2022

Principles of General Chemistry

Jose Cobo
CUNY City College

The City College of New York | CUNY School of Medicine

MCBS Department

Spring 2022 SEMESTER

COURSE NAME: Principles of General Chemistry

COURSE NUMBER: MED 10200

SEMESTER HOURS: 5 credits

COURSE DURATION: 01/31/22 – 05/18/22

COURSE SCHEDULE:

Lectures:
Monday and Tuesday 12:00 – 1:00 pm
Wednesday 12:00 – 1:45 pm

Recitation:
Friday 11:00 – 11:50 am (5AD)
Tuesday 4:00 – 4:50 am (5EG)

Workshop
Friday 8:00 - 11:00 am (5AD)
Friday 1:00 – 4:00 pm (5EG)

Laboratory
Friday 8:00 - 11:00 am (5AD)
Friday 1:00 – 4:00 pm (5EG)

COURSE LOCATION/BLDG-ROOM:

Lectures: NAC building 1/201 and via Zoom

Recitation: Harris Hall (HH) 013

Workshop: Online via Zoom

Laboratory: Marshak 1007

Office hours by appointment via e-mail: jcobo@med.cuny.edu
On Tuesdays: 1:30pm to 2:30pm and Wednesdays: 2:00pm to 3:0pm

FACULTY / LECTURERS/FACILITATORS' NAMES AND CONTACT INFORMATION**:**

Jose Cobo, Ph.D, Course Director (jcobo@med.cuny.edu)
Eric Doucet, Lab Instructor (doucete@oldwestbury.edu)
Ms. Raquel Morales, Course Coordinator (rmorales@med.cuny.edu)

Table of Contents	
I.	Course Description
II.	Course Goals
III.	Course Components and Objectives
IV.	Academic Calendars (see links below)
V.	Textbooks/Articles
VI.	Course Requirements and Policies
	A. Course Policies
	B. Methods of Instruction
	C. Methods of Assessment
	D. Grading Policy/Criteria for Passing/Remediation
	E. Course specific Exam and Exam Review Policy
	F. Absence and Attendance Policy
	G. Reassessment Policy
	H. Respect for diversity syllabus statements
	I. Learning Resource Center Study Aids
VII.	School Wide Policies and Procedures
	A. Recording of Remote Classes
	B. Exam Proctoring Policy
	C. Exam/Exam Review Policy via link https://med.catalog.cuny.edu/bsprogram/exam
	D. Accommodations for Students with Disabilities-via link CCNY AAC/SDS
	E. Policy on Academic Integrity
	F. Honor Code/Plagiarism Policy
	G. Absence Policy
	H. https://www.ccny.cuny.edu/csom/csom-diversity-equity-inclusion-policy
	I. Teacher-Learner Expectations
	J. Definition of Mistreatment
	K. Policy and Procedure for Reporting Alleged Mistreatment and Unprofessional Behavior
VIII.	Schedule/Outline

I. Course Description:

This course is designed to introduce students to the fundamental knowledge and necessary skills in general chemistry. There are 4 lecture and 1 recitation hours per week for 15 weeks. There are also 5-3 hr. laboratory sessions.

II. Course Goals:

Taking this course will enable you to understand and develop:

- the fundamental chemical concepts of matter, energy, behavior of gases, atomic structure, stoichiometry of chemical reactions, chemical nomenclature, periodicity of elements, chemical bonding, reaction rates, solution concentrations, energy relationships in chemical reactions and the general and main types of chemical reactions including redox reactions

III. Course Components and Objectives:

Upon completion of this course the students will have mastered the following skills:

- The basic laboratory skills of proper handling of chemicals, recognition and use of standard laboratory equipment, use of balances, thermometers and glassware for quantitative measurement, titration techniques, quantitative identification by physical and chemical properties, data handling, interpretation of experimental results, writing of laboratory reports and safety procedures in the laboratory.

Educational Program Objectives (EPOs) that apply to Principles of General Chemistry
General Competency II: Medical Knowledge

2.1. Describe the molecular, biochemical, and cellular mechanisms that underlie normal tissue function.
2.9. Explain the scientific basis, interpretation, reliability, and validity of common screening, diagnostic and therapeutic modalities.

General Competency III: Life-Long
3.1. Identify strengths, deficiencies, and limits in one's knowledge and expertise
3.2. Incorporate learning and improvement goals into one's educational practice.

General Competency IV: Interpersonal Skills and
4.1. Effectively communicate with empathy and respect with all individuals regardless of their backgrounds.
4.4. Present information in both written and verbal forms in a clear, concise, effective, and timely manner.

General Competency V: Professionalism
5.1. Demonstrate honesty, integrity, and discretion in all personal and professional activities.
5.3. Demonstrate compassion and empathy for all individuals, including peers, patients, faculty, and staff in all interactions.
5.6. Collaborate effectively, acknowledging the contributions of others.

Alignment of EPOs with Session level objectives:

Session Level Objectives:	Program Level Objectives
Introduction to the course. Matter and measurement	

1. Describe the basic properties of each physical state of matter: solid, liquid and gas	3.1, 3.2
2. Define and give examples of atoms and molecules	3.1
3. Classify matter as an elements, compound, homogenous mixture or heterogeneous mixture	3.1
4. Identify properties of and changes in matter as physical or chemical and as intensive or extensive properties	3.1
5. Define accuracy and precision and correctly represent uncertainty in quantities using significant figures	3.1, 3.2, 3.6, 2.9, 7.10
Atoms and the periodic table	
1. Write and interpret symbols that depict the atomic number, mass number and charge on an atom or ion	3.1
2. Define the atomic mass unit and average atomic mass and calculate mass and isotopic abundance	3.1
3. Predict general properties of elements based on their location within the periodic table and whether a compound is molecular or ionic	3.1
4. Determine formulas for simple ionic compounds	3.1
5. Laboratory: Determination of Formula weight of a salt	3.2, 4.1,4.4, 5.1, 5.10
Composition of substances and solutions	
1. Calculate formula masses for covalent and ionic compounds	3.1
2.Describe the amount unit mole and the related quantity Avogadro's number.	3.1
3. Calculate relationships between mass, moles and numbers of atoms or molecules.	3.1
4. Compute the percent composition of a compounds, determine empirical formula and the molecular formula of a compound	3.1
Stoichiometry of Chemical reactions	
1. Write and balance chemical equations in molecular, total ionic and net ionic formats	3.1
2. Define three common types of chemical reactions (precipitation, acid-base and oxidation-reduction)	3.1
3. Identify common acids and bases and predict solubility of common inorganic compounds using solubility rules	3.1, 2.1
4. Compute the oxidation states for elements in compounds	3.1, 2.1
5. Calculate mass, moles and solution molarity using stoichiometric relations. Calculate theoretical yield and limiting reactant and calculate the percent yield for a reaction	3.1

Electronic structures and periodic properties of elements	
1. Derive the predicted ground-state electron configurations of atoms	3.1
2. Relate electron configurations to element classifications in the periodic table	3.1
3. Describe and explain the observed trends in atomic size, ionization energy, and electro affinity of the elements	3.1
Chemical bonding and molecular geometry	
1. Explain the formation of cations, anions and ionic compounds and predict the charge of common metallic and nonmetallic elements.	3.1
2. Describe formation of covalent bonds and define electronegativity and polarity of covalent bonds	3.1
3. Write Lewis symbols for neutral atoms and ions and draw Lewis structures depicting the bonding in simple molecules	3.1
4. Compute formal charges in any Lewis structure to identify the most reasonable Lewis structure	3.1
5. Predict the structures of small molecules using VSEPR theory. Predict polarity and dipole moment	3.1
Thermochemistry	
1. Define energy and describe the nature of energy changes in chemical and physical changes	3.1, 2.1
2. Define the related properties of heat, thermal energy, temperature, heat capacity and specific heat. Perform calculations involving heat, specific heat and temperature change.	3.1, 2.1
3. Calculate and interpret heat and related properties using typical calorimetry data	2.1, 2.9
4. State the first law of thermodynamics. Define enthalpy and explain its classification as a state function. Calculate enthalpy changes for various chemical reactions. Compute reaction enthalpies using Hess's law	3.1
5. Relate knowledge to everyday applications	3.1, 2.9, 2.1
6. Laboratory: Enthalpy. Calculation of heat capacity using a calorimeter	3.2, 4.1,4.4, 5.1, 5.10
Gases	
1. Define property of pressure and convert among the units of pressure measurements. Calculate pressure from manometer reading.	3.1
2. Use ideal gas law to compute the values of various gas properties under specified conditions. Computation of densities and molar masses.	3.1

3. Perform stoichiometric calculations involving gaseous substances and use Dalton's law of partial pressures for calculations involving gaseous mixtures	3.1
4. Define effusion and diffusion and use Graham's law to compute relevant gas properties	3.1
5. Use Kinetic-Molecular theory to explain the gas laws	3.1
6. Describe the physical factors that lead to deviations from ideal gas behavior	3.1
Liquids and solids, solutions and colligative properties	
1. Describe the different types of intramolecular forces in condensed phases	3.1
2. Define viscosity, surface tension can capillary rise	3.1, 2.9
3. Define phase transitions and relate them to intermolecular attractive forces. Interpret heating and cooling curves and compute heat flows and enthalpy changes	3.1, 2.1
4. Interpret phase diagrams and identify stable phases at given temperatures and pressures. Describe phase transitions.	3.1, 2.1
5. Define the bonding properties of ionic, molecular, metallic and covalent network in crystalline solids. Describe the arrangement of atoms and ions in crystalline structures	3.1, 2.1
6. Describe the basic properties of solutions and how they form. Explain why some solutions wither produce or absorb heat when they form.	3.1, 2.1
7. Define and give examples of electrolytes.	2.1,
8. Describe the effects of temperature and pressure on solubility and calculate solubility of a gas in a liquid using Henry's law.	2.1, 3.1
9. Express concentration of solution components using mole fraction and molality	2.1, 3.1
10. Describe the effect of the solute concentration on various solution properties and perform calculations using mathematical equations that describe colligative properties	2.1, 3.1
11. Describe the process of distillation and its practical applications.	3.1
12. Laboratory: Interpretation of thin layer chromatography and Freezing point depression	3.2, 4.1,4.4, 5.1, 5.10
Kinetics	
1. Define chemical reaction rate and derive rate expressions from chemical reactions. Calculate reaction rates from experimental data	2.8, 3.1

2. Describe the effects of chemical nature, physical state, temperature, concentration and catalysis on reaction rates	2.8, 3.1
3. Use rate laws to calculate reaction rates and identify reaction orders	2.8, 3.1
4. Perform integrated rate law calculations for 0, 1, 2^{nd} order reactions. Identify order of a reaction from concentration vs. time data	2.8, 3.1
5. Define half-life and carry out related calculations	2.8, 3.1
6. Define concepts of activation energy and transition state. Use the Arrhenius equation in calculations relating rate constants to temperature	2.8, 3.1
7. Distinguish net reactions from elementary reactions (steps) and derive the rate law with a given reaction mechanism	2.8, 3.1
8. Explain the function of a catalyst in terms of reaction mechanisms and potential energy diagrams and list examples of catalysis in natural and industrial processes.	2.1, 2.8
Fundamental equilibrium concepts	
1. Describe the nature of equilibrium systems and the dynamic nature of a chemical equilibrium.	2.1, 2.9, 3.1
2. Derive reaction quotients from chemical equations in homogeneous and heterogeneous reactions.	3.1
3. Calculate values of reaction quotients and equilibrium constants using concentrations and pressures	2.1, 2.9, 3.1
4. Predict the response of a stressed equilibrium using Le Chatelier´s principle	2.1, 2.9, 3.1
5. Write equations representing changes in concentration and pressure for chemical species in equilibrium systems.	3.1
6. Laboratory: determine the equilibrium constant for a soluble ionic system	3.2, 4.1,4.4, 5.1, 5.10
Acid- Base equilibrium	
1. Identify acids, bases, and conjugate acid-base pair according to the Bronsted-Lowry definition	2.1, 3.1
2. Explain the characterization of aqueous solution as acidic, basic or neutral and perform calculations relating pH and pOH	2.1,
3. Order substances in increasing strength of acidity or basicity.	3.1
4. Calculate equilibrium parameters for weak acid-base systems	2.1, 3.1
5. Predict acidity, basicity or neutrality of a salt solution	3.1
6. Describe the composition and functions of acid-base buffers and perform pH calculations for buffers before and after addition of acid or base	2.1, 3.1

7. Interpret titrations curves for strong and weak acid-base systems and compute sample pH at important stages of titration	2.1, 3.1
8. Laboratory: Acid-Base titrations	3.2, 4.1,4.4, 5.1, 5.10
Thermodynamics	
1. Distinguish between spontaneous and nonspontaneous processes	2.1, 3.1
2. Describe dispersal of matter and energy that accompanies certain spontaneous processes	2.1,
3. Define entropy and describe its relationship and the number of microstates. Predict the sign of the entropy change for chemical and physical processes	3.1
4. Calculate entropy changes for phase transitions and chemical reactions under standard conditions	3.1
5. Describe relation of Gibbs free energy to spontaneity. Calculate free energy change for a process using free energies of formation for its reactants and products,	3.1
6. Calculate free energy changes for a process using enthalpies of formation and the entropies for its reactants and products	3.1
7. Explain the effect of temperature in spontaneity of some processes.	2.1, 3.1
8. Relate standard free energy changes to equilibrium constants	3.1
Electrochemistry	
1. Split oxidation-reduction reactions into half reactions. Balance half reactions. Produced final balanced reaction. Identify oxidizing and reducing agents.	2.1, 3.1
2. Use cell notation to describe galvanic cells and describe the basic components of a galvanic cell	3.1
3. Determine standard cell potentials for redox reactions and analyze the meaning of the result	3.1
4. Relate cell potentials to free energy changes. Use the Nernst equation to compute cell potential at non-standard conditions.	3.1
5. Classify batteries and list some of the characteristics and limitations of batteries.	3.1, 2.9
6. Define corrosion and list methods to prevent or slow corrosion	2.9
7. Describe electrolytic cells and their relationship to galvanic cells and perform derived calculations.	2.1, 2.9, 3.1
Nuclear chemistry	
1. Describe nuclear structure in terms of protons, neutrons and electrons	3.1
2.Calculate mass defect and binding energy for nuclei and explain trends in the relative stability of nuclei	3.1
3. Identify common particles and energies involved in nuclear reactions. Write and balance nuclear equations.	3.1
4. Recognize common modes of radioactive decay. Write and balance nuclear decay reactions, calculate kinetic parameters for	3.1, 2.9

decay processes, including half-life and describe common radiometric dating techniques.	
5. Describe synthesis of transuranium nuclides. Explain nuclear fission and fusion processes.	3.1
6. List common applications of radioactive isotopes	2.9
7. Describe the biological impact of ionizing radiation. Define units for measuring radiation exposure and list common sources of radiation exposure in the US	2.1, 2.4, 2.9

IV. Spring 2022 Academic Calendars

CCNY https://www.ccny.cuny.edu/registrar/spring-2022-academic-calendar
(Note that the final exam schedule with this link is for the CCNY courses only. For the CSOM courses, please check your exam schedule within the course syllabus and/or in LEO.)

CSOM CSOM Academic Calendars

V. Textbooks/Articles

Chemistry. Paul Flowers, Klaus Theopold, Richard Langley, William R. Robinson. Open Stax

https://openstax.org/details/books/chemistry

VI. Course Requirements and Policies

A. Course Policies

Attendance policy: Attendance to all sessions: lecture, recitation and laboratory is essential for proper understanding and mastery of the course material. A student, absent from more than one lab, seriously jeopardizes his/her grade for the course. There are no make-up labs, which means that you will not receive any credit for any missed labs. Attendance will be taken during each lab.

Make-up policy: There will be no scheduled make-up exams or quizzes. A student who has missed an exam or a quiz should consult the instructor on the matter. Arrangements to take a missed quiz or exam must be made before the quiz or exam papers have been returned to the class, normally within 48 hours. If you are absent due to illness, please let the instructor know and provide a doctor´s note so that a make-up may be arranged.

B. Methods of Instruction

Lectures: Monday and Tuesday 12:00 -1:00 pm (NAC 1/201 and via Zoom) and Wednesday 12:00-1:45 pm (NAC 1/201 and via Zoom)

Recitations: Tuesday 4:00 – 4:50 pm at HH 013 (5EG) or Friday 11:00 – 11:50 am at HH 013 (AD). We will go over homework questions and students are encouraged to participate. Students are invited to answer homework questions and to ask questions regarding topics they do not understand.

Laboratory: Friday 8:00 am-11:00 am at Marshak 1007 (5AD) or Friday 1:00-4:00 pm at Marshak 1007 (5EG). There are a total of 5 labs and therefore, 5 lab reports will be due. Each group will be divided in two sections (A) and (B). That is, the class will be divided into 4 groups: 5AD A, 5AD B, 5EG A and 5EG B. Each section will be in lab on alternate weeks. So, while section A of one group is in the lab, section B of that group will be in workshop and vice-versa.

Workshops: Friday 8:00 am-10:50 am (5AD) (Online via Zoom) or Friday 3:00-5:50 pm (5EG) (Online via Zoom). In workshops, students work in groups solving organic chemistry problems. Students are encouraged to help each other. Groups of 4 to 6 students will meet via Zoom**.**

C. Methods of Assessment

Quizzes: There will be a total of 4 quizzes equally distributed throughout the course, for a total value of 22 % of your final grade. The quizzes contain material that is cumulative. The quizzes dates will be announced during lecture with at least a week in advance. Each quiz will be about 20 min long.

Laboratory: There are a total of 5 labs, 5 lab reports will be due. The lowest lab report grade will be dropped only if all 5 lab reports are submitted. If less than 5 labs are submitted the lowest lab grade will NOT be dropped. This will be worth 12% of your final grade.

Exams: Three exams, based on class lectures, each exam has a value of 22% of your final grade. Please see your tentative lecture schedule for dates.

Homework: Questions from your textbook will be posted on LCMS+. These should be used as a guide to your understanding of the lecture material. These questions will not be graded, and you should consult your instructor if you have any difficulties with these questions. Some of the homework questions will be discuss during recitation.

D. Grading Policy/Criteria for Passing/Remediation

4 Quizzes	22 %
Exam 1	22 %
Exam 2	22 %
Exam 3	22 %
5 Lab reports (lowest score dropped)	12 %

Grading Scale:

95-100	A+
90-94	A
87-89	A-
84-86	B+
80-83	B
77-79	B-
70-76	C
< 70	F

E. Course specific Exam and Exam Review Policy

Exam Policy

Students are expected to refrain from behavior that compromises the fairness of an exam as an instrument of evaluation for any and all members of the class at all times. Students may not engage in conduct which impairs the ability of fellow students to complete the exam without disturbance and they may not use any reference source, including other persons or material recorded in any form, or any data retrieval devices while the exam is in progress. Additionally, students are expected to adhere to Honor Code (see below). It is imperative that you respect and follow the direction of the proctors. Failure to do so is grounds for professional citation and dismissal.

I hereby affirm that I have neither given nor received unauthorized assistance during this examination. I acknowledge that the Code of Professional Conduct of CUNY School of Medicine stipulates that students may not cheat, plagiarize or assist others in the commission of these acts. I also acknowledge that the Code of Professional Conduct provides that students have a duty to report any breach of these ethics through appropriate channels.

Arriving at the exam: Each student is expected to be in place (seated) in time for the announced exam start time. Students who are more than 15 minutes late for the exam will not be admitted unless there is an excused absence. CUNY SOM has adopted the testing regulations of the NBME for all exams. The following items may not be brought into the exam room:

- iPads/tablets
- Cell phones
- Paging devices
- iPod, radio or media devices
- Calculators

- Recording/filming devices
- Beverages or food of any type
- Reference materials (books, notes, papers)
- Watches with alarms, computer, or memory capability
- Backpacks, briefcases, or luggage
- Coats, hats and head coverings (other than those worn for religious reasons)

Students will not be permitted to enter the test site with prohibited items.
In the event of a computer malfunction or a circumstance under which you are unable to continue with an exam due to testing site circumstances, the timing on the exam stops until the problem is resolved. Proctors remain on site until all students have finished their exams.

During the Exam: Students may not leave the exam room for any purpose other than to use the rest room. Each student will be provided with an exam answer sheet on which they may record their answer choices. These answer sheets will be collected at the end of the test and will be distributed during the Exam Review Session; students will not be allowed to use other than the provided scratch sheet(s). Upon completion of the exam, all scratch paper sheets must be turned in to a proctor. Students are not allowed to remove any notes taken during the exam from the exam room. Dissemination of exam content by any means is strictly forbidden.

Monitoring progress: After each lecture exam, students who have unsatisfactory performance will be notified via LCMS+. Generally, the student will have to meet with the course director to discuss what steps are required to improve performance.

Integrity: The highest ethical behavior is expected. In the unlikely event of use of an unauthorized material in an exam, quiz, etc. the student will receive a zero for that particular piece of work and conduct will be reported to the Ethics Committee.

Decorum: Please try to arrive 5 min before your scheduled time. Please have your cell phones, pagers, etc on mute. If you are late, please come in quietly and try not to disturb the class. Please note that during quizzes and exams when time is called you must stop all work, which includes bubbling in your name etc. Quizzes/exams of students who continue to work after time is called will NOT be graded and for that quiz/exam a score of zero will be recorded.

Exam Review Policy: Students can schedule an appointment with the course director to review their Exam up to three weeks after the grade for the exam has posted.

F. Course Specific Absence and Attendance Policy

Attendance to the lectures and recitation is not mandatory. Workshop and lab attendance is mandatory.

G. Reassessment Policy:

There will be **NO** reassessment under any circumstances.

H. Respect for diversity syllabus statements

We feel strongly this course should foster an inclusive, supportive environment for students from all backgrounds and perspectives. We value the diversity that students bring to the classroom experiences, and view this as a strength and a benefit, particularly when we partner in the care of *patients* from diverse backgrounds.

It is our intent to provide learning experiences that are respectful of diversity including, but not limited to: gender identity and expression, sexuality, disability, age, socioeconomic status, ethnicity, race, and religion. We welcome your suggestions and feedback, and will do our best to foster a safe, respectful environment in which open dialogue is encouraged.

If an experience during the course causes you discomfort or offense, we hope you will consider one of the following avenues to bring this to our attention:

(1) Discuss the situation with your course director privately. We are always open to arranging one-on-one meetings and to hearing about your experiences / concerns. We will work together to find acceptable ways to process and address the issue(s).

(2) Discuss the situation with the group. One or more of your colleagues may have had a similar experience, and this could generate valuable discussion. Please reach out to us if you're not sure *when* would be best to bring up a group discussion (such as before or after a didactic session), or *whether* your issue is better suited to group discussion versus a private conversation.

(3) If for any reason you do not feel comfortable discussing your experience with us directly, please consider reaching out to a trusted source such as your medical student advisor, Associate Dean for Student Affairs, Assistant Dean for Diversity and Inclusion, or another faculty member,or a peer.

I. Learning Resource Center Study Aids:

Tutoring available through the Learning Resource Center (LRC)

Aandon@med.cuny.edu
jrichards@med.cuny.edu

VI. School Wide Policies and Procedures

CUNY School of Medicine Student Handbook

A. Recording of Remote Classes

- All students registered in the class should be notified about Zoom recording no

later than the beginning of the first class session.

- CUNY does not permit a student to record a class unless such recording is permitted by college policy, the student has written permission from the instructor or the student has an approved disability accommodation to record class activity.
- During the first session of the course, the following or a substantially similar announcement must be made to enrolled students in the syllabus and and verbally at the opening of the first class session:

Students who participate in this class with their camera on or use a profile image are agreeing to have their video or image recorded solely for the purpose of creating a record for students enrolled in the class to refer to, including those enrolled students who are unable to attend live. If you are unwilling to consent to have your profile or video image recorded, be sure to keep your camera off and do not use a profile image. Likewise, students who un-mute during class and participate orally are agreeing to have their voices recorded. If you are not willing to consent to have your voice recorded during class, you will need to keep your mute button activated and communicate exclusively using the "chat" feature, which allows students to type questions and comments live.

- If a class session is being recorded, to ensure the integrity of the recording, the instructor should read aloud all content from students submitted using the "chat" feature.

B. https://med.catalog.cuny.edu/bsprogram/exam Exam Proctoring Policy
Students enrolling in this section of this course should be aware that the instructor may choose to require your computer's camera on during examinations and may choose to use proctoring software during exams.

C. Accommodations For Students With Disabilities

The Office of Student Disability Services (CCNY AAC/SDS) provides a supportive environment for students with disabilities and can be helpful in arranging student accommodations, support services, and academic adjustments. Please contact Yonnie Harris (Access Specialist for CUNY School of Medicine, - yharris@ccny.cuny.edu) early in the semester to schedule an appointment. If after meeting with SDS it is determined that you would benefit from in-class accommodations, the office will ask you to bring the Course Director an Academic Adjustment Memo that specifies the nature of the accommodations.

D. Policy on Academic Integrity

Students are expected to behave in an ethical manner and to abide by all applicable policies. Unethical behavior by students will be responded to according to Departmental and University policies. Students caught cheating, plagiarizing, obtaining an unfair advantage or falsifying records and official documents, will be subject to strict disciplinary actions by the school which can range from failure of a course to expulsion from the school.

E. Honor Code/Plagiarism Policy

Policy on Academic Dishonesty:

This course recognizes and endorses the CSOM Student Code of Honor. Course faculty share your commitment to creating an environment that fosters professionalism in our educational community.

Students will be asked to sign an honor code at the conclusion of exams stating that they have neither given nor received assistance on the examination and that they have no knowledge of others having done so. If the Course Director is made aware of cheating in any form either by a specific individual or at the class level, the matter will be referred to SAPC for investigation. Students found to have practiced academic dishonesty or unprofessional behavior as defined in the SAPC procedural manual will receive a failing grade in the course.

F. Absence Policy

Students who miss mandatory sessions must follow the CSOM Absence policy to report their absence to the course director and to absence@med.cuny.edu. The absence policy can be found in the course LEO site and in the CSOM Student Handbook. For course specific absence policy, please see the section VI F above.

G. EQUITY AND INCLUSION POLICY

It is my intent that students from all diverse backgrounds and perspectives be well served by this course, that students' learning needs be addressed both in and out of class, and that the diversity that students bring to this class be viewed as a resource, strength and benefit. It is my intent to present materials and activities that are respectful of diversity: gender, sexuality, disability, age, socioeconomic status, ethnicity, race, and culture. Your suggestions are encouraged and appreciated. Please let me know ways to improve the effectiveness of the course for you personally or for other students or student groups. In addition, if any of our class meetings conflict with your religious events, please let me know so that we can make arrangements for you.

H. Teacher-Learner Expectations

(AAMC Teacher-Learner Expectations)

The School holds in high regard professional behaviors and attitudes,

including altruism, integrity, respect for others and a commitment to excellence. Effective learning is best fostered in an environment of mutual respect between teachers and learners. In the context of medical education, the term "teacher" is used broadly to include peers, resident physicians, full-time and volunteer faculty members, clinical preceptors, nurses, and ancillary support staff, as well as others from whom students learn.

GUIDING PRINCIPLES:

Duty: Medical educators have a duty to convey the knowledge and skills required for delivering the profession's standard of care and also to instill the values and attitudes required for preserving the medical profession's social contract with its patients.

Integrity: Learning environments that are conducive to conveying professional values must be based on integrity. Students and residents learn professionalism by observing and emulating role models who epitomize authentic professional values and attitudes.

Respect: Respect for every individual is fundamental to the ethic of medicine. Mutual respect is essential for nurturing that ethic. Teachers have a special obligation to ensure that students and residents are always treated respectfully.

RESPONSIBILITIES OF TEACHERS AND LEARNERS:

Teachers should:

- Treat students fairly and respectfully
- Maintain high professional standards in all interactions
- Be prepared and on time
- Provide relevant and timely information
- Provide explicit learning and behavioral expectations early in a course or clerkship
- Provide timely, focused, accurate and constructive feedback on a regular basis and thoughtful and timely evaluations at the end of a course or clerkship
- Display honesty, integrity and compassion
- Practice insightful (Socratic) questioning, which stimulates learning and self-discovery, and avoid overly aggressive questioning which may be perceived as hurtful, humiliating, degrading or punitive
- Solicit feedback from students regarding their perception of their educational experiences
- Encourage students who experience mistreatment or who witness unprofessional behavior to report the facts immediately

Students should:

- Be courteous of teachers and fellow students
- Be prepared and on time
- Be active, enthusiastic, curious learners
- Demonstrate professional behavior in all settings

- Recognize that not all learning stems from formal and structured activities
- Recognize their responsibility to establish learning objectives and to participate as an active learner
- Demonstrate a commitment to life-long learning, a practice that is essential to the profession of medicine
- Recognize personal limitations and seek help as needed
- Display honesty, integrity and compassion
- Recognize the privileges and responsibilities coming from the opportunity to work with patients in clinical settings
- Recognize the duty to place patient welfare above their own
- Recognize and respect patients' rights to privacy
- Solicit feedback on their performance and recognize that criticism is not synonymous with "abuse"

Relationships between Teachers and Students:

- Students and teachers should recognize the special nature of the teacher-learner relationship which is in part defined by professional role modeling, mentorship, and supervision.
- Because of the special nature of this relationship, students and teachers should strive to develop their relationship to one characterized by mutual trust, acceptance and confidence.
- They should both recognize the potential for conflict of interest and respect appropriate boundaries.

J. DEFINITION POLICY AND PROCEDURE FOR REPORTING MISTREATMENT

Certain behaviors are clearly antithetical to a productive learning environment and are classified as mistreatment of students. Mistreatment of students includes but is not limited to disclosing confidential student information; public humiliation and other actions that can be reasonably interpreted as demeaning or humiliating; sexual harassment (including unwelcome sexual remarks or jokes); inappropriate comments about student's dress, ethnicity or sexual orientation; physical aggression (including pushing, shoving, or other intentional inappropriate physical contact) or the threat of physical aggression; unjustified exclusion from reasonable learning opportunities; and other unfair treatment of students. Mistreatment of students can result in disciplinary action of the offender. These policies as outlined are in compliance with the CCNY Academic Affairs Integrity Process and are not meant to supersede or supplant CUNY policy.

All reports of alleged mistreatment will be monitored and tracked by the Office of Student Affairs by the procedures described below:

Contemporaneous allegations of mistreatment/unprofessional behavior

If students encounter mistreatment and/or unprofessional behavior, it must be addressed immediately. They have non-anonymous and anonymous mechanisms to report mistreatment/unprofessional behavior.

Non-Anonymous reporting: Students may talk to the course/clerkship director, who will try to resolve the issue. The course or clerkship director will report the issue to the Office of Student Affairs. If the course/clerkship director is unable to resolve the issue, the student and/or the course/clerkship director will report it to the Office of Student Affairs. The student always has the option to report directly to the Office of Student Affairs, either in person or via email at the address mistreatment@med.cuny.edu . The Office of Student Affairs will report issues to the appropriate course/clerkship director, the department chair, and the Assistant Dean charged with that area of the curriculum to investigate and address. When the issue is resolved, a report will be made to the Office of Student Affairs.

Anonymous reporting: Students may report instances of mistreatment via an online reporting system (REPORTING MISTREATMENT). They will have the option to provide their name, or they may report anonymously. The Office of Student Affairs monitors and reports issues to the appropriate course/clerkship director, the department chair, and/or the Assistant Dean charged with that area of the curriculum to investigate and address. When the issue is resolved, a report will be made to the Office of Student Affairs.

Course/clerkship directors must report allegations of mistreatment/ unprofessional behavior as soon as possible, but no more than five working days after the report.

Allegations of mistreatment/unprofessional behavior reported in end-of-experience evaluations

Students are asked explicitly about their experiences with mistreatment and unprofessional behavior in every course, clerkship, and clinical experience evaluation. Reported instances are highlighted and given immediately to the course/clerkship director, appropriate personnel at the site of the mistreatment/unprofessional behavior, the Assistant Dean charged with that area of the curriculum, the department chair and the Office of Student Affairs. The Office of Student Affairs is charged with ensuring the issue is addressed in a timely fashion.

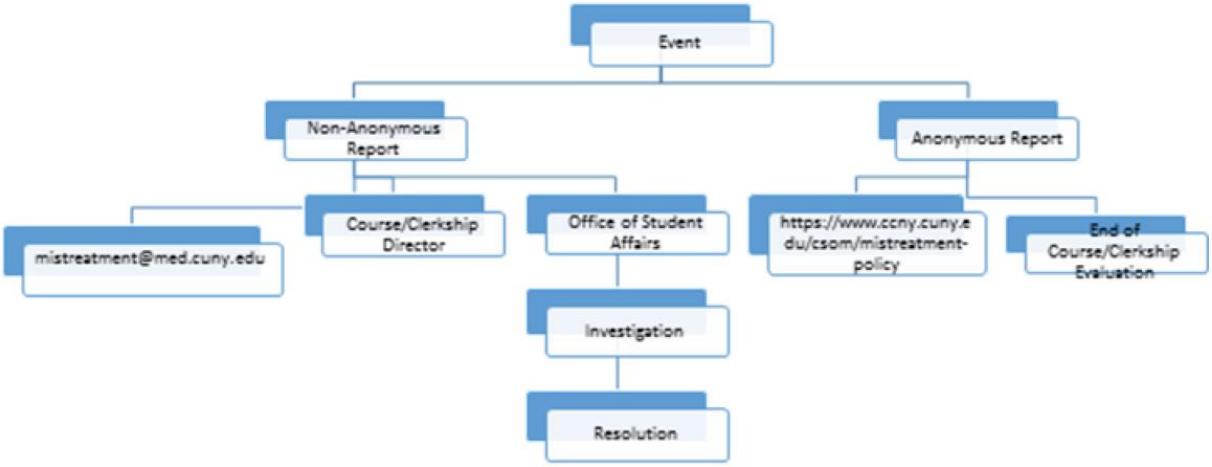
Resolutions of allegations of mistreatment/unprofessional behavior

Those engaging in mistreatment/unprofessional behavior may be disciplined, up to and including removal from the teaching responsibilities at CUNY School of Medicine. Determination of consequences that may arise from mistreatment will be the responsibility of the course or clerkship directors, Assistant Dean charged with that area of the curriculum, site directors at clinical sites, and/or the department chair. Students who engage in mistreatment/unprofessional behavior will be referred to the Office of Student Affairs, and may face disciplinary proceedings through the Student Academic Progress Committee.

CUNY Policy for Student Complaints about Faculty Conduct

Students may always use the CUNY policy for complaints about faculty conduct in academic settings, found here: [CUNY Reporting of Alleged Misconduct]

Procedure for Reporting Mistreatment/Unprofessional Behavior is shown in the figure below:



MED 102 Spring Schedule

Mandatory Sessions are marked YES

Unit	*Date*	*Topic*	*Instructor*	*Instructional Method*	*Location*	Mandatory
1	1/31/2022	Introduction to the Course-Matter and Measurement	J. Cobo	Lecture	NAC 1/201	
2	2/1/2022	Atoms and the Periodic Table	J. Cobo	Lecture	NAC 1/201	
3	2/2/2022	Atoms and the Periodic Table (continued)	J. Cobo	Lecture	NAC 1/201	
4	2/7/2022	Composition of Substances and Solutions	J. Cobo	Lecture	NAC 1/201	
5	2/8/2022	Composition of Substances and Solutions (continuation)	J. Cobo	Lecture	NAC 1/201	
6	2/8/2022	Recitation 1	J. Cobo	Recitation	HH 13	
7	2/9/2022	Stoichiometry of Chemical Reactions	J. Cobo	Lecture	NAC 1/201	
8	2/11/2022	Recitation 1	J. Cobo	Recitation	HH 13	
9	2/15/2022	Stoichiometry of Chemical Reactions (continued)	J. Cobo	Lecture	NAC 1/201	
10	2/15/2022	Recitation 2	J. Cobo	Recitation	HH 13	
11	2/16/2022	Stoichiometry of Chemical Reactions (continued)	J. Cobo	Lecture	NAC 1/201	
12	2/18/2022	Lab 1: Stoichiometric calculations, Identify an unknown	E. Doucet	Lab	MR1007	YES
13	2/18/2022	Workshop #1	J. Cobo	Workshop	Online	YES
14	2/18/2022	Recitation 2	J. Cobo	Recitation	HH 13	
15	2/18/2022	Lab 1: Stoichiometric calculations, Identify an unknown	E. Doucet	Lab	MR1007	YES
16	2/18/2022	Workshop #1	J. Cobo	Workshop	Online	YES
17	2/21/2022	Electronic Structures and Periodic Properties of Elements	J. Cobo	Lecture	NAC 1/201	
18	2/22/2022	Electronic Structures and Periodic Properties of Elements (continued)	J. Cobo	Lecture	NAC 1/201	
19	2/22/2022	Recitation 3	J. Cobo	Recitation	HH 13	
20	2/23/2022	Chemical Bonding and Molecular Geometry	J. Cobo	Lecture	NAC 1/201	
21	2/25/2022	Lab 1: Stoichiometric calculations, Identify an	E. Doucet	Lab	NAC 1/201	

		unknown				
22	2/25/2022	Workshop #1	J. Cobo	Workshop	Online	YES
23	2/25/2022	Lab 1: Stoichiometric calculations, Identify an unknown	E. Doucet	Lab	NAC 1/201	
24	2/25/2022	Workshop #1	J. Cobo	Workshop	Online	YES
25	2/25/2022	Recitation 3	J. Cobo	Recitation	HH 13	
26	2/28/2022	Chemical Bonding and Molecular Geometry (continued)	J. Cobo	Lecture	NAC 1/201	
27	3/1/2022	Thermochemistry	J. Cobo	Lecture	NAC 1/201	
28	3/1/2022	Recitation 4	J. Cobo	Recitation	HH 13	
29	**3/2/2022**	**Exam 1**	**J. Cobo**	**Exam**	**Fishbowl**	**YES**
30	3/4/2022	Lab 2: Titration: Neutralize an acid lake contamination	E. Doucet	Lab	MR1007	YES
31	3/4/2022	Workshop #2	J. Cobo	Workshop	Online	YES
32	3/4/2022	Lab 2: Titration: Neutralize an acid lake contamination	E. Doucet	Lab	MR1007	YES
33	3/4/2022	Workshop #2	J. Cobo	Workshop	Online	YES
34	3/4/2022	Recitation 4	J. Cobo	Recitation	HH 13	
35	3/7/2022	Thermochemistry (continued)	J. Cobo	Lecture	NAC 1/201	
36	3/8/2022	Gases	J. Cobo	Lecture	NAC 1/201	
37	3/8/2022	Recitation 5	J. Cobo	Recitation	HH 13	
38	3/9/2022	Gases (continued)	J. Cobo	Lecture	NAC 1/201	
39	3/11/2022	Lab 2: Titration: Neutralize an acid lake contamination	E. Doucet	Lab	MR1007	YES
40	3/11/2022	Workshop #2	J. Cobo	Workshop	Online	YES
41	3/11/2022	Lab 2: Titration: Neutralize an acid lake contamination	E. Doucet	Lab	MR1007	YES
42	3/11/2022	Workshop #2	J. Cobo	Workshop	Online	YES
43	3/11/2022	Recitation 5	J. Cobo	Recitation	HH 13	
44	3/14/2022	Gases (continued)	J. Cobo	Lecture	NAC 1/201	
45	3/15/2022	Liquids and Solids	J. Cobo	Lecture	NAC 1/201	

46	3/15/2022	Recitation 6	J. Cobo	Recitation	HH 13	
47	3/16/2022	Liquids and Solids (continued)	J. Cobo	Lecture	NAC 1/201	
48	3/18/2022	Lab 3: Ionic and Covalent Bonds	E. Doucet	Lab	MR1007	YES
49	3/18/2022	Workshop #3	J. Cobo	Workshop	Online	YES
50	3/18/2022	Lab 3: Ionic and Covalent Bonds	E. Doucet	Lab	MR1007	YES
51	3/18/2022	Workshop #3	J. Cobo	Workshop	Online	YES
52	3/18/2022	Recitation 6	J. Cobo	Recitation	HH 13	
53	3/21/2022	Kinetics	J. Cobo	Lecture	NAC 1/201	
54	3/22/2022	Kinetics (continued)	J. Cobo	Lecture	NAC 1/201	
55	3/22/2022	Recitation 7	J. Cobo	Recitation	HH 13	
56	3/23/2022	Kinetics (continued)	J. Cobo	Lecture	NAC 1/201	
57	3/25/2022	Lab 3: Ionic and Covalent Bonds	E. Doucet	Lab	MR1007	YES
58	3/25/2022	Workshop #3	J. Cobo	Workshop	Online	YES
59	3/25/2022	Lab 3: Ionic and Covalent Bonds	E. Doucet	Lab	MR1007	YES
60	3/25/2022	Workshop #3	J. Cobo	Workshop	Online	YES
61	3/25/2022	Recitation 7	J. Cobo	Recitation	HH 13	
62	3/28/2022	Fundamental Equilibrium Concepts	J. Cobo	Lecture	NAC 1/201	
63	3/29/2022	Lecture	J. Cobo	Lecture	NAC 1/201	
64	3/29/2022	Recitation 8	J. Cobo	Recitation	HH 13	
65	3/30/2022	Acid-base Equilibrium	J. Cobo	Lecture	NAC 1/201	
66	4/1/2022	Lab 4: Reaction Kinetics	E. Doucet	Lab	MR1007	YES
67	4/1/2022	Workshop #4	J. Cobo	Workshop	Online	YES
68	4/1/2022	Lab 4: Reaction Kinetics	E. Doucet	Lab	MR1007	YES
69	4/1/2022	Workshop #4	J. Cobo	Workshop	Online	YES
70	4/1/2022	Recitation 8	J. Cobo	Recitation	HH 13	
71	4/4/2022	Acid-base Equilibrium II	J. Cobo	Lecture	NAC 1/201	

72	4/5/2022	Acid-base Equilibrium III	J. Cobo	Lecture	NAC 1/201	
73	4/5/2022	Recitation 9	J. Cobo	Recitation	HH 13	
74	4/6/2022	Thermodynamics	J. Cobo	Lecture	NAC 1/201	
75	4/8/2022	Lab 4: Reaction Kinetics	E. Doucet	Lab	MR1007	YES
76	4/8/2022	Workshop #4	J. Cobo	Workshop	Online	YES
77	4/8/2022	Lab 4: Reaction Kinetics	E. Doucet	Lab	MR1007	YES
78	4/8/2022	Workshop #4	J. Cobo	Workshop	Online	YES
79	4/8/2022	Recitation 9	J. Cobo	Recitation	HH 13	
80	4/11/2022	Thermodynamics (continued)	J. Cobo	Lecture	NAC 1/201	
81	4/12/2022	Thermodynamics III	J. Cobo	Lecture	NAC 1/201	
82	4/12/2022	Recitation 10	J. Cobo	Recitation	HH 13	
83	**4/13/2022**	**Exam 2**	**J. Cobo**	**Exam**	**Fishbowl**	**YES**
84	4/25/2022	Electrochemistry	J. Cobo	Lecture	NAC 1/201	
85	4/26/2022	Electrochemistry (continued)	J. Cobo	Lecture	NAC 1/201	
86	4/26/2022	Recitation 11	J. Cobo	Recitation	HH 13	
87	4/27/2022	Electrochemistry (continued)	J. Cobo	Lecture	NAC 1/201	
88	4/29/2022	Lab 5: Equilibrium	E. Doucet	Lab	MR1007	YES
89	4/29/2022	Workshop #5	J. Cobo	Workshop	Online	YES
90	4/29/2022	Lab 5: Equilibrium	E. Doucet	Lab	MR1007	YES
91	4/29/2022	Workshop #5	J. Cobo	Workshop	Online	YES
92	4/29/2022	Recitation 10	J. Cobo	Recitation	HH 13	
93	5/2/2022	Electrochemistry (continued)	J. Cobo	Lecture	NAC 1/201	
94	5/3/2022	Electrochemistry (continued)	J. Cobo	Lecture	NAC 1/201	
95	5/4/2022	Nuclear Chemistry	J. Cobo	Lecture	NAC 1/201	
96	5/6/2022	Lab 5: Equilibrium	E. Doucet	Lab	NAC 1/201	
97	5/6/2022	Workshop #5	J. Cobo	Workshop	Online	YES

98	5/6/2022	Lab 5: Equilibrium	E. Doucet	Lab	MR1007	YES
99	5/6/2022	Workshop #5	J. Cobo	Workshop	Online	YES
100	5/6/2022	Recitation 11	J. Cobo	Recitation	HH 13	
101	5/9/2022	Nuclear Chemistry (continued)	J. Cobo	Lecture	NAC 201	
102	5/10/2022	Nuclear Chemistry (continued)	J. Cobo	Lecture	NAC 1/201	
103	5/11/2022	Nuclear Chemistry (continued)	J. Cobo	Lecture	NAC 1/201	
104	**5/17/2022**	**Exam 3**	**J. Cobo**	**Exam**	**Fishbowl**	**YES**