

**QUEENSBOROUGH COMMUNITY COLLEGE  
CHEMISTRY DEPARTMENT**

**CH-106 lab**

**Section C4**

**INSTRUCTOR: Dr. Hemraj-Benny (Office: S-443) Email: themrajbenny@qcc.cuny.edu**

**Office Hours: Room S443 Tue., Thur., and Fri.: 12 noon to 1:00 pm**

**CHEMISTRY & THE ARTS LAB**

**Time: Thursdays: 9:10 – 10:50 am**

**Fall 2014  
Room: S 409**

**LAB MANUAL: CHEMISTRY AND THE ARTS Laboratory Manual, 2<sup>nd</sup> Edition**

By: Sasan Karimi, Tirandai Hemraj-Benny, Mihaela D. Bojin  
bluedoor, LLC ISBN: 978-1-59984-517-3

- **Safety and behavior in the lab will count towards the students' overall lab grade.**
- **What can cause a student to get an F or WU for laboratory:**  
Missing the number of laboratory classes (3), Lateness which equates to absences in terms of grade, Disobedience in terms of safety in the laboratory, No work performed in the class, Not enough laboratory reports submitted
- **NO LATE lab reports will be accepted. You cannot submit a lab report if you do not conduct the experiment.**

**METHODS BY WHICH STUDENTS LEARNING WILL BE EVALUATED:**

The overall grade will be computed using the following general distribution:

- |                                                       |            |
|-------------------------------------------------------|------------|
| • Examinations, Assignments and Classroom Performance | 50%        |
| • <b>Laboratory Work and Reports</b>                  | <b>25%</b> |
| • Final Examination                                   | 25%        |

**LABORATORY SCHEDULE**

28 <sup>th</sup> Aug.	Check in and safety film
4 <sup>th</sup> Sept.	Light and Color (#1)
11 <sup>th</sup> Sept.	Visible Absorption Spectroscopy (#2A)
18 <sup>th</sup> Sept.	Visible Absorption Spectroscopy (#2B)
25 <sup>th</sup> Sept.	No Class
2 <sup>nd</sup> Oct.	Chromatography (#3)
9 <sup>th</sup> Oct.	Dyeing with Indigo (#4)
16 <sup>th</sup> Oct.	Syntheses of Pigments: Chrome Yellow and Prussian Blue (#5A)
23 <sup>rd</sup> Oct.	Manufacture of Gouache Paint (#5B)
30 <sup>th</sup> Oct.	The Chemistry of Metal Reactivity and Acid Etching (#6)
6 <sup>th</sup> Nov.	Alloys: The Copper, Silver and Gold Penny Experiment (#7)
13 <sup>th</sup> Nov.	Preparation of a Small Fresco (#8)
20 <sup>th</sup> Nov.	Chemistry of Photography (#9)
27 <sup>th</sup> Nov.	No Class
4 <sup>th</sup> Dec.	Alternative Photography (#10A)
11 <sup>th</sup> Dec.	Alternative Photography (#10B)
18 <sup>th</sup> Dec.	Check Out

### **Laboratory Work: (3 points)**

Punctual Attendance and Performance of laboratory, while adhering to all safety rules, is required. Departmental Policy: if a student is late and misses the introduction, he/she cannot perform the experiment and cannot receive credit for that particular laboratory.

Communication of results is an integral part of every branch of science, as well as an incredibly useful skill. Scientific knowledge could not progress if scientists did not present their findings in a clear and concise manner. A lab report must be written after every experiment. You will usually have the same data as your partner, but your **lab report is an independent assignment**.

### **Pre-Laboratory Report: (3 points)**

**A pre-lab report consists of sections 1- 4 and is due on the day of the experiment.** This report should be typed, Times New Roman, 12 font and double spaced.

- 1. Your name and name of lab partner**
- 2. Title of experiment and date performed**
- 3. Objective**

In 1-2 sentences, explain your primary goals and how you will achieve them. Use general terms, referring to techniques or methods, rather than describing specific procedures.

- 4. Introduction/Theory**

Briefly describe the scientific principle behind the experiment. It may be based on the material in the lab manual, your text book, or other sources (include citations). Include relevant chemical reactions - this is a chemistry class! This section should be at least 12 lines.

### **Completed Lab Report: (4 points)**

Your report will be due at the beginning of the next lecture session after the experiment has been completed. **No Late assignments will be accepted.**

- 5. List of materials and equipment**
- 6. Summary of procedure and observations**

Describe the experimental procedure in your own terms. Do not simply re-copy the steps from the manual. Be sure to describe only what you actually did, including any changes made to the procedure. If choices were possible, only indicate which one you made and explain why. Use the past tense and avoid the first person voice (I, we, us). Also include your observations such as color changes, release of vapor, etc. Diagrams may be helpful.

- 7. Data and calculations**

The lab manual usually provides sheets for data and results, which you may tear out and include in your lab report. However, calculations should be clearly labeled and neatly worked out so they can be checked and given appropriate partial credit.

- 8. Conclusions and Sources of Error**

Describe if and how the experimental objectives were met, and what scientific principles were investigated. Explain how your measurements are related to each other and your objective, and how they led to your results. **You should always summarize your final results.** When identifying an unknown, describe how you made this decision. You must also describe what could have led to incorrect or inaccurate results in this experiment, as well as steps that could be taken to prevent or correct the problems. This is different than a mistake or failure to follow instructions. Consider flaws in the experimental setup or assumptions that have been made.

- 9. Questions**

Most experiments have a set of questions to answer or problems to solve. You must complete this section and turn it in as part of your final lab report.