Chem 1040 **COURSE SYLLABUS** **Fall 2016**

Instructor: Aneta Czajkowska, PhD (last name changed to Mieszawska), office 1159N
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Lectures: M,W 11:00 – 12:15 Recitation: M 12:20 – 1:10 pm
Office Hours: M 2 – 3 pm, W 1:15 – 2:15 pm

Welcome to Chem 1040, a course for health professions. Chem 1040 covers topics such as the interactions within matter, phases, solutions, kinetics, equilibrium processes, nuclear chemistry, classes and functional groups of organic compounds, and nutrition chemistry.
This course consists of the main lectures, recitations, and laboratory sections. The main lectures and recitations are large group classes; the regular course exams are given during the main lecture on Wednesdays. The laboratory sections are small group classes and are intended to be more interactive and to acquire basic laboratory skills and knowledge.

Required Text: *Introduction to General, Organic, and Biochemistry*, Bettelheim, Brown, Campbell, and Farrell, Cengage Learning 2016, **11th** Edition. ISBN-13: 978-1-285-86975-9

Required Laboratory Manual: Kobrak *Laboratory Manual: General Chemistry for Health Professions*, Dubuque, IA, Kendall-Hunt, 2016

Required Items: Scientific calculator, lock for lab drawer (bring to first lab), matches, roll of paper towels, soap, safety glasses (in your lab kit).

Recommended Items: Lab coat or apron.

Counseling

Coordinator for General Chemistry: Prof. Joann Mathias, 359H NE
jmathias@ brooklyn.cuny.edu

Undergraduate Chemistry Advisor: Prof. Emilio Gallicchio, 3316N
egallicchio@brooklyn.cuny.edu

Health Profession Counseling: Prof. Steven Silbering 2231B
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See also the health professions handbook at:
http://www.brooklyn.cuny.edu/web/aca_honors/110901_PreHealthProfessionsHandbook.pdf

FIRST TEST: Wednesday, October 5th, 11 AM – 12:15 PM, Covers Chapters 1-4.6

SECOND TEST: Wednesday, November 16th, 11 AM – 12:15 PM, Covers Chapters 4.7-8.8

NO MAKEUP EXAMS ARE GIVEN FOR LECTURE TESTS.

FINAL EXAM: MONDAY, DECEMBER 19th, 10:30 AM – 12:30 PM room TBA, FINAL EXAM IS COMPREHENSIVE

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. Czajkowska within two weeks of the day on which the exams were first available for pickup by students.

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 and quizzes. FAILURE TO MASTER HOMEWORK PROBLEMS IS MAJOR CONTRIBUTOR TO LOW EXAM SCORES.

GRADING:
Your final grade will be determined as follows:
30% Two lecture exams
20% Five recitation quizzes
20% Laboratory reports and performance
30% Final Exam

The recitation quizzes are given during the individual laboratory meetings on the following dates:

Quiz number	**Date**
quiz 1	week of September 12th
quiz 2	week of September 26th
quiz 3	week of October 24th
quiz 4	week of November 7th
quiz 5	week of November 28th

Bring a calculator to every exam and to every recitation and laboratory meeting, and be certain it has a charge on it. Dead batteries can be fatal. Be certain you know how to use your calculator. A calculator capable of standard math functions and scientific notation (including common and natural logs and exponentials) is required for this course. There is one important restriction on additional features: any calculator that is capable of alphabetic memory is banned from use for any exam. "Alphabetic memory"

is meant to be memory, which can store all 26-alphabet letters. Note that the ban is on calculators that are capable of this feature. Therefore, all such calculators are banned from use during the exams, even though the memories have been erased. If a student is believed to be using a banned calculator during an exam, then 5-10 points may be deducted from their exam afterwards.

Phones, pagers, and other devices must have audible signals turned off during lecture and exams. ("Audible" includes loud vibrator modes.) This is an obvious courtesy to surrounding students. Furthermore, during exams, all communication (which includes music) devices must be out of view. This also includes headsets, earplugs, etc. (but not hearing aids). Infractions during an exam can lead to a loss of 5-10 points. Students with justifiable cause (e.g. job-related, etc.) who need to have these devices audibly active must report this to Dr. Czajkowska before the start of the exam. A specific seating location may be required.

Students may use laptops/tablets during lecture for purposes of this course. Extraneous use, however, is not welcome. If the use of laptop/tablets in the classroom becomes too distracting for others in the class, then a ban can be imposed during lecture.

LECTURE SCHEDULE

Lecture #	**Topics**	**Assigned Reading**
1, 2	Math Review, Dimensional Analysis, States of Matter	Appendix I, Appendix II, Chapter 1
2, 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	*Preparation for the Exam*	*Chapters 1-4.6*
10	**Exam I**	**Chapters 1-4.6**
11	Mass Relationships, Heat of Reaction	Chapters 4.7-4.8
12, 13	Gases, Liquids, and Solids	Chapter 5
14, 15	Solutions and Colloids, Concentration	Chapter 6
16, 17, 18	Reaction Rates and Chemical Equilibrium	Chapter 7
18, 19	Acids and Bases, Conjugate Acid-Base Pairs, pH, pOH	Chapter 8.1- 8.8
20	*Preparation for the Exam*	*Chapters 4.7-8.8*
21	**Exam II**	**Chapters 4.7-8.8**

22	Buffers, pH of a Buffer	Chapter 8.10-8.12 plus lecture notes
23	Titrations	Chapters 8.9, plus lecture notes
24	Nuclear Chemistry	Chapter 9
25	Introduction to Organic Chemistry	Chapter 10
26	Carbohydrates, Lipids, Proteins	Selected topics from Chapter 20, 21, 22 plus lecture notes
27	Nutrition	Chapter 30.1-30.6
28	*Review for the Final Exam*	*All discussed Chapters*

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:
http://www.brooklyn.cuny.edu/web/abo_initiatives/110901_AcademicIntegrity.pdf

Student Disability Services:
In order to receive disability-related academic accommodations students must first be registered with the Center for Student Disability Services (CSDS). 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 CSDS please provide your professor with the course accommodation form and discuss your specific accommodation with him/her as soon as possible and at an appropriate time.

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 office (359 NE). Students who receive exemptions must take the recitation quizzes.

Drop Period: Wednesday, August 31st – Wednesday, September 14th.
Withdrawal Period: Thursday, September 15th - Thursday, November 10th.

To withdraw, you MUST file a form in the Registrar's Office (either electronically or in person) and CHECK OUT from the laboratory.

Homework Assignment	**Problems**
Chapter 1	17-30, 32, 36-40, 45-52, 56-60, 62, 66-68
Chapter 2	9, 10, 15-22, 24, 26, 28, 29, 33, 35, 41, 47, 49, 51-54, 58, 59, 61-66, 68, 76
Chapter 3	17-21, 23, 25, 29-36, 38, 42-44, 51, 55-57, 59-63, 65-67, 73, 76-78, 80-83, 86-91
Chapter 4	17-20, 28-31, 35-39, 41-51, 54-58, 61-63, 66-68, 70-73, 75
Chapter 5	12-19, 21-24, 28, 32, 33, 37, 39, 40, 41, 46, 47, 49, 50, 55, 56, 61-62, 64, 65, 68, 70, 71, 74, 76, 78, 79, 83, 86
Chapter 6	15-18, 20, 21, 24-29, 31, 34-43, 46-48, 56, 57, 59, 60, 69-71, 73, 77
Chapter 7	11, 12, 13, 15, 17, 19-21, 24-28, 31, 33, 34, 36-41

Chapter 8	13-18, 20-25, 26-27, 30, 33, 35-41, 43-47, 49-52, 54-61, 62-68
Chapter 9	8, 10, 11, 13, 15, 17, 19, 20, 22, 24-26, 28, 31, 34, 36, 39, 52, 53
Chapter 10	7, 8, 12, 13, 15-18, 20, 21, 24, 25-27, 29-35
Chapter 20	6, 7, 9, 38, 43, 45-47
Chapter 21	2, 3, 5, 8, 10, 11, 13, 14, 17, 19
Chapter 22	8, 14, 19, 22-26, 44, 59
Chapter 30	1, 3, 4-9, 11-13, 17, 18, 20, 23, 25-28, 30

LABORATORY EXPERIMENTS

Before coming to laboratory, read the scheduled experiment and any other material assigned. You must bring the lab manual to each lab class.
Brooklyn College recognizes the importance of reproductive hazard awareness and protection. During laboratory exercises students may be exposed to chemical reagents that may present specific risks to reproductive health, especially students who are pregnant. Therefore, it is strongly recommended that you do not take the following course if you are pregnant. If you become pregnant during the semester, please consult with your laboratory instructor.

NOTE: SAFETY GOGGLES MUST BE WORN IN THE LABORATORY! The goggles must be indirectly-vented to offer splash protection. You will be provided goggles in your lab kit. If your instructor observes you violating eye protection or other safety policies, you can be removed from the laboratory and/or given a 10% (or higher) penalty on your laboratory report grade.

Scientific data requires special treatment. It must be recorded in non-erasable ink in your lab book immediately after a measurement is taken; partners cannot copy each other's data at a later time. Altering or copying data outside of the laboratory represents academic dishonesty and will be prosecuted as such if observed. Further, you will receive no credit for any lab report that includes data that are not your own. If your data are messy, you may copy them over onto a final report, but you must include your original data when you turn in your report.

Lab reports are due in lab the week after the experiment was concluded unless you obtain permission from your instructor. All lab reports not handed in will receive a grade of zero. Students who miss a laboratory: multiple sections of Chemistry 1040 run, and students who miss a section of their assigned laboratory for a justifiable cause should make it up in another section as soon as possible. To do this, they must obtain a make-up card from the regular laboratory instructor. They then 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 instructor for that section must sign and date the make-up card. The signed make-up card must be given to the regular laboratory instructor as proof that the lab was made up.

Laboratory Breakage. Our practice is to charge you only for the replacement cost of any items you lose or break. After check out, a bill will be prepared which you may pay at the bursar's office.

NOTE: If you have checked in for any lab course you must check out even if you only attend class for one or two weeks before dropping the course. Students who fail to check out will be charged a fee of $50 plus the cost of missing or broken equipment. Students who drop a course must check out as soon as

possible.

Meeting	Laboratory Assignment
1	Check in, Safety, Lab Techniques
2	Experiment 1 – Density and Measurement
3	Experiment 2 – Introduction to Gravimetric Analysis
4	Experiment 3 – Synthesis of Zinc Iodide
5	Experiment 4 – Basics for Chemical Reactions
6	Experiment 5 – Conductivity and Electrochemistry
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 Fre Point Depression
10	Experiment 9 – Titration of Strong Acids and Bases
11	Experiment 10 – The Rate of Reaction
12	Experiment 11 – Determination of Vitamin C Concentration by Iodometry
13	Experiment 12 – Acid-Base Equilibria and the Preparation of Buffer Solutions
14	Checkout

PREPARATION FOR LABORATORY

To help prepare you for lab, you are required to hand in before each (a) what quantities are to be measured and (b) what quantities are to be calculated from the measurements. For an experiment where there are no measurements, just state briefly what you are to do and what you are to observe.
What you hand in should be no more than 4 to 5 lines long and must NOT include the detailed procedure of the experiment. If you do not hand this in, your instructor will deduct 5% from your grade for that lab report.