Chemistry 106:

General Chemistry I Lecture: Section M 001

Fall 2017

General Course Information:

Instructor: Dr. Jonathan French
Office: Center for Science and Technology, 4th floor, room 014D
Office Hours: M/W 2:00 PM – 4:00 PM 4th floor, room 014F
Email: jmfrench@syr.edu

Teaching assistants:

Harvey Mosher (hmosher@syr.edu)

Alec Beaton (aabeaton@syr.edu)

Elizabeth Clifford (ecliffor@syr.edu)

Class Times and Locations

Lectures: Tuesday and Thursday 12:30 – 1:50 PM Life Science Building 001

Recitations: Attend the **ONE** for which you are registered

M002	Tu	3:30 PM – 4:25 PM	Hinds Hall 018 (Mosher)
M004	Tu	7:30 PM – 8:25 PM	Life Science Building 200 (Beaton)
M005	W	2:15 PM – 3:10 PM	Science and Tech. Center 019 (Clifford)
M006	Tu	5:00 PM – 5:55 PM	Life Science Building 011 (Mosher)
M008	W	3:45 PM – 4:40 PM	Lyman Hall 228 (Clifford)
M009	W	6:45 PM – 7:40 PM	Life Science Building 011 (Beaton)
M010	W	10:35 AM – 11:30 AM	Slocum Hall 101 (Clifford)

Course Description: Fundamental principles and laws underlying chemical action, states of matter, atomic and molecular structure, chemical bonding, stoichiometry, properties of solutions, chemical equilibria, and introductory thermochemistry (3 credits)

Co-requisite: CHE 107 – General Chemistry Laboratory I (1 credit). Please note that this course should be taken in concert with CHE 106 but is a separate course with separate staff and grading. Please check with your course schedule for the time and meeting place of your laboratory class. All questions regarding CHE 107 should be forwarded to the CHE 107 instructor or teaching assistants.

Learning Outcomes:
• Interpret and predict chemical phenomena through chemical behavior • Understand selected chemical processes • Solve new problems related to chemical behavior • Understand atomic structure, chemical reactions, stoichiometry, energy, thermochemistry, bonding, and gases • Understand topics at the conceptual and quantitative levels

TEXTBOOK AND SUPPORTING MATERIALS: (at the SU bookstore)

a.) Chemistry the Central Science (**14th edition** or Syracuse Custom Edition) by Brown, LeMay, Bursten, Murphy, Woodward, Stoltzfus (Pearson/Prentice Hall, 2018)

This is a new edition, students are welcome to use the previously issued 13th edition

b.) MasteringChemistry On-Line Homework 31-digit login/registration key

MasteringChemistry is accessed ONLY through the Blackboard course website.

NOTE: If you do not want to buy the textbook package from the SU Bookstore, both the e-book version of the textbook and the MasteringChemistry login can be purchased directly through blackboard

c.) Blackboard Lecture material, solutions to homework problems, review material for exams, and answer keys will be posted here.

RECITATIONS

Recitation is a weekly class which is much smaller than the lecture component and taught by a graduate teaching assistant (TA). Recitation is a great setting to work through problems in a more one on one type environment. Feel free to bring questions from lecture or homework to review and discuss with your TA. Recitations are designed to help you learn the material and answer particular questions that you may have.

Additionally, recitation will also offer a weekly quiz that will cover key material from the previous week's lecture, and might be used to initiate the discussion of course content between students and the TA. The quiz will take place within the first 15 minutes of recitation, immediately followed by reviewing that material. The quiz will be graded on a pass/fail basis and will be used as bonus points toward the lowest exam grade. Each passed quiz will be worth one point, there will be a total of 12 quizzes. The two lowest quizzes will be dropped totaling 10 points total which can be added to your lowest exam grade. Recitation and the quiz are both optional, they are designed to help you succeed in the class but are not mandatory.

If students have additional questions they are encouraged to stay in recitation after the quiz is completed.

Recitation attendance is **NOT** mandatory and there is **NO** grade associated with the recitation.

APPROXIMATE LECTURE SCHEDULE

The following schedule lists the approximate topics that will be covered along with the relevant readings in the textbook. Please complete the reading before the scheduled lecture.

DATE	TOPIC	TEXT READING
Tuesday, August 29th	Introduction/Course Overview	Syllabus
Thursday, August 31st	Introduction to Chemistry	1.1-1.4,
Tuesday, September 5th	Measurement	1.5-1.7, App. A.1
Thursday, September 7th	Atomic Theory, Periodic Table	2.1-2.5
Tuesday, September 12th	Molecules, Ions, Compounds (naming)	2.6-2.8
Thursday, September 14th	Chemical Equations, Stoichiometry, Moles	3.1-3.3
Tuesday, September 19th	**Exam #1 (Ch 1, 2)**	-
Thursday, September 21st	Stoichiometry, Moles	3.4-3.7
Tuesday, September 26th	Mass, Limiting Reagent	3.4-3.7
Thursday, September 28th	Ions/Precipitation and Acid-Base Reactions	4.1-4.3
Tuesday, October 3rd	Oxidation - Reduction Reactions, Solutions	4.4-4.6
Thursday, October 5th	Thermochemistry	5.1-5.4
Tuesday, October 10th	**Exam #2 (Ch 3, 4)**	-
Thursday, October 12th	Thermochemistry	5.5-5.9
Tuesday, October 17th	Light Waves, Photons	6.1-6.2
Thursday, October 19th	Bohr Model, Quantum Mechanics	6.3-6.6
Tuesday, October 24th	Orbitals & Electron Configuration	6.7-6.9
Thursday, October 26th	Periodicity, Effective Charge	7.1-7.3
Tuesday, October 31st	**Exam #3 (Chapters 5, 6)**	-
Thursday, November 2nd	Ionization, Affinity, Metal Character	7.4-7.6
Tuesday, November 7th	Chemical Bonding	8.1-8.4
Thursday, November 9th	Lewis Structures	8.5-8.8
Tuesday, November 14th	Molecular Shapes, VSEPR Model, Polarity	9.1-9.4
Thursday, November 16th	Hybrid Orbitals, Molecular Orbitals	9.5-9.7
Tuesday, November 21-23rd	**NO CLASS — THANKSGIVING**	-
Tuesday, November 28th	Gas Laws	10.1 - 10.5
Thursday, November 30th	**Exam #4 (Chapters 7, 8 and 9)**	-
Tuesday, December 5th	Kinetic-Molecular Theory	10.6 - 10.8
Thursday, December 7th	Review	ALL
Wednesday, December 13th	**CUMULATIVE EXAM NOTE: 5:15 PM to 7:15 PM**	**ALL CHAPTERS**

OFFICE HOURS:

TA office hours will be held in Room 115 of the Life Science Building (LSB). A schedule of office hours will be posted on the door of Room 115. Students are free to seek help from **ANY** of the CHE 106 TAs that are teaching this semester, not just the TA that is in charge of their particular recitation section.

HOMEWORK SCHEDULE

The following is an APPROXIMATE schedule of material that will be covered in homework that is due on the MasteringChemistry website organized by week. **ALL** homework is to be done and turned in on the MasteringChemistry website. No exceptions. Students are encouraged to seek help when needed for homework. Students are encouraged to utilize recitation, TA office hours, or my office hours to find help with homework.

Homework is due at midnight of the Sunday indicated in the schedule. Homework that is not turned in on time will be marked late at a penalty of 5% off per day late. **Turning in your homework late, is better than not turning it in at all.**

You will have one to two weeks to finish an assigned homework set. The homework carries a weight of 20% of your final grade. Do not overlook the importance of the homework in determining your final grade.

CONSULT THE MASTERINGCHEMISTRY WEBSITE FOR ASSIGNED PROBLEMS.

Week	Material Covered	MasteringChemistry Assignments	Due Date (~midnight, 11:59PM)
August 28th	**NO RECITATIONS / NO HOMEWORK DUE**		
September 4th	Chapter 1	Intro to MasteringChemistry, Homework #1	Sunday, September 10th
September 11th	Chapter 2	Homework #2	Sunday, September 17th
September 18th	-	-	**NO HOMEWORK DUE**
September 25th	Chapter 3	Homework #3	Sunday, October 1st
October 2nd	Chapter 4	Homework #4	Sunday, October 8th
October 9th	Chapter 5	Homework #5	Sunday, October 15th
October 16th	Chapter 6	Homework #6	Sunday, October 22nd
October 23rd	-	-	**NO HOMEWORK DUE**
October 30th	Chapter 6, 7	Homework #7	Sunday, November 5th
November 6th	Chapter 8	Homework #8	Sunday, November 12th
November 13th	-	-	**NO HOMEWORK DUE**
November 20th	Chapter 9	Homework #9	Sunday, November 26th
November 27th	-	-	**NO HOMEWORK DUE**
December 4th	Chapter 10	Homework #10	Sunday, December 10th

COURSE POLICIES

Students should review the University's policies regarding Disability-Related Accommodation; Diversity and Disability; the Religious Observances Notification and Policy; the Academic Integrity Policy; and Orange SUccess, which can be accessed via the Office of the Provost's website at: http://provost.syr.edu/

Academic Honesty:

"Syracuse University's Academic Integrity Policy reflects the high value that we, as a university community, place on honesty in academic work. The policy defines our expectations for academic honesty and holds students accountable for the integrity of all work they submit. Students should understand that it is their responsibility to learn about course-specific expectations, as well as about university-wide academic integrity expectations. The policy governs appropriate citation and use of sources, the integrity of work submitted in exams and assignments, and the veracity of signatures on attendance sheets and other verification of participation in class activities. The policy also prohibits students from submitting the same work in more than one class without receiving written authorization in advance from both instructors. Under the policy, students found in violation are subject to grade sanctions determined by the course instructor and non-grade sanctions determined by the School or College where the course is offered as described in the Violation and Sanction Classification Rubric. SU students are required to read an online summary of the University's academic integrity expectations and provide an electronic signature agreeing to abide by them twice a year during pre-term check-in on MySlice. For more information about the policy, see http://academicintegrity.syr.edu.

Syracuse University's religious observances policy

(http://supolicies.syr.edu/emp_ben/religious_observance.htm) recognizes the diversity of faiths represented among the campus community and protects the rights of students, faculty, and staff to observe religious holy days according to their tradition. Under the policy, students are provided an opportunity to make up any examination, study, or work requirements that may be missed due to a religious observance provided they **notify their instructors before the end of the second week of classes**. For fall and spring semesters, an online notification process is available through MySlice/Student Services/Enrollment/My Religious Observances/Add a Notification from the first day of class until the end of the second week of class. The religious observances policy requires **accommodation for the religious holiday itself, not for travel days** if a student will be observing the holiday elsewhere.

Attendance

Attendance is not recorded in lecture, however you are encouraged to attend lecture. I will post the PowerPoint file of the material covered in lecture, it will not contain solutions to exercises we will work through during lecture.

Medical absences will be excused based on written advice from the Health Center or a health-care provider (based upon clinical findings and prescribed treatment recommendations). See: http://health.syr.edu/students/policies.html

NO VERBAL EXCUSES WILL BE ACCEPTED. The medical document must specifically indicate that you were unable to attend class/recitation. All such absences will be verified by Chemistry Department staff.

THERE WILL BE NO MAKEUP EXAMINATIONS EXCEPT IN THE CASE OF **ADVANCE-NOTICE** APPROVED ABSENCES. ALL ADVANCED-NOTICE APPROVALS WILL RESULT IN AN OPPORTUNITY TO TAKE THE EXAM IN ADVANCE, NOT AFTER THE REGULARLY SCHEDULED EXAM TIME.

Disability-Related Issues

If you have a learning or physical disability, please contact me as soon as possible (**during the first 2 weeks of the course**) to arrange for appropriate accommodations. No provisions/accommodations will be made if the instructor is notified after examinations. Students requiring special accommodations **MUST** register with the Office of Disability Services (804 University Avenue, Suite 303, Phone: Voice: (315) 443-4498; TDD: (315) 443-1371, E-Mail: odssched@syr.edu). Exams **MUST** be administered by the Office of Disability Services.

Orange SUccess: I will be using Orange SUccess to submit mid-semester progress reports for all students around (10/23). This will be used to communicate your standing in the course and recommendations course of action for the remainder of the course. You can also use Orange SUccess to seek extra help or signup for office hours. If you schedule a meeting with me through Orange SUccess please do so at least 24 hours in advance of the meeting.

COURSE GRADING

Exams: Exams will cover both material covered in lecture and the homework. The majority of questions will be problems similar to the assigned homework and tutorial exercises. Each exam will focus on specific chapters as noted in the syllabus and in the lecture notes. Exams will be mostly multiple choice with a few short answer or calculation type questions. Do not be alarmed by short answer response questions. They are designed to help you. With multiple choice questions, there are only right or wrong answers. With a short answer response question, there is room for **PARTIAL CREDIT**.

Exam pickup: will be limited to one calendar month. This means that if you take an exam on September 25th, that exam will be available in the main office for you to look at, with the scantron, through October 25th. You can obtain a **COPY** of your scantron and the answer key.

BRING A NON GRAPHING CALCULATOR TO ALL EXAMS.
cell phones/tablets/other devices are not allowed

Exams are given during the regular class period, with the exception of the final exam.

First Exam	**Tuesday, September 19th**
Second Exam	**Tuesday, October 10th**
Third Exam	**Tuesday, October 31st**
Fourth Exam	**Thursday , November 30th**
Cumulative Exam	**Wednesday, December 13th from 5:15 PM to 7:15 PM**

>>>>>> MAKE YOUR TRAVEL PLANS NOW! <<<<<<

NO ACCOMMODATIONS FOR STUDENT TRAVEL/EXAM CONFLICTS WILL BE MADE.

Cumulative Final Exam:

The exam scheduled for **Wednesday December 13th** is an exam that students may choose to take in an effort to replace the lowest score they have received on **ONE** of the regular in-class exams taken during the semester. For example, a student scores 80%, 30%, 75%, and 85% on the in-class exams, and chooses to take the cumulative exam. They score a 60% on the cumulative exam, which then replaces the 30% grade they scored on Exam #2.

There is no penalty for receiving a low score on the cumulative exam. Warning: The cumulative exam will be more difficult than a regular in-class exam.

Final Grade Determination

Course grades are based on 4 of the highest exam scores and the on-line homework. The grading scale shown below is based on historical class averages and grade distributions for the first-semester general chemistry course. Additional "curving" of the class grades will normally NOT be applied, but the Chemistry Dept. reserves the right to do so in extraordinary cases. In such a case, scores will only be curved up (not down) and therefore will never negatively impact your letter grade.

The final grade will be computed using the following items and weightings:

Four Exams (20% each)	80%
MasteringChemistry Homework	20%

Course Total: 100%

The equation to calculate your overall course raw score percentage is:

(Exam #1 %) × 0.20 + (Exam #2 %) × 0.20 + (Exam #3 %) × 0.20 + (Exam #4 %) × 0.20 + (Homework %) × 0.20 = Overall %

Letter grade ranges based upon raw score percentages:

A = ≥90% A- = ≥88% B+ = ≥85% B = ≥80% B- = ≥75%

C+ = ≥70% C = ≥65% C- = ≥60% D = ≥50% F = <50%

Dr. French reserves the right to change this syllabus at any time during the semester