

**QUEENSBOROUGH COMMUNITY COLLEGE
CHEMISTRY DEPARTMENT
COURSE OUTLINE**

CH-104 CHEMISTRY and THE ARTS LABORATORY

Pre-requisites: CH-103

Hours: 2 Laboratory Hours/Week

1 Credit

Lab manual: handouts

Course Description: This laboratory provides hands-on experience correlating theory and practices involved in works of art such as photography, painting, textiles, and sculpture. Use of modern instrumentation, including infrared spectroscopy, chromatography, and other methods of chemical investigation, will be employed in order to examine the physical and chemical properties of organic materials.

Curricula for which the course is required/recommended:

This course is required for the proposed Program in Gallery and Museum Studies. This course is recommended for the students in Digital Arts and Design program and satisfies the laboratory science requirement for the A. A. degree. This course may not be used as part of the mathematics or science concentration in A. A.S.

General Education Objectives: Use quantitative skills to perform experiments to prepare and identify compounds such as, dyes, paints, and their applications; use modern instrumentation and interpret results; use analytical reasoning and apply logic to solve problems; integrate knowledge and skills in major field and across disciplines.

Course Objectives/ Expected Student Learning Outcomes: Students gain hands-on experience correlating theory and practice involved in works of art. They synthesize pigments such as prussian blue and chrome yellow; and learn the techniques of color separation. Plan and perform experiments, gather and analyze data, draw conclusions, and communicate results about works of art such as photography, painting, textiles, and sculpture. Use modern instrumentation such as infrared and ultraviolet spectroscopy, chromatography, and other methods of chemical investigation, to understand the physical and chemical properties of organic materials.

Methods by which student learning will be evaluated:

The general guidelines for assessing grades are as follows:

- o Laboratory Performance 25%
- o Lab Reports 75%

The distribution may be changed at the discretion of the individual instructor.

Accommodations for students with disabilities: Any student who feels that he/she may need an accommodation based upon the impact of a disability should contact the office of Services for Students with Disabilities in Science Building, room 132 (718-631-6257) to discuss his/her specific needs and to coordinate reasonable accommodations for documented disabilities. Students should also contact their instructor privately to discuss their specific needs.

Academic Integrity: Academic honesty is taken extremely seriously and is expected of all students. All assignments must be the original work of the student (and partners or group, if applicable). All questions or concerns regarding ethical conduct should be brought to the course instructor. "It is the official policy of the College that all acts or attempted acts that are violations of academic integrity be reported to the Office of Student Affairs (OSA). At the faculty member's discretion and with the concurrence of the student or students involved, some cases, though reported to the OSA, may be resolved within the confines of the course and department. The instructor has the authority to adjust the offender's grades as deemed appropriate, including assigning an F to the assignment or exercise or, in more serious cases, an F to the student for the entire course." (Taken from the QCC Academic Integrity Policy, 2/14/2005.)

Laboratory Policy

Attendance will be taken at every class. The Student Handbook states that you will be considered excessively absent from a course and will receive a WU grade if you have been absent for 15% or more of the total number of contact hours for your course. You must earn a passing grade in the laboratory in order to pass the course. (A WU grade will be considered an F.) For every lab that meets only once per week, you will receive a grade of WU if you have a **total of 4 or more** excused and/or unexcused absences.

There are no make-up sessions for missed labs. Missed labs that are unexcused will be assigned a grade of zero. For excused absences, the lab average will be calculated from the experiments that you performed. Students who arrive to the lab after the pre-lab lecture will not be allowed to participate and will be considered absent. A full lab report is required for each of the experiments performed and is due the next class period. Late reports are not accepted unless it is due to an absence. The format of the report will be explained by the lab instructor during the first week of the course. Additional information will be distributed by the lab instructor.

Required attire: Students **MUST** wear safety goggles in the lab at all times. Failure to do so may lead to their expulsion from the lab. Sandals or open-shoes, untied long hair, and any type of food or beverage in the lab are forbidden.

CH-104

CHEMISTRY and THE ARTS LABORATORY
LABORATORY SCHEDULE

FALL 2007

<u>WEEK</u>	<u>EXPERIMENT TITLE</u>	<u>EXPT. #</u>
1	Check in and safety film	--
2	Demonstration of Visible Absorption Spectroscopy Part(I)	1-1
3	Demonstration of Visible Absorption Spectroscopy Part(II)	1-2
4	Separation of methylene blue and fluorescein by column	2
5	Dying with indigo	3
6	Synthesis of Pigments; Prussian Blue and Chrome Yellow	4-1
7	Metal Reactivity and Etching	5
8	Tape on the Periodic Table (Week before Midterm)	6
9	Manufacture of Gouache Paint	4-2
10	Preparation of a small Fresco	7
11	Preparation of Azodye (Para Red), Fiber-Reactive Dyes: Making Tie-dye T Shirts	8
12	The Chemistry of Photography	9
13	Alternative Photographic Methods	10
14	Check out	--

Note: Answer the questions at the end of each laboratory handout.