on Tuesday the 16th)**
February	22nd – 25th	Isolation of Caffeine – Column Chromatography
February/March	29th – 3rd	Chemical Drawing Software
March	14th – 17th	Synthesis of Aspirin – Part 1
March	21st – 24th	Synthesis of Aspirin – Part 2
March/April	28th – 31st	Aldol Condensation
April	4th – 7th	Reducing Sugars
April	11th – 14th	TA/Course Evaluations – Score Check – Check Out
April	18th – 21st	Make Up Experiment Molecular Modeling of Biomolecules

Dr. Doug Harris
Office: Widtsoe 335, (435) 797–1609
E-mail: doug.harris@usu.edu

Materials

Lab Notebook (required): "Student Lab Notebook" from the USU bookstore (carbon-copy pages absolutely necessary)
Safety Splash Goggles, long-sleeve lab coat, full-length pants, socks, and "complete" shoes are required in the laboratory.
The lab fee of $75 is used to purchase equipment and supplies for the laboratory as well as a small portion for teaching assistant compensation.

Grades

A score of 90% is guaranteed an A- and 95% or better is guaranteed an A. Final scores will be rounded to the nearest one's place (94.4% = 94% and 94.5% = 95%).

Signed Lab Safety Documentation @ 20 pts	20 points
Unknown IR/Mass Spec/NMR problem set	50 points
7 Lab notebook sets @ 80 pts	560 points
Instructor Evaluation (safety, cooperation, independence)	100 points
Total	**730 points**

Policies and Procedures

1. The administration of Chemistry 2325 will adhere strictly to the policies (including the issuing of incompletes) outlined in the USU 2015 – 2016 General Catalog.
2. Qualified students with disabilities may be eligible for reasonable accommodations. All accommodations are coordinated through the Disability Resource Center (DRC) in Room 101 of the University Inn, 797-2444 voice, 797-0740 TTY, or toll-free at 1-800-259-2966. Please contact the DRC as early in the semester as possible. Alternate format materials (Braille, large print or digital) are available with advance notice.
3. Attendance at all the assigned meetings is required. Experiments will not be rescheduled to a different lab section meeting date and time. A missed experiment which has an excused absence will be made up with the last experiment (Molecular Modeling of Biomolecules) during the regular scheduled date and time of the respective lab section meeting time during the last week (April 18th – 21st) of the course. Excused absences include: (1) school excused absences outlined in the general catalog, (2) illness, and (3) a family emergency. Planned family trips, vacations, outings, and weddings are not excused absences. Students should notify the TA in advance, if possible, prior to missing an experiment. Students missing an experiment will have one week to notify the TA that they have a valid excuse. A missed experiment that is not made up will be scored as **zero**. Only one missed experiment can be made up.
4. Individuals not wearing safety goggles, full-length pants, socks, and "complete" shoes (no sandals or pumps) will not be allowed in the laboratory, no exceptions.
5. All students must read and sign the Utah State University Chemistry and Biochemistry Departmental *Laboratory Safety Documentation* before beginning lab experiments.
6. Students must be registered for the lab section they attend. Failure to do so will result in an NF letter grade being assigned to the university.
7. In order to be fair to all class members, TAs will not allow students to remain in the lab past the scheduled ending time.
8. Notebooks: Students are required to keep an organized record of lab work (IR unknown identification through the Reducing Sugars experiments) in their lab notebooks. All work done in the lab must be summarized in the note book. At the completion of each lab period, each student is required to hand in a copy of their lab notebook page(s). Each page must be signed and dated. These pages, along with the discussion, questions, and conclusion sections, will be evaluated by the TA. Lab notebook discussion, questions, and conclusion sections will receive no credit in the absence of the previously submitted lab notebook title, purpose, procedures, and results copies. Original notebook pages must not be removed from the binder. No blank pages may be left between lab entries and subsequent lab experiment entries. All notebook entries must be in ink. Incorrect entries and mistakes should be crossed out and followed by correct entries. Your TA will give you other specifics about how your notebook should be organized and maintained.
9. Lab Notebook scores: The grade in Chem 2325 is largely based on the completion of lab notebook sets. In addition to completing the assigned experiments, there may be additional questions to be answered at the end of the experiment protocol. *Students are to turn in the actual lab notebook page copies.* Grading will reflect completeness, accuracy, *and correspondence to the lab work documented in the notebook title, purpose, procedures, and results pages.* The Lab notebook discussion, questions, and conclusion sections are due at the beginning of the next laboratory session. Late reports will be assessed a 10% penalty per week.
10. Students must review all lab course scores at the score check meeting time (April 11th – 14th). It is also recommended that students retain all scored course laboratory work. The laboratory teaching assistant will not declare a student's final lab course grade at the score check meeting.

Course Objectives and Assessment

Chem 2325 laboratory experiments are designed to complement the Chem 2320 lecture course. The experiments deal with basic organic chemistry techniques, assessment of data, synthesis of compounds, determination of chemical composition and characteristics, chemical separations, molecular modeling, and the characterization of reactions.

Assessment of the course will include an end-of-semester evaluation seeking suggestions for course improvement.