LEHMAN COLLEGE
OF THE
CITY UNIVERSITY OF NEW YORK

DEPARTMENT OF CHEMISTRY

CURRICULUM CHANGE

1. **Type of Change:** *Hours*.

2. **From:**

Department(s)	Chemistry
Career	[X] Undergraduate [ ] Graduate
Academic Level	[X] Regular [ ] Compensatory [ ] Developmental [ ] Remedial
Subject Area	Chemistry
Course Prefix & Number	CHE 249
Course Title	Quantitative Analysis
Description	Fall term only. Principles of gravimetric, volumetric, and spectrophotometric analysis. Methods involving acidimetry, precipitation, chelation, oxidation, and iodometry. Analytical separations.
Pre/ Co Requisites	PREREQ: CHE 168 and 169.
Credits	5
Hours	8 ~~(2 lecture, 6 lab)~~
Liberal Arts	[X] Yes [ ] No
Course Attribute (e.g. Writing Intensive, WAC, etc)	
General Education Component	__X_ Not Applicable ____ Required ____ English Composition ____ Mathematics ____ Science ____ Flexible ____ World Cultures ____ US Experience in its Diversity ____ Creative Expression ____ Individual and Society ____ Scientific World

3. **To:**

Department(s)	Chemistry
Career	[X] Undergraduate [ ] Graduate
Academic Level	[X] Regular [ ] Compensatory [ ] Developmental [ ] Remedial
Subject Area	Chemistry
Course Prefix & Number	CHE 249
Course Title	Quantitative Analysis
Description	Fall term only. Principles of gravimetric, volumetric, and spectrophotometric analysis. Methods involving acidimetry, precipitation, chelation, oxidation, and iodometry. Analytical separations.
Pre/ Co Requisites	PREREQ: CHE 168 and 169.
Credits	5
Hours	8 (3 lecture, 5 lab)
Liberal Arts	[X] Yes [ ] No
Course Attribute (e.g. Writing Intensive, WAC, etc)	
General Education Component	__X_ Not Applicable _____ Required _____ English Composition _____ Mathematics _____ Science _____ Flexible _____ World Cultures _____ US Experience in its Diversity _____ Creative Expression _____ Individual and Society _____ Scientific World

4. **Rationale (Explain how this change will impact the learning outcomes of the department and Major/Program):**
In an attempt to address poor student performance in Quantitative Analysis and better support students as they move through the laboratory portion of the class the Chemistry Department has modified its pedagogical approach to include techniques that more actively engage students in their learning of the lecture material. To be truly effective

this new approach requires students to be intellectually and actively engaged for 3 hours of structured lecture coursework every week instead of only 2 hours.

One of the more successful techniques that have been used across the country to engage students is the inclusion of an additional course hour during which students engage in problem solving through peer instruction and/or group workshops. These problem-solving sessions provide a structured opportunity for students to solve typically difficult problems, in a collaborative setting. (There is tremendous research evidence to demonstrate the effectiveness of collaborative settings on student learning.)

The Chemistry Department proposes to change this course from a 2-hour lecture, 6-hour laboratory to a 3-hour lecture, 5-hour laboratory.

As a consequence of this change, the laboratory portion of the course will lose one hour, but this is deemed acceptable because:

1. Students routinely finish the laboratory experiments in 5 hours already
2. Instructors currently use about one hour of lab time for a lab “recitation” during which they explain the content in each lab. This portion of the lab will be partly folded into the new structured lecture time.

In the new model students will learn new course content through both traditional lecture and through structured problem-solving exercises and the laboratory “recitation discussion” will be folded into this new lecture time.

5. **Date of departmental approval:** September 20, 2024

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2. **From:**

Department(s)	Chemistry
Career	[X] Undergraduate [ ] Graduate
Academic Level	[X] Regular [ ] Compensatory [ ] Developmental [ ] Remedial
Subject Area	Chemistry
Course Prefix & Number	CHE 449
Course Title	Instrumental Analysis
Description	Electroanalytical, spectrophotometric, chromatographic, and other instrumental methods as applied to analytical chemistry.
Pre/ Co Requisites	PREREQ: CHE 249
Credits	5
Hours	~~8 lecture~~
Liberal Arts	[X] Yes [ ] No
Course Attribute (e.g. Writing Intensive, WAC, etc)	
General Education Component	_X__ Not Applicable ____ Required ____ English Composition ____ Mathematics ____ Science ____ Flexible ____ World Cultures ____ US Experience in its Diversity ____ Creative Expression ____ Individual and Society ____ Scientific World

3. **To:**

Department(s)	Chemistry
Career	[X] Undergraduate [ ] Graduate
Academic Level	[X] Regular [ ] Compensatory [ ] Developmental [ ] Remedial
Subject Area	Chemistry
Course Prefix & Number	CHE 449
Course Title	Instrumental Analysis
Description	Electroanalytical, spectrophotometric, chromatographic, and other instrumental methods as applied to analytical chemistry.
Pre/ Co Requisites	PREREQ: CHE 249
Credits	5
Hours	8 (2 lecture, 6 lab)
Liberal Arts	[X] Yes [ ] No
Course Attribute (e.g. Writing Intensive, WAC, etc)	
General Education Component	_X__ Not Applicable _____ Required _____ English Composition _____ Mathematics _____ Science _____ Flexible _____ World Cultures _____ US Experience in its Diversity _____ Creative Expression _____ Individual and Society _____ Scientific World

4. **Rationale (Explain how this change will impact the learning outcomes of the department and Major/Program):**
In order to remain in compliance with our ACS certification the CHE 349 course has recently been taught with 2 hours of lecture and 6 hours of laboratory time. With this proposal we wish to codify this change in the bulletin to accurately reflect what is being taught in the course.

5. **Date of departmental approval:** September 20, 2024