DRAFT

CHM 101 Syllabus
Fall Semester 2019
Lecture: Tuesday-Thursday 9:00 – 10:15 AM in BCLS 140

Instructor: Dr. Richard Bauer
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Email: rbauer@asu.edu (put "CHM 101" in subject line to ensure delivery)
Course Web Site: Canvas
Office Hours: Tuesdays and Wednesdays, 10:30-noon; other times by appointment

Lab Manager: Shannon Mullarkey
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Course Description

Welcome to Chemistry 101 at Arizona State University. Chemistry 101 is an introduction to chemistry covering chapters 1-13 in *Introduction to Chemistry, 5th Edition by Bauer, Birk, and Marks*. This course will cover the nature of atoms and elemental substances, the combination of atoms to form molecules and compounds, the interactions between atoms and molecules, chemical bonding models, relationships between chemical and physical properties, solutions, and a brief overview of energy, kinetics, equilibrium, and acids and bases. The class schedule shows the organization of the course. There will be an emphasis on conceptual understanding at both the macroscopic level and the molecular level.

The study of chemistry can be an exciting and rewarding experience when there is a joint effort among the students and the instructors to improve learning. Learning chemistry can be a challenge – you are confronted with a new language (terminology and symbolism) and you must synthesize new ideas while integrating your previous understanding of math and science. Success is a matter of exposure and practice. Learn to use your text properly by staying half a chapter ahead of your instructor and re-reading sections that you find confusing. After class meetings, read the pertinent sections again. It may take several readings to understand the material. A complete list of learning objectives can be found in the "Exam Information" folder in Canvas.

You are responsible for knowing all of the information in this syllabus—please read it carefully!

Required Materials

- *Introduction to Chemistry, 5th Edition (Access Card),* Bauer, Birk and Marks, 2019, McGraw-Hill
  The listing of textbooks from the schedule of classes and the bookstore website is rather confusing. I use the textbook extensively in this course, so you really must have some version of the text to be successful in this class. There are several options available:
  - The cheapest version of the text is the ebook access card (Connect) which includes the required online homework. The access code is available directly from the publisher for $97.
  - From the bookstore, you can purchase the new, loose-leaf package that comes with the access code for the required online homework. This code also gives you access to the electronic version of the textbook, Connect. If you want a print, loose-leaf version of the text, a cheaper option is available directly from the publisher. With a purchased access code, the publisher sells the loose-leaf text for $25 through the course Connect site.
  - You could purchase a 5th or older version of the text through a company like Amazon. An older version may be cheaper, but keep in mind that you will have to purchase a 5th edition access card for the online homework system.

- *Laboratory Inquiry in Chemistry, 3rd Edition*, Bauer, Birk, & Sawyer, 2008, Cengage, "Intro Chemistry Labs" with lab notebook. Custom bundle available at the bookstore or through the publisher web page. You can also purchase a digital version of the lab manual for $55 directly from the publisher.
- Splash-proof goggles and a lab coat for laboratory work
- PowerPoint Presentation Notes are available on Canvas. Bring these to class with you.
- A good calculator capable of basic math and exponential functions will be needed for homework, quizzes, and exams. Bring a calculator to all lectures, recitations, and lab sessions
- *Optional:* Student Solutions Manual to Accompany "Introduction to Chemistry (SSM)"

Canvas Website

If you registered for this class, you are automatically enrolled as a Canvas user for CHM 101. The CHM 101 course should appear as a link in the *My Classes* when you login to MyASU. This site contains lecture notes, worksheets, old exam questions, answer keys, recitation activities, and other useful information. Note that the university academic success office might also have a Canvas shell associated with this class. This site is separate from the official CHM 101 course site maintained by the instructors.

Course Meetings

All students are required to be enrolled in three course components: lecture, recitation, and lab. All of these components are different in format, and all three are crucial to mastery in the course. Instructors and instructional aides are responsible for the recitation and lab periods during the meeting times below:

Course	***Day***	***Time***	***Room***	***Component Instructor***
CHM 101 (Lecture)	Tu Th	9:00 am – 10:15 am	BCLS 140	R. Bauer
CHM 101 (Recitation)	T	3:00 pm – 4:15 pm	MERCC C230	Mostrom Lindsay, Bryan Logan
CHM 101 (Recitation)	W	12:15 pm – 1:30 pm	UCENT 234	Henderson, DeBrigida, Tonn
CHM 101 (Recitation)	W	3:05 pm – 4:20 pm	UCENT 279	DeBrigida, Gibson, Hoek
CHM 101 (Recitation)	F	12:15 pm – 1:30 pm	UCENT 234	Niemeier, Ostaszewski, Mostrom
CHM 101 (Lab)	M	9:40 am – 11:30 am	UCENT 375	Tonn, Lauren
CHM 101 (Lab)	M	9:40 am – 11:30 am	UCENT 360B	Hilliard, Hope
CHM 101 (Lab)	M	4:10 pm – 6:00 pm	UCENT 379	Hoek, Katherijn
CHM 101 (Lab)	M	6:20 pm – 8:10 pm	UCENT 375	Feld, Jett
CHM 101 (Lab)	T	10:30 am – 12:20 pm	UCENT 379	Heyza, Mairead
CHM 101 (Lab)	T	12:30 am – 2:20 pm	UCENT 379	Mostrom, Lindsay
CHM 101 (Lab)	W	7:30 am – 9:20 am	UCENT 379	Hewlett, Jessica
CHM 101 (Lab)	W	9:40 am – 11:30 am	UCENT 379	Henderson, Emmilee
CHM 101 (Lab)	Th	6:30 pm – 8:20 pm	UCENT 379	Henderson, Emmilee
CHM 101 (Lab)	F	7:30 am – 9:20 am	UCENT 360C	Heyza, Mairead
CHM 101 (Lab)	F	9:40 am – 11:30 am	UCENT 360C	Hilliard, Hope

Course Grading

Assignment	**Points**
Midterm Exams (4)	400
Final Exam	200
Lecture Quizzes	50
Recitation	120
Online Homework	50
Laboratory	180
TOTAL	1000

Grade Average	**Letter Grade***
88-100	A (Excellent)
76-87.9	B (Good)
64-75.9	C (Average)
52-63.9	D (Passing)
Below 52	E (Failure)
	XE (Failure due to academic dishonesty)

*Since your grade in this course is not curved, you will not be affected by the performance of others. You should therefore be encouraged to participate in study groups, help your fellow classmates, and actively participate in your recitation and lab sections.

To calculate your course grade at any point during the semester, simply determine your overall percentage for each assignment type and use the following formula:

$$\text{Course Grade} = \frac{6}{10} \times (\text{Exam \%}) + \frac{1.8}{10} \times (\text{Lab \%}) + \frac{1.2}{10} \times (\text{Rec \%}) + \frac{0.5}{10} \times (\text{HW \%}) + \frac{0.5}{10} \times (\text{Lec Quiz \%})$$

Note that 60% of your final grade is based on exam performance. Although the other components of the course are important, you might consider the weight of exams in determining your time investment in this class.

- ***Exams***
  - ***Midterm Exams (400 points):*** Four 100-point exams will be given during the regular semester. Midterm exams will consist of multiple-choice questions. Scantron forms will be provided. In general, only material covered since the last exam will be included. However, because the course content builds through the semester and the final is cumulative, you shouldn't forget what you've learned. **No exams will be dropped.**
  - ***Final Exam (200 points):*** The final exam will consist of 50 multiple choice questions worth 4 points each. The final exam is cumulative and will cover material from Exams 1-4 in addition to content presented during the last lecture. **If you take all four midterm exams and the final exam, you qualify for the "Resurrection Final."** If your final exam percentage is better than one of your midterm exams, I will replace your lower exam score with your final exam percentage. **The final exam is not optional!**
  - ***Missed Exams:*** An alternate exam may be administered **prior** to the scheduled time only in cases where travel for university-sanctioned function which cannot be rescheduled and interferes with an exam date. If such plans do interfere with an exam date, then it is your responsibility to schedule an alternate exam date prior to the scheduled date. This alternate date must be finalized at least two weeks prior to the scheduled exam date. You must show documentation from the appropriate university official for an early exam to be administered. An alternate exam will not be administered after the original exam date. In cases of sudden illness or unanticipated emergency that prevents you from attending a scheduled exam, the final exam percentage will be substituted. This option can only be exercised once and requires documentation for the absence. A second missed exam will be scored as a zero. Because all exam dates are scheduled at the beginning of the semester, personal travel, work schedules, traffic, etc. do not constitute grounds for a substitution. There are **NO** dropped exams! Please come see me if you have any questions about these policies. Keep in mind that if you end up taking an early exam, you will not benefit from the lecture material and recitation activities that have been planned to help you with the material.

- ***Lecture Quizzes (50 points):*** Lecture quizzes will not be announced and will be given during lecture periods. These typically consist of group activities to be performed with your lab or recitation partners. Because quiz assignments may vary, it is in your best interest to attend every class. Lecture quizzes will be worth 5 points each and must be turned in before the end of the lecture period in which they are assigned. There will be many quizzes throughout the semester, and your lowest two scores will be dropped. If you attend every lecture and participate in the activity or discussion of the day, there is no reason why you shouldn't end up with the full 50 points for the semester. The final lecture quiz grade will be adjusted to a total of 50 points (5% of your overall grade).

- ***Recitation Work (120 points):*** These group activities will be performed in the recitation period. Your recitation instructors will describe the format of this class component in more detail at your first meeting. Although the activities are designed to be completed on their own, it would greatly benefit

you to bring your textbook to use as a reference. The activities will be provided for you when you arrive and turned in at the end of every recitation period. Answer keys for these assignments will be posted when all recitations for the week have met. Any suggested reading for the following recitation period will be announced at the end of each session. The final recitation grade will be adjusted to a total of 120 points (12% of your overall grade).

- ***Online Homework (50 points):*** Online homework assignments, which include the *LearnSmart* activities, will be assigned through *Connect*. Your license to use the system is included with your access code. Solving problems regularly outside of class time is one of the single best ways to succeed in this course. For additional practice in the textbook, it is strongly recommended that you complete all the in-chapter exercises and sample problems as well as some additional problems at the end of each chapter. Solutions to many of these exercises can be found in your textbook and the optional solutions manual. Online homework assignments will be scaled to 5 points each and will be graded according to the percentage earned. A score of 80% or above will earn 5 points, 60 to 79% will earn 4 points, 40 to 59% will earn 3 points, and so forth. The final homework grade will be adjusted to a total of 50 points (5% of your overall grade). Online homework can only be accessed through the following URL:

  https://connect.mheducation.com/class/r-bauer-fall-2019-chm-101

- ***Laboratory Work (180 points):*** In addition to the normal lecture periods each week, you have enrolled in a laboratory section that consists of 1 hour and 50 minutes of lab time. Your final grade in the lab will be based on several factors including submission of the lab reports, prelab assignments, lab notebook, poster and presentation, attendance, class participation, and complying with safety rules. These are mandatory sessions and are subject to the expectations outlined in the attendance policy below. Your lab grade will be assigned as follows: 10 points per lab report, 10 points for the lab notebook, 20 points for the presentation/poster session, and 10 points for lab instructor evaluation based on your conduct in the laboratory. The final lab grade will be adjusted to a total of 180 points (18% of your overall grade).

  - ***Pre-labs:*** Since there is a limited amount of time to complete the investigations, some preparation on your part will be required outside of class. Important ideas are highlighted in pre-lab exercises. These exercises will be posted on Canvas the week before the lab is performed, and should be completed BEFORE you enter the lab. **Without a completed pre-lab you may not enter the laboratory. Labs begin on time. Late arrivals will not be allowed into the lab.**

  - ***Lab Reports:*** At the beginning of the semester, you will be assigned to a group within which you will complete the lab investigations and write your lab reports. Each member of the group is required to make an equal contribution to efforts for which you will receive credit. Evaluations of contribution will be submitted by each member of the group along with your reports. These evaluations can be found in your lab manual directly following each investigation and are a part of your report grade. (You must submit a contribution form to receive credit for the lab report.) Contribution forms will not be accepted late. Your group is responsible for resolving issues of unequal contributions. If you are unable to do so, inform your lab instructor. Lab grades will be adjusted according to efforts contributed by each group member. Part of working in a lab environment is learning to work with new people that may do things differently than you. Your lab group will be chosen carefully by the lab instructor and will not be changed. Please do not complain to your lab instructor about your group members unless you are unable to come to an understanding on your own. A simple discussion is usually sufficient to resolve most issues.

    Your lab group will be expected to write lab reports for most investigations. Each report submitted must include the course (CHM 101), your lab instructor's name, the day and time you have lab, the names of all group members that contributed to the report, the date the report is submitted, and the investigation number and title. The reports must be typed and grammatically correct. The report will be graded on discussion of relevant chemistry, thoroughness, grammar,

style, and appropriate format at the discretion of your lab instructor. If you are inexperienced at writing lab reports, you may want to check out one or more of the resources available online to assist in writing good reports (for example, see: http://writingcenter.unc.edu/handouts/scientific-reports/).

Completed laboratory reports and contribution forms are due by **5:00 p.m. two business days after you complete the laboratory work**. However, if during the semester your usual laboratory due date falls on the day of an exam, you have an additional working day to complete the work. Submit your written lab reports to the appropriate location in UCENT 360. If you submit a report deemed unacceptable, you are required to rewrite it. The flow chart later in this syllabus explains the number of points possible for resubmitted papers.

Two of the lab reports will be written individually. You will not have an opportunity to resubmit an unacceptable individual report. It is in your best interest to work together on the group reports to develop good science writing skills before you have to tackle a report on your own.

- ***Lab Notebook:*** Each student is required to purchase a lab notebook for use during the lab meetings. Everything done in the lab should be written down in the lab notebook. Writing things down on scratch paper is not acceptable. There are three required sections that must be present for each investigation performed: a proposal, procedures/observations, and the results of the investigation. The proposal is a brief description of the experiment that the group will perform. These **MUST** be approved and signed before you begin the experiment. We realize that sometimes students may need to revise these as the investigation proceeds; however, all changes must be approved by the lab instructor. The procedures should be written down while the experiment is being performed. If the group splits the work, each student should have an entire set of procedures before leaving the lab. Although complete paragraphs are not required in the notebook, your procedures should be detailed enough so that someone could retrace your steps using only your notebook. Finally, the results consist of the information gathered during the experiment and may include measurements, tables, graphs, figures, or any other type of raw data. As with all measurements, numbers should include a magnitude, unit, and degree of certainty. Copies of your notebook work will be submitted to your lab instructor at the end of each investigation.
- ***Poster and Presentation:*** Details will be provided as the semester progresses; however, information can be found in your lab manual on page 79.

- Please keep track of your own grades so you know if something is awry. Make sure to keep ALL of your papers so that corrections can be made. You have a two-week limit to let us know about grading errors—after this, scores are considered permanent.

CHM 101: INTRODUCTORY CHEMISTRY
TENTATIVE SCHEDULE
Fall 2019

DAY	DATE	LECTURE CHAPTER/TOPIC	LABORATORY INVESTIGATION	RECITATION ACTIVITY
Th	8/22	Intro., CH. 1: Matter and Energy	*No Labs*	*No Recitations*
F	8/23		*No Labs*	*No Recitations*
M	8/26		Investigation 1:	Scientific Notation
T	8/27	CH. 1 (cont.)	What Are the Safety	And Unit
W	8/28		Concerns in the Lab?	Conversions
Th	8/29	CH. 1 (cont.)	Investigation 2:	
F	8/30		What's In The Flask?	
M	9/2	*LABOR DAY (OBSERVED)*	*No Labs*	*No Recitations*
T	9/3	CH. 1 (cont.)	*No Labs*	Nuclear Model of
W	9/4		*No Labs*	the Atom
Th	9/5	CH. 2: Atoms, Ions, and The Periodic Table	*No Labs*	
F	9/6		*No Labs*	
M	9/9		Investigation 15:	Compounds and
T	9/10	CH. 2 (cont.)	What Formulation	Nomenclature
W	9/11		Makes the Best Toy?	
Th	9/12	CH. 3: Chemical Compounds	(How to Write a Lab	
F	9/13		Report)	
M	9/16		Investigation 3:	Moles And Number
T	9/17	CH. 3 (cont.)	How is Lab	Of Particles
W	9/18		Equipment Used?	
Th	9/19	EXAM 1 (CHAPTERS 1 – 3)		
F	9/20			
M	9/23		*Investigation 7:	Introduction To
T	9/24	CH. 4: Chemical Composition	What Is a Copper	Chemical Reactions
W	9/25		Cycle?	
Th	9/26	CH. 4 (cont.)		
F	9/27			
M	9/30		Investigation 7 (cont.)	Stoichiometry
T	10/1	CH. 5: Chemical Reactions and Equations		
W	10/2			
Th	10/3	CH. 5 (cont.)		
F	10/4			
M	10/7		Investigation 8:	Energy and Heat
T	10/8	CH. 6: Quantities in Chemical Reactions	What's In The Bottles?	Transfer
W	10/9			
Th	10/10	CH. 6 (cont.)		
F	10/11			
M	10/14	*Fall Break*	*No Labs*	*No Recitations*
T	10/15	*Fall Break*	*No Labs*	*No Recitations*
W	10/16		*No Labs*	*No Recitations*
Th	10/17	CH. 6 (cont.)	*No Labs*	*No Recitations*
F	10/18		*No Labs*	*No Recitations*

CHM 101: INTRODUCTORY CHEMISTRY
TENTATIVE SCHEDULE, continued

DAY	DATE	LECTURE CHAPTER/TOPIC	LABORATORY INVESTIGATION	RECITATION ACTIVITY
M	10/21		Investigation 10: How Much Sodium Bicarbonate Is In the Mixture	Light Energy
T	10/22	EXAM 2 (CHAPTERS 4 – 6)		
W	10/23			
Th	10/24	CH. 7: Electron Structure of the Atom		
F	10/25			
M	10/28		Investigation 6: How Much Cobalt Is in the Soil?	Bonding and Molecular Shapes
T	10/29	CH. 7 (cont.)		
W	10/30			
Th	10/31	CH. 8: Chemical Bonding		
F	11/1			
M	11/4		Investigation 6 (cont.)	Gases
T	11/5	CH. 8 (cont.)		
W	11/6			
Th	11/7	CH. 9: The Gaseous State		
F	11/8			
M	11/11	*VETERANS DAY*	*No Labs*	*No Recitations*
T	11/12	EXAM 3 (CHAPTERS 7 – 9)	Investigation 9: How Hot Is the Water	Intermolecular Forces & Properties of Liquids
W	11/13			
Th	11/14	CH. 10: The Liquid and Solid States		
F	11/15			
M	11/18			Chemical Equilibrium
T	11/19	CH. 10 (cont.)	* Investigation 14: What Factors Affect Chemical Equilibrium Plan presentation/poster	
W	11/20			
Th	11/21	CH. 11: Solutions		
F	11/22			
M	11/25			*No Recitations*
T	11/26	CH. 12: Reaction Rates and Chemical Equilibrium	*No Labs*	*No Recitations*
W	11/27		*No Labs*	*No Recitations*
Th	11/28	*Thanksgiving Holiday*	*No Labs*	*No Recitations*
F	11/29	*Thanksgiving Holiday*	*No Labs*	*No Recitations*
M	12/2		Posters/Presentations	Semester Review (Attendance Required)
T	12/3	EXAM 4 (CHAPTERS 10 – 12)		
W	12/4			
Th	12/5	CH. 13: Acids and Bases		
F	12/6			
Th	12/12	ASU-SCHEDULED FINAL EXAM (7:30 am – 9:20 am)		

*Individual report required for these investigations

Changes in the syllabus may occur throughout the semester. Any changes in the syllabus and details of exam content will be announced in lecture, and also posted on Canvas.

Attendance Policy

Attendance at scheduled class lectures, labs, and recitations is essential and expected. Do not expect to consistently miss class and still do well. If you miss three or more laboratory or recitation sessions, you will be assigned a failing grade for the course regardless of your overall grade. Your lecture quiz grade, which is almost solely based on attendance, will also suffer significantly if you do not attend lecture.

Excused absences for assignments will only be given in the case of a documented, university-sanctioned event, if you are ill enough to see a physician, or if you must leave campus to be with an ailing family member. You are required to provide written proof for each of these situations, so please don't feel insulted when we ask for documentation.

Course Etiquette

Participation and discussion during lecture, lab, and recitation is encouraged and expected. However, please be respectful of the instructors by raising your hand rather than blurting out a question in the middle of class. Also, please do not talk while your instructor is speaking, as it can be very disruptive to everyone else in the room. Remember to **turn off cell phone, Facebook, Instagram, etc.** prior to coming to class. Anyone sending text messages, email, or performing any other distracting tasks will be asked to leave the classroom. Browsing the internet, updating Facebook pages, tweeting, etc. will not be tolerated.

Sources of Help

- ***Student Success Center (SSC):*** In addition to my office hours, the SSC is staffed with tutors Monday through Friday. Occasional review sessions may be scheduled during hours outside the normal hours for the SSC. Check their schedule to see when chemistry tutors are available: https://studentsuccess.asu.edu/student-services/tutoring/downtown-phoenix-campus.
- ***Writing Center:*** The university offers assistance with all types of writing at the DPC Writing Center. If your reports are suffering, you may want to stop in for some assistance.

Academic Integrity

Under the ASU Student Academic Integrity Policy (http://provost.asu.edu/academic-integrity), "[e]ach student must act with honesty and integrity, and must respect the rights of others in carrying out all academic assignments." This policy also defines academic dishonesty and establishes a process for faculty members and colleges to sanction dishonesty. In scientific research, fabricating data, falsifying data, and plagiarizing are also considered misconduct.

In this course your lab work must meet the highest standards of academic integrity and scientific conduct. The following will not be tolerated:

- "Adjusting" data to get the "right" result. (This is falsification of data.)
- For labs that require running an experiment more than once, completing one run and inventing data for the others based on the first. (This is fabrication of data.)
- Partially completing an experiment but extrapolating some results. (This is fabrication of data.)
- Having a friend or lab partner conduct the experiment and submitting his or her data in your lab report. (This is inappropriate collaboration.)
- Copying and pasting sections of text, such as a description of an experimental method, into your lab report from material assigned for the course or any other source. (This is plagiarism.)

Course Administration

This course is offered by the College of Integrative Sciences and Arts. For more information about the college, visit our website: https://cisa.asu.edu/. If you have questions or concerns, please follow this link https://cisa.asu.edu/contact-us.

Students with Disabilities

If you need academic accommodations or special consideration of any kind to get the most out of this class, please let me know at the beginning of the course. If you have a disability and need a reasonable accommodation for equal access to education at ASU, please call Disability Resources for Students (DRC). The site can be found at eoss.asu.edu/drc. Instructors cannot provide accommodations without authorization from the DRC.

Downtown Phoenix Campus
Post Office, Suite 201
Phone: 602.496.4321
E-mail: DRCDowntown@asu.edu

Course Withdrawals

The course withdrawal deadline is Wednesday, November 6. The complete session withdrawal deadline is Friday, December 6.

Grade Appeals

Students must first speak with the instructor of the class to discuss any disputed grades. If, after review, a resolution is not achieved students may proceed with the appeal process. Student grade appeals must be processed in the regular semester immediately following the issuance of the grade in dispute (by commencement for fall or spring), regardless whether the student is enrolled at the university. Complete details are available in the ASU Grade Appeals policy.

Establishing a Safe Environment

Learning takes place best when a safe environment is established in the classroom. In accordance with SSM 104-02 of the Student Services Manual, students enrolled in this course have a responsibility to support an environment that nurtures individual and group differences and encourages engaged, honest discussions. The success of the course rests on your ability to create a safe environment where everyone feels comfortable to share and explore ideas. We must also be willing to take risks and ask critical questions. Doing so will effectively contribute to our own and others intellectual and personal growth and development. We welcome disagreements in the spirit of critical academic exchange, but please remember to be respectful of others' viewpoints, whether you agree with them or not.

All incidents and allegations of violent or threatening conduct by an ASU student (whether on- or off-campus) must be reported to the ASU Police Department (ASU PD) and the Office of the Dean of Students. If either office determines that the behavior poses or has posed a serious threat to personal safety or to the welfare of the campus, the student will not be permitted to return to campus or reside in any ASU residence hall until an appropriate threat assessment has been completed and, if necessary, conditions for return are imposed. ASU PD, the Office of the Dean of Students, and other appropriate offices will coordinate the assessment in light of the relevant circumstances.

Email Communication

ASU email is an official means of communication among students, faculty, and staff. Students are expected to read and act upon email in a timely fashion. Students bear the responsibility of missed messages and should check their ASU-assigned email regularly. *All instructor correspondence will be sent to your ASU email account.* For help with your email go to: MyASU > Service > Live Chat OR New Ticket.

Prohibition of Commercial Notetaking Services

In accordance with ACD 304-06 Commercial Note Taking Services, written permission must be secured from the official instructor of the class in order to sell the instructor's oral communication in the form of

notes. Notes must have the note taker's name as well as the instructor's name, the course number, and the date.

Mental Health

As a student, like anyone else, you may experience a range of challenges that can interfere with learning, such as strained relationships, increased anxiety, substance use, feeling down, difficulty concentrating and/or lack of motivation. These emotional health concerns or stressful events may diminish your academic performance and/or reduce your ability to participate in daily activities. ASU Counseling Services provides counseling and crisis services for students who are experiencing a mental health concern. Any student may call or walk-in to any ASU counseling center for a same day or future appointment to discuss any personal concern. Here is the Web site: eoss.asu.edu/counseling. After office hours and 24/7 ASU's dedicated crisis line is available for crisis consultation by calling 480-921-1006.

Student Code of Conduct

Students are required to adhere to the behavior standards listed in the Arizona Board of Regents Policy Manual Chapter V –Campus and Student Affairs: Code of Conduct located online at students.asu.edu/srr/code and the ACD 125: Computer, Internet, and Electronic Communications available at asu.edu/aad/manuals/acd/acd125.html.

Students are entitled to receive instruction free from interference by other members of the class. An instructor may withdraw a student from a course when the student's behavior disrupts the educational process under USI 201-10 asu.edu/aad/manuals/ssm/ssm201-10.html. An instructor may withdraw a student from a course with a mark of "W" or "E" when the student's behavior disrupts the educational process. Disruptive classroom behavior for this purpose is defined by the instructor.

Harassment Prohibited

ASU policy prohibits harassment on the basis of race, sex, gender identity, age, religion, national origin, disability, sexual orientation, Vietnam era veteran status, and other protected veteran status. Violations of this policy may result in disciplinary action, including termination of employees or expulsion of students. Contact the professor if you are concerned about online harassment of any kind, and he/she will put you in contact with the Dean of Students office.

Title IX

Title IX is a federal law that provides that no person be excluded on the basis of sex from participation in, be denied benefits of, or be subjected to discrimination under any education program or activity. Both Title IX and university policy make clear that sexual violence and harassment based on sex is prohibited. An individual who believes they have been subjected to sexual violence or harassed on the basis of sex can seek support, including counseling and academic support, from the university. If you or someone you know has been harassed on the basis of sex or sexually assaulted, you can find information and resources at sexualviolenceprevention.asu.edu/faqs.

"As a mandated reporter, I am obligated to report any information I become aware of regarding alleged acts of sexual discrimination, including sexual violence and dating violence. ASU Counseling Services, eoss.asu.edu/counseling, is available if you to wish discuss any concerns confidentially and privately."

Statement on Inclusion

Arizona State University is deeply committed to positioning itself as one of the great new universities by seeking to build excellence, enhance access and have an impact on our community, state, nation and the world. To do that requires our faculty and staff to reflect the intellectual, ethnic and cultural diversity of our nation and world so that our students learn from the broadest perspectives, and we engage in the advancement of knowledge with the most inclusive understanding possible of the issues we are

addressing through our scholarly activities. We recognize that race and gender historically have been markers of diversity in institutions of higher education. However, at ASU, we believe that diversity includes additional categories such as socioeconomic background, religion, sexual orientation, gender identity, age, disability, veteran status, nationality and intellectual perspective.

Syllabus Disclaimer

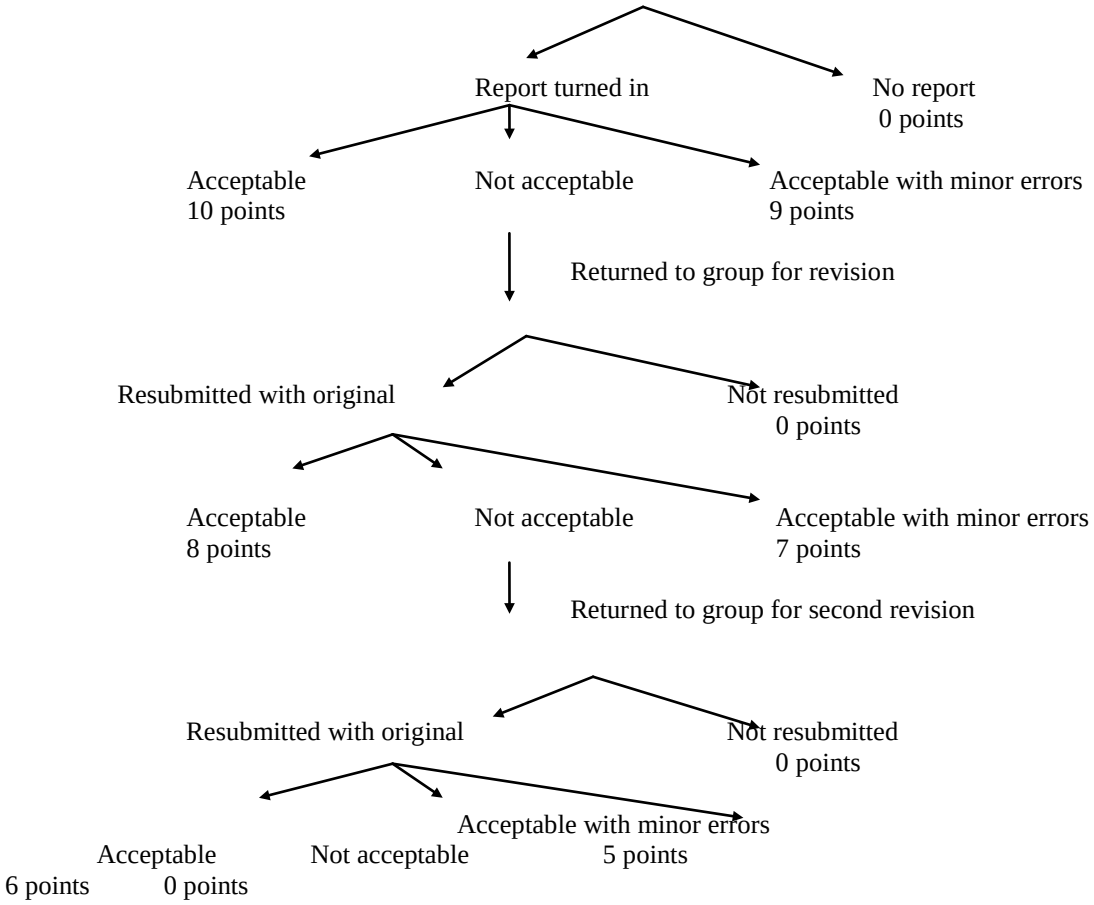
The course syllabus is an educational contract between the instructor and students. Every effort will be made to avoid changing the course schedule but the possibility exists that unforeseen events will make syllabus changes necessary. The instructor reserves the right to make changes to the syllabus as deemed necessary. Students will be notified in a timely manner of any syllabus changes via email, or in the Announcements section on Canvas.

Campus Resources

There is clear evidence that students who take advantage of academic support services perform better academically. As an ASU student you have access to many resources on campus. This includes tutoring, academic success coaching, counseling services, financial aid, disability resources, career and internship help and many opportunities to get involved in student clubs and organizations.

- Tutoring: students.asu.edu/academic-success
- Counseling Services: students.asu.edu/counseling
- Financial Aid: students.asu.edu/financialaid
- Disability Resource Center: asu.edu/studentaffairs/ed/drc/
- Major/Career Exploration: uc.asu.edu/majorexploration/assessment
- Career Services: students.asu.edu/career
- Student Organizations: asu.edu/studentaffairs/mu/clubs/
- ASU Writing Centers: tutoring.asu.edu/writing-centers
- ASU Police Department: cfo.asu.edu/police
- International Student Resources: students.asu.edu/international/support/academic

GROUP LAB REPORT GRADING FLOW CHART



CHM 101
Suggested End-of-Chapter Questions and Problems
A Conceptual Introduction to Chemistry; Bauer, Birk, and Marks, 5th Edition

Following is a list of problems at the end of each chapter that I suggest you work. If a given section of the textbook is not covered in class, an announcement will be made that this material is not included on an examination; the corresponding exercises can then also be omitted. If you need more practice with a particular skill or concept, I suggest trying the corresponding even-numbered problems. You should also do the in-chapter examples and practice problems as you're reading the chapter.

Answers to the odd-numbered and select end-of-chapter questions and problems can be found in Appendix D. Answers to the in-chapter practice problems are given in Appendix C.

Chapter	End-of-Chapter Questions and Problems
1	1, 2, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 35, 37, 43, 45, 47, 49, 51, 55, 57, 59, 61, 63, 65, 67, 69, 71, 73, 75, 79, 87, 89, 93, 97, 101, 105, 117, 147-157
2	1, 2, 5, 9, 11, 13, 15, 17, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, 43, 45, 47, 49, 51, 53, 55, 57, 63, 67, 75, 77, 79, 81, 83, 85, 87, 89, 91, 93, 95, 97, 99, 101, 103, 105, 107, 145-154
3	1, 2, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, 43, 45, 47, 49, 51, 53, 55, 59, 61, 63, 65, 67, 69, 71, 73, 81, 83, 85, 87, 89, 127-136
4	1, 2, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 35, 37, 39, 41, 43, 45, 47, 49, 51, 53, 55, 57, 65, 67, 81, 85, 87, 91, 97, 99, 101, 103, 105, 107, 109, 111, 143-152
5	1, 2, 3, 5, 7, 11, 13, 15, 17, 19, 23, 27, 29, 31, 33, 35, 37, 41, 45, 47, 49, 57, 59, 61, 63, 65, 67, 69, 71, 75, 77, 91, 101, 103, 105, 107, 109,142-151
6	1, 2, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, 43, 47, 53, 55, 57, 59, 67, 69, 73, 75, 81, 83, 85, 89, 91, 101, 105, 124, 137-146
7	1, 2, 5, 7, 11, 13, 15, 17, 19, 21, 25, 27, 29, 31, 33, 35, 37, 39, 43, 45, 47, 49, 51, 53, 55, 57, 59, 61, 63, 65, 67, 69, 71, 77, 81, 83, 85, 87, 89, 91, 101, 103, 105, 107, 113, 132-142
8	1, 2, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 29, 31, 45, 47, 49, 51, 53, 55(a, d, e), 61, 63, 87, 89, 91, 99, 101, 109, 113, 115, 119, 147-154, 157, 158
9	1, 2, 21, 27, 29, 35, 37, 39, 73, 87, 103, 109, 111, 154, 155, 156, 157, 158, 161, 162, 164
10	1, 2, 9, 11, 13, 15, 17, 19, 21, 29, 31, 47, 51, 53, 63, 65, 67, 69, 73, 75, 77, 99, 101, 109, 111, 113, 115, 117, 145-154
11	1, 2, 11, 15, 17, 27, 39, 41, 49, 51, 57, 61, 65, 87, 89, 95, 97, 101, 103, 105, 123, 129, 131-139
12	1, 2, 3, 9, 11, 15, 17, 19, 21, 25, 35, 37, 49, 51, 61, 65, 71, 91, 93, 101, 134, 137, 138, 139, 140
13	1, 2, 3, 5, 15, 17, 19, 27, 29, 31, 51, 53, 55, 57, 67, 69, 71, 73, 77, 79, 111, 113, 125, 139-148