

Instructor: Aneta Mieszawska, PhD

Office 1159N

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Lectures: M,W 11:00 am – 12:15 pm Recitation: M 12:20 – 1:10 pm, rm 1127N

Office Hours: M,W 10 – 11 am, rm 1159N

Learning Objectives: Chem1040 provides students with an introduction to chemistry. Students will consider how scientific knowledge is acquired, applied, and communicated, as they explore many of the key concepts central to the science of chemistry. By working through example cases and practice problems, students will further develop their chemical content knowledge, critical thinking abilities, and problem-solving skills. By the end of the course, successful students will be able to demonstrate a basic understanding of the structure and properties of chemical systems using the tools of the discipline including models, data analysis, and the use of symbolic representations. Through participation in course activities students will gain experience in the practices of scientific investigators including observation, logic, analysis, objectivity, precision, and clear communication.

Required Text: *Introduction to General, Organic, and Biochemistry*, Bettelheim, Brown, Campbell, and Farrell, Cengage Learning 2019, 12th Edition. ISBN: 978-1-337-57135-7

Laboratory Manual: *General Chemistry For The Health Professions*, Kobrak, Mark N. ISBN: 9781524900021, ISBN10: 1524900028

Required Items: Non-internet capable scientific calculator (Texas Instruments TI-30X or similar is recommended).

Recommended Items: Lab coat or apron.

Counseling

Undergraduate Chemistry Advisor:

Prof. Andrzej Jarzecki

jarzecki@brooklyn.cuny.edu

Health Profession Counseling:

Mr. Benjamin Stewart

benjamin.stewart@brooklyn.cuny.edu

EXAMINATION SCHEDULE: ALL EXAMS ARE HELD IN-PERSON IN THE LECTURE ROOM

MIDTERM 1: Wednesday, October 11th, 11:00 AM – 12:15 PM

MIDTERM 2: Wednesday, November 15th, 11:00 AM – 12:15 PM

No makeup exams are given for missed first and second lecture midterm exams. In case of a justified absence (i.e. a doctors' note), the grade on a missed midterm exam will be calculated from the weighted average of the other midterm test and the final exam (with a 40% weight on the midterm and a 60% weight on the final).

FINAL EXAM: MONDAY, DECEMBER 18th, 10:30 AM – 12:30 PM **FINAL EXAM IS COMPREHENSIVE**

RECITATION QUIZZES: 09/11, 10/10, 11/06, 11/27, 12/11

Dates for the exams are scheduled. Any anticipated changes will be announced in lecture and/or posted on Blackboard. In the event of bad weather or other cause, the University may declare classes closed or it may declare that it will follow delayed class schedule. If all classes are closed on an exam date, then the exam will be held on the first lecture thereafter. If the official delay does not affect the class start time, then assume that the exam will be held (as scheduled). Variations are possible depending on the cause of the closing or delay! Relevant announcements will be posted on Blackboard (if possible) for wide access to students. Students are responsible for such notices.

The material for which student is responsible includes LECTURE MATERIAL and RECITATION. While the text reflects the vast majority of lecture content, there may be additional material covered or assigned in lecture, which is also eligible for inclusion on exams. Keys for exams will be available through Laboratory Instructors shortly after each exam. Every effort is made to grade exams as soon as possible. This process is generally complete within one week. If there is reason to question a grade then this must be reported to Dr. Mieszawska within two weeks of the day on which the exams were first available for pickup by students. **Only exams written in pen are eligible for regrading.** Scaling of exam and recitation grades can sometimes occur, although it is not intended. Grades may be scaled up but they cannot be scaled down.

Routine lecture attendance has no direct contribution to grading. The absolute requirement for lecture attendance is for exams. Obviously, SINCE LECTURE IS THE MOST IMPORTANT MATERIAL, REGULAR ATTENDANCE AND NOTE-TAKING IS CRITICAL TO SUCCESS. Furthermore, BE PREPARED FOR LECTURE BY READING THE TEXT MATERIAL AND WORKING THROUGH THE FILL-INS IN ADVANCE. The Problems are assigned to improve learning and skills. Although they are assigned homework, they are not collected nor graded. Nevertheless, it remains student's responsibility to do them and to master them. Mastering means that each student should be able to start each problem, work through each problem, and get the right answer to each problem in a reasonable period of time without looking anything up. Needless to say, this will not happen when doing many problems for the first time. This is normal. Problems that cannot be readily completed should be flagged, and the student should redo those problems at a later time. This process should be repeated until the problem is mastered. Although not collected nor graded, material from the assigned problems or from any other assigned homework will be included on the exams. FAILURE TO MASTER HOMEWORK PROBLEMS IS MAJOR CONTRIBUTOR TO LOW EXAM SCORES.

Use of Blackboard:

The Blackboard Course Management System will be the central platform for the course. Lecture slides will be uploaded to Course Materials and messages will be distributed as Announcements. It is therefore critical that you have access to the system. You should also confirm that your e-mail address in the Blackboard system is one that you read regularly.

Technical Support:

In general, requests for technical support should be directed to Brooklyn College Information Technology Services (ITS) Help Desk: Phone: 718.951.4357E-mail: helpdesk@brooklyn.cuny.edu

Academic dishonesty is prohibited in the City University of New York:

Academic dishonesty is prohibited in the City University of New York. Cheating, plagiarism, internet plagiarism and obtaining unfair advantages are violations of policies of academic integrity and are punishable by penalties, failing grades, suspension and expulsion.

For more information about CUNY policy on academic integrity see:

<https://www.cuny.edu/about/administration/offices/legal-affairs/policies-resources/academic-integrity-policy/>

Students caught engaging in academic dishonesty will receive a grade of "F" for the course.

Student Disability Services

In order to receive disability-related academic accommodations students must first be registered with the Center for Student Disability Services. Students who have a documented disability or suspect they may have a disability are invited to set up an appointment with the Director of the Center for Student Disability Services, Ms. Valerie Stewart-Lovell at 718-951-5538. If you have already registered with the Center for Student Disability Services please provide your professor with the course accommodation form and discuss your specific accommodation.

Student Bereavement Policy

Students who experience the death of a loved one during the semester should consult the student bereavement policy here: <http://www.brooklyn.cuny.edu/web/about/initiatives/policies/bereavement.php>

Non-Attendance Due to Religious Beliefs

Students who are unable to attend class due to religious observations should consult the Brooklyn College Undergraduate Bulletin for the college's policy and contact the lecturer to discuss the issue. Students must come forward with the issue in a timely manner.

As an educator, I support the rights of undocumented students to an education. If you have any concerns in that regard, feel free to discuss them with me, and I will respect your wishes concerning confidentiality. For resources and support, please visit Brooklyn College's Immigrant Student Support Office located at 17 Roosevelt Hall. You can also contact them via email at ISSO@brooklyn.cuny.edu or via phone at 718-951-5023.

Sexual And Gender-Based Harassment, Discrimination, and Title IX.

Brooklyn College is committed to fostering a safe, equitable, and productive learning environment. Students experiencing any form of prohibited discrimination or harassment, on or off campus, can find information about the reporting process, their rights, specific details about confidentiality, and reporting obligations of Brooklyn College employees at the Office of Diversity and Equity.

Gender-based harassment is unwelcome conduct of a nonsexual nature based on an individual's actual or perceived gender, including conduct based on gender identity, gender expression, and/or nonconformity with gender stereotypes.

Sexual harassment is unwelcome conduct of a sexual nature—such as unwelcome advances and requests for sexual favors. Bullying, intimidation, and harassment based on actual or perceived sexuality is discriminatory. Brooklyn College encourages individuals who have experienced sexual harassment, gender-based harassment, or sexual violence to report the incident(s) to campus authorities, even if they have reported it to outside law enforcement and regardless of whether the incident(s) occurred on campus. Students may seek resolution through the Student Affairs office, Dean of Students, the Diversity and Equity Office, the Title IX Coordinator, or Public Safety. Confidential resources on campus include the Office of Personal Counseling, The Women's Center, and the Health Clinic. Appropriate action can include formal disciplinary action, including termination of employment, and suspension or expulsion of students.

IMPORTANT DATES:

August 31	Last day to add a course
September 4	College Closed
September 14	Last day to withdraw without a "W" grade
September 15-17	No Classes
September 25	No Classes
October 9	College Closed
October 10	CONVERSION DAY: Classes follow a Monday schedule
November 22	No Classes
November 23-24	College Closed
November 25-26	No Classes
December 11	Last day of classes, last day to withdraw from a course with a grade of "W"
December 12-13	Reading Day

LECTURE SCHEDULE

Lecture #	Topics	Assigned Reading
1, 2	Math Review, Dimensional Analysis, States of Matter	Appendix I, Appendix II, Chapter 1
3	Elements, Compounds, Atoms, Electron Configuration, Periodic Property	Chapter 2
4, 5	Ions, Chemical Bonds, Lewis Structures, Bond Angles, Polarity	Chapter 3.1-3.8, 3.10-3.11
6	Resonance, Formal Charge	Chapter 3.9 plus lecture notes
7, 8	Chemical Equations, Oxidation and Reduction, Mole, Mass Relationships	Chapter 4.1-4.6
9	Mass Relationships, Heat of Reaction	Chapters 4.7-4.8
10	Gases, Liquids, and Solids (Part 1)	Chapter 5
11	<i>Review for the Exam</i>	Chapters 1-4
12	Exam I	Chapters 1-4
13	Gases, Liquids, and Solids (Part 2)	Chapter 5
14, 15	Solutions and Colloids, Concentration	Chapter 6
16, 17	Reaction Rates and Chemical Equilibrium	Chapter 7
18, 19	Acids and Bases, Conjugate Acid-Base Pairs, pH, pOH	Chapter 8.1- 8.8
20	Buffers, pH of a Buffer	Chapter 8.10-8.12 plus lecture notes
21	<i>Review for the Exam</i>	<i>Chapters 5-8.12 (without 8.9)</i>
22	Exam II	Chapters 5-8.12 (without 8.9)
23, 24	Titrations	Chapter 8.9 plus lecture notes
25, 26	Nuclear Chemistry	Chapter 9
27	Introduction to Organic Chemistry	Chapter 10
28	<i>Review for the Final Exam</i>	<i>All discussed Chapters</i>

Homework Assignment	Problems
Chapter 1	4-11, 13-18, 20, 24-28, 33-40, 42-43, 44-48, 52-53
Chapter 2	2-3, 8-19, 21-23, 25-28, 34-36, 38-39, 42, 44-49, 53-54, 56-61
Chapter 3	1-3, 5-9, 11, 13-20, 22-24, 26-29, 32, 34-37, 39-41, 43-48, 53, 55, 57, 59, 60-62, 64-67, 69-75
Chapter 4	1-3, 6, 10, 12-16, 19, 21-23, 25-27, 28-37, 38-47, 49-52, 53-54, 56-63, 65
Chapter 5	1-4, 6-9, 11-14, 17-18, 20-24, 26-31, 33-34, 36-37, 39, 40,

	43-47, 49, 51, 54-58, 59-60
Chapter 6	1-4, 6-8, 10-12, 14-17, 20a, 21-30, 32-39, 42-46, 49-50, 51-55, 57-61
Chapter 7	1-3, 5-11, 13-17, 20-21, 23-25, 26-31
Chapter 8	2-6, 8-13, 14-15, 18, 19, 23-29, 30-31, 34-37, 39, 41-46, 48-49, 50-53, 55-56, 58
Chapter 9	6, 7, 9-11, 12-16, 18-22, 24-26, 28-31, 32, 33, 40, 44, 46, 48
Chapter 10	1-3, 6-7, 9-12, 15, 18, 19, 20
Chapter 20	1-3, 7, 9

LABORATORY EXPERIMENTS

Arrive on time, **if you are more than 15 minutes late you will not be allowed to enter the lab** and perform the experiment.

Students who miss a laboratory:

Multiple sections of Chemistry 1040 run, and students who miss a section of their assigned laboratory must make it up in another section as soon as possible. To do this, they should go to the lab period in which they wish to make up the experiment, identify themselves to the instructor in that section, and (if given permission) perform the work. After the experiment is complete, the student must present their data sheet to the instructor for that section to sign. The instructor for your registered section will not accept makeup work if it is unsigned. Students may not make up more than two laboratory periods in this way.

Lab Exemptions: Students who are repeating the course may be able to obtain laboratory exemptions. You may file a request for a laboratory exemption form in the Chemistry Department website.

Meeting	Laboratory Assignment
1	Check in, Safety
2	Experiment 1 – Density and measurement
3	Experiment 2 – Basics of Chemical Reactions
4	Experiment 3 – Conductivity and Electrochemistry
5	Experiment 4 – Introduction to Gravimetric Analysis
6	Experiment 5 – Synthesis of Zinc Iodide
7	Experiment 6 – The Ideal Gas Law
8	Experiment 7 – Intermolecular Forces and Physical Properties
9	Experiment 8 – Determination of Molecular Weights by the Method of Freezing-Point Depression
10	Experiment 9 – The Rate of Reaction
11	Experiment 10 – Titration of Strong Acids and Bases
12	Experiment 11 – Determination of Vitamin C concentration by Iodometry
13	Experiment 12 – Acid-Base Equilibria and the Preparation of Buffer Solutions
14	Checkout

<p>Your final grade will be a weighted average calculated as follows:</p> <p>30% Two Lecture Exams 20% Four Recitation Quizzes with the highest scores (one quiz with the lowest grade will be dropped) 20% Laboratory Reports 30% Final Examination</p>	<p>Final grades are not curved, but are set according to the following scale:</p> <table border="1" data-bbox="711 239 1370 478"> <tr> <td>94 or higher: A+</td> <td>63.5-70.4: C</td> </tr> <tr> <td>87.5-93.9: A</td> <td>60.5-63.4: C-</td> </tr> <tr> <td>84.5-87.4: A-</td> <td>56.8-60.4: D+</td> </tr> <tr> <td>81.5-84.4: B+</td> <td>52.5-56.7: D</td> </tr> <tr> <td>76.0-81.4: B</td> <td>50.0-52.4: D-</td> </tr> <tr> <td>73.5-75.9: B-</td> <td>0-49.9: F</td> </tr> <tr> <td>70.5-73.4: C+</td> <td></td> </tr> </table> <p>*Note: If you earn a grade of D+, D, or D-, that is the grade you will receive. Requests to change it to an F will not be honored.</p>	94 or higher: A+	63.5-70.4: C	87.5-93.9: A	60.5-63.4: C-	84.5-87.4: A-	56.8-60.4: D+	81.5-84.4: B+	52.5-56.7: D	76.0-81.4: B	50.0-52.4: D-	73.5-75.9: B-	0-49.9: F	70.5-73.4: C+	
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