Chemistry 105 Laboratory Syllabus – Fall 2017

Required Materials
Laboratory Manual – Information/handouts will be found at www.clemson.edu/chemistry/genchem. Follow the lab links for CH1051. The information is also available in your CANVAS lab course.
Carbon Copy Lab Notebook
Safety Goggles and Lab Coat
Bring laptop to lab
SuperChem Lab link: Go to Chemistry website (see above) and click on Lab tab, then CH1051. SuperChem Lab is an option.

General Chemistry Lab Coordinator: Barbara Lewis, Office-Hunter 269, Email - BARBARL@clemson.edu, Office hours are from 10am to 3pm MTWTh by appointment ONLY.

TENTATIVE LABORATORY SCHEDULE
09/04-09/08 Check desk equipment, Discuss safety, techniques, and rules for laboratory work. Assign Groups. Density. Assignment – Complete Safety Quiz in CANVAS before next lab.
09/11-09/15 Have Safety Quiz completed. Chem Tour
09/18-09/22 Volume and Temperature of a Gas
09/25-09/29 Energy Conservation
10/02-10/06 Molecular Model Building / Preliminary Portfolio due next week
10/09-10/13 Energy Content of Fuel / Preliminary Portfolio due
10/16-10/20 Fall Break – No GenChem labs meet
10/23-10/27 Begin work on Fertilizer (Research properties/devise strategy)
10/30-11/03 Fertilizer (cont’d) continue experimental work, write weekly summary
11/06-11/10 Fertilizer (cont’d) complete experiments, discuss experiments within group
Assign water collection. Oral report on fertilizers AND FINAL PORTFOLIO due next lab.
11/20-11/24 Thanksgiving Holiday – No GenChem labs meet
11/27-12/01 Chromatography of Plant Pigments
12/04-12/08 Check out /Discussion and presentation of results of Water Quality

Attendance in this lab is required. Credit is not received for missed work. Labs can only be made up if they are prearranged AND due to a conflicting university required event. You will not receive credit for missed work regardless of the reason for the absence. Your final average will be reduced 5 points for each missed lab. You may be excused for the first absence (sickness or death in immediate family) if written documentation is provided.

If your TA is more than 30 minutes late, you may assume lab has been cancelled for that day.

SAFETY NOTE: SAFETY GOGGLES, LAB COAT, PROPER LAB CLOTHES (no exposed skin below the waist), AND CLOSE TOED SHOES MUST BE WORN TO LAB. Students must have proper clothing on before entering the lab. ANY STUDENT WHO DOES NOT COMPLY WITH THIS REGULATION OR ANY OF THE OTHER LABORATORY SAFETY RULES WILL BE TOLD TO LEAVE THE LAB, RESULTING IN AN UNEXCUSED ABSENCE. Read the Safety Rules online/in CANVAS as directed by your TA during your first lab meeting.

University Policies:
1. Academic Integrity – “As members of the Clemson University community, we have inherited Thomas Green Clemson’s vision of this institution as a "high seminary of learning." Fundamental to this vision is a mutual commitment to truthfulness, honor, and responsibility, without which we cannot earn the trust and respect of others. Furthermore, we recognize that academic dishonesty detracts from the value of a Clemson degree. Therefore, we shall not tolerate lying, cheating, or stealing in any form.”
2. Violations of the academic integrity policy -“When, in the opinion of a faculty member, there is evidence that a student has committed an act of academic dishonesty, the faculty member shall make a formal written charge of academic dishonesty, including a description of the misconduct, to Dr. Jeff Appling, Associate Dean of Undergraduate Studies. At the same time, the faculty member may, but is not required to, inform each involved student privately of the nature of the alleged charge. In cases of plagiarism (I.B.2.) instructors may use the Plagiarism Resolution Form available from the Office of Undergraduate Studies.”
3. **Accommodations** – “Clemson University values the diversity of our student body as a strength and a critical component of our dynamic community. Students with disabilities or temporary injuries/conditions may require accommodations due to barriers in the structure of facilities, course design, technology used for curricular purposes, or other campus resources. Students who experience a barrier to full access to this class should let the professor know, and make an appointment to meet with a staff member in Student Accessibility Services as soon as possible. You can make an appointment by calling 864-656-6848, by emailing studentaccess@lists.clemson.edu, or by visiting Suite 239 in the Academic Success Center building. Appointments are strongly encouraged – drop-ins will be seen if at all possible, but there could be a significant wait due to scheduled appointments. Students who receive Academic Access Letters are strongly encouraged to request, obtain and present these to their professors as early in the semester as possible so that accommodations can be made in a timely manner. It is the student’s responsibility to follow this process each semester. You can access further information here: http://www.clemson.edu/campus-life/campus-services/sds/.”

4. **Title IX (Sexual Harassment) statement:** “The Clemson University Title IX (Sexual Harassment) statement must be included: Clemson University is committed to a policy of equal opportunity for all persons and does not discriminate on the basis of race, color, religion, sex, sexual orientation, gender, pregnancy, national origin, age, disability, veteran’s status, genetic information or protected activity in employment, educational programs and activities, admissions and financial aid. This includes a prohibition against sexual harassment and sexual violence as mandated by Title IX of the Education Amendments of 1972. This policy is located at http://www.clemson.edu/campus-life/campus-services/access/title-ix/. Mr. Jerry Knighton is the Clemson University Title IX Coordinator. He also is the Director of Access and Equity. His office is located at 110 Holtzendorff Hall, 864.656.3184 (voice) or 864.656.0899 (TDD).”

**Portfolio Assessment**

**Objectives**
All students must demonstrate proficiency in each of the following areas:

1. Accurately records experimental procedures.
2. Accurately records data, observations, and results.
3. Effectively communicates results of experiments in writing.
4. Forms reasonable conclusions about experiments and effectively communicates these conclusions in writing.
5. Effectively defends conclusions about experiments.
6. Meets stated goals of experiments.
7. Develops procedures for solving problems.
8. Carries out procedures for solving problems.
9. Works cooperatively with other students to accomplish goals of experiments.
10. Maintains a safe working environment in the lab.

**Weekly assignments**

**Due at the end of each lab:** Carbon copies of notebook pages containing detailed procedures, observations, and data for the day’s work.

**Summaries:** Typed summary for each experiment due the beginning of the lab following the lab in which the experiment was completed. Summaries should address the goals/objectives of the experiment and should answer the discussion questions for that experiment. Summaries should also summarize the procedure and results, include conclusions about the experiment, and should provide data to support answers and conclusions.

**Portfolios**
Each student will assemble a portfolio demonstrating proficiency in each of the areas identified above. The portfolio will include an introductory statement of approximately 250 words. An artifact showing mastery of each of the objectives will follow this statement. Each artifact must be accompanied by a written description of the objective and must explain how the artifact demonstrates mastery of this objective. On the title page the student will be required to sign a statement (supplied by the TA) that indicates the submitted portfolio is their own work AND that they did not give aid to another student. An electronic as well as hard copy of the final portfolio assignment will be required. The electronic copy must be submitted through CANVAS to TurnItIn.com. It will then be scanned for violation of Clemson’s academic dishonesty policy. Violations of the academic integrity policy will result in prosecution according to Clemson’s guidelines as stated online at the Clemson website. (Search for “Academic Integrity Policy” in the site index.) Your TA will provide directions on how to submit the CANVAS electronic copy. The hard copy should not be accepted until the electronic copy is submitted. The electronic copy must be submitted by the emailed late deadline or the student will receive a 0 on their final portfolio.

All work must be original for this semester and for this course. **Also refer to Portfolio Information at the chemed website (under the CH 1051 Tab in the document titled "Lab Policies and Information") or in CANVAS in the same document which is located under the RESOURCES button.**

*All grade protests must be done in writing and submitted within 1 week of date graded work was returned or posted on CANVAS.*
Notebooks will receive weekly grades of 0 – 5 points for a total of up to 55 points. 
Summaries for each experiment will receive grades of 0-10 points for a total of up to 100 points. 
Portfolios will receive grades of 0-100. Each item and its description will be evaluated on a 9-point scale. The introduction will be scored on a 10-point scale. A partial portfolio covering at least half of the objectives will be turned in at mid-term for grading (up to 10 points) and feedback. The final portfolio addresses all 10 objectives. Late work can be penalized up to 5 points per day. 
Oral Reports will receive grades out of a possible 50 points. 
Water Quality Presentations will receive grades out of a possible 20 points. 
Safety Quiz – To stay in lab, each student must successfully pass the safety quiz with a score of at least 90. Your TA will provide the details and deadline. 
***Safety, Technique & Participation – Students are assessed on how well they comply with all safety rules, handle lab equipment, maintain lab drawers, and participate in experimental procedures. For violations students can lose up to 30 points from their total earned points for the semester.

Final Average will be determined by dividing total points earned by total possible points  (335 points).

GENERAL EDUCATION COMPETENCIES  
As stated in the Undergraduate Announcements, Clemson’s mission statement requires students show competency in nine general education areas. In CH1051, the final portfolio will address the Natural Science competency. (Competency C found on pages 37 in the 2017-2018 Undergraduate Announcements.) This competency states:

Demonstrate the process of scientific reasoning by performing an experiment and thoroughly discussing the results with reference to the scientific literature, or by studying a question through critical analysis of the evidence in the scientific literature.

Your final portfolio may be submitted to a university repository. The logistical details for this submission will be shared with you at a later date. Your TA will provide detailed instructions on how to make this submission. This is a separate review from the turnitin analysis and the TA’s grading of your portfolio. Although the review of your portfolio from the university repository will not affect your grade, failure to make any required submission may cause you to lose bonus points. It is the TA’s assessment of the submitted hard copy that determines your grade on this portfolio.

Directions for completing this written assignment will be found on your syllabus and in CANVAS under the RESOURCES button. By following these directions, the portfolio will show mastery of this competency.