BOROUGH OF MANHATTAN COMMUNITY COLLEGE
City University of New York

Department of Science

Title of Course: Quantitative Analysis
CHE 205
Semester
Credits 4

Class hours 3
Lab hours 6
Instructor
Name:
Office:
Tel:
Email:

A. **COURSE DESCRIPTION**:

This course discusses the principles of classical and instrumental techniques in analytical chemistry. Laboratory experiments include gravimetric, volumetric and instrumental methods of analysis.

Required in A.S. Forensic Science
Elective in A.S. Science

Prerequisites/Co-requisites

CHE 202, MAT 206 or Permission of the Department of Science
Basic Skills Prerequisites: ACR 095, ENG 095 or ESL 095, and MAT 056

Student Learning Outcomes

Students will

a. understand .the chemical principles important to analytical chemistry.
b. be able to determine the accuracy and precision of experimental data..
c. have laboratory skills necessary to solve analytical problems quantitatively.
d. be able to obtain high quality analytical data.

Required Text & Readings

Skoog, D.A,, West, D.M., Holler, F.J., and Crouch, S.R. *Fundamentals of Analytical Chemistry 9th Edition* Thomson/Brooks/Cole, 2004

Other Resources

Use of Technology (if applicable)

This syllabus is provided as a general informational guide. Some of the information may vary depending on the specific course section and instructor. Different sections of the same course may require different textbooks. Verify the section specific textbook information in the CUNY's Academic Course Schedule Web Page. Modifications of the grading system presented here will be communicated by the instructors of the sections when they meet the class.

Evaluation & Requirements of Students

There will be a minimum of four one hour examinations, a comprehensive final examination and fulfillment of all laboratory assignments.

College Attendance Policy

At BMCC, the maximum number of absences is limited to one more hour than the number of hours a class meets in one week. For example, you may be enrolled in a three-hour class. In that class, you would be allowed 4 hours of absence (not 4 days). In the case of excessive absences, the instructor has the option to lower the grade or assign an F or WU grade.

Academic Adjustments for Students with Disabilities

Students with disabilities who require reasonable accommodations or academic adjustments for this course must contact the Office of Services for Students with Disabilities. BMCC is committed to providing equal access to all programs and curricula to all students.

BMCC Policy on Plagiarism and Academic Integrity Statement

Plagiarism is the presentation of someone else's ideas, words or artistic, scientific, or technical work as one's own creation. Using the idea or work of another is permissible only when the original author is identified. Paraphrasing and summarizing, as well as direct quotations, require citations to the original source. Plagiarism may be intentional or unintentional. Lack of dishonest intent does not necessarily absolve a student of responsibility for plagiarism.

Students who are unsure how and when to provide documentation are advised to consult with their instructors. The library has guides designed to help students to appropriately identify a cited work. The full policy can be found on BMCC's web site, www.bmcc.cuny.edu. For further information on integrity and behavior, please consult the college bulletin (also available online).

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Outline of Topics Lecture

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1C	Typical Quantitative Analysis	5 – 10
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Experiment	Title
1	Laboratory Safety
2	Gravimetric Determination of Sulfate as Barium Sulfate
3	Gravimetric Determination of Chloride
4	Gravimetric Determination of Calcium
5	Titration of Chloride with Silver Nitrate
6	Preparation and Standardization of Acids and Bases
7	Acid Base Titration Analysis
8	Determination of Magnesium by Complex Formation Titration
9	Preparation and Standardization of Potassium Permanganate
10	Determining the Percentage of Iron in Iron Ore
11	Iodimetric Titration of Vitamin C
12	Oxidation-Reduction Titration
13	Spectrophotometric Determination of Iron in Vitamins
14	Spectrophotometric Determination of an Equilibrium Constant
15	Examination Week

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