Fall 2018
Stony Brook University
Department of Chemistry
College of Arts and Sciences

CHE 132-E: General Chemistry II

Instructors:

- Professors Fernando Raineri and Maria Nagan conduct the MWF large class meetings and prepare exams.
- Doctors Nagan and Troy Wolfskill coordinate the weekly Workshop/Recitation sessions, examinations, and grading.
- Dr. Brad Tooker coordinates the Chemistry Learning Center, Chemistry Room 124.
- Talented undergraduate and graduate teaching assistants facilitate the Workshops and staff the Chemistry Learning Center.

Office Hours: See Blackboard/CHE 132.01/Staff Information for current office hours for all instructional staff.

Email: che132@stonybrook.edu. Do not send to instructors' personal email addresses as your message may be lost or overlooked. All email should be sent from your Stony Brook email account.

COURSE DESCRIPTION: A continuation of either CHE 129 or 131, introducing the fundamental principles of chemistry, including substantial illustrative material drawn from the chemistry of inorganic, organic, and biochemical systems. The principal topics covered are stoichiometry, the states of matter, chemical equilibrium and introductory thermodynamics, electrochemistry, chemical kinetics, electron structure and chemical bonding, and chemical periodicity. The sequence emphasizes basic concepts, problem solving, and factual material. It provides the necessary foundation for students who wish to pursue further coursework in chemistry. Three lecture hours and one 80-minute workshop per week. May not be taken for credit in addition to CHE 152. This course has been designated as a High Demand/Controlled Access (HD/CA) course. Students registering for HD/CA courses for the first time will have priority to do so. This course has an associated fee. Please see www.stonybrook.edu/coursefees for more information. 4 credits

Prerequisite: C or higher in CHE 129 or CHE 131; or C or higher in CHE 125 and D or higher in CHE 129 or CHE 131.
Pre- or Corequisite: MAT 125 for those who took CHE 129 or 130; MAT 126 or higher for all others.

COURSE OBJECTIVES: Expand students' knowledge about objects and processes observable in nature. Develop life-long skills in key areas: information processing, critical and analytical thinking, quantitative reasoning, problem solving, teamwork, oral and written communication, and metacognition. Specific learning objectives for each lecture will be posted in Blackboard.

COURSE REQUIREMENTS:

Required Resources:

- **Text**: *Connect One-Semester Access Card* for *Chemsitry, Silberberg, 8th ed.* (McGraw Hill, 2017) can be purchased directly from McGraw-Hill for $40. Continuing students whose *Connect 2-semester* has not expired can continue to use it. See the document "Registration Instructions" for information on purchasing access. You may upgrade to a loose-leaf text version for $60 within Connect that is useful for reviewing for MCATs and GREs.
- **ALEKS registration**. See the document "Registration Instructions" for information on accessing ALEKS.
- **TurningPoint Response Card NXT.** for responding to in-class questions. Response cards cannot be shared between students.
- **Turning Point Registration.** See the document "Registration Instructions" for information on purchasing and registering your clicker
- **Scientific Calculator** with exponents, powers, and logarithms.
- **Spare batteries** for your calculator and response pad.
- **#2 pencils and erasers** for each exam. Exams will be held as follows.

Exam 1, Monday September 24,	8:45 PM-10:15 PM
Exam 2, Thursday October 25,	8:45 PM-10:15 PM
Exam 3, Thursday November 29,	8:45 PM-10:15 PM
Final Exam, Monday December 17,	8:15 – 10:45 AM, that's early morning!!!

- **Ring binder** to organize printouts of lecture notes, solutions to ALEKS, workshops, and additional homework.
- **Blackboard.stonybrook.edu** is where all announcements, policies, and information will be posted. For help accessing Blackboard click Help and Support at the site.
- **lucid.chem.sunysb.edu** is where all grades and workshop activities will be posted. Instructions for accessing LUCID are in the document "Accessing LUCID".

- **Stony Brook Email Account** accessible at stonybrook.edu/mycloud. For help with Google Apps for Education see http://it.stonybrook.edu/help/kb/logging-in-to-google-apps-for-education.

Attendance and Make Up Policy

- You must attend the lecture and workshop sections to which you are assigned. All section changes will be handled through Solar. Instructors will not sign change of section forms. If you have a particular difficulty attending the lecture or workshop section in which you are registered, see Dr. Wolfskill during his office hours or stop by his office in Chemistry Room 575.
- There are no make-ups for missed lectures, workshops, ALEKS deadlines, or midterm examinations. All absences will be scored as a zero, though the lowest scores for workshops and ALEKS are dropped at the end of the semester. If a written excuse with appropriate documentation is presented within one week of your return to class, and, for workshops, if you provide evidence of having completed the missed work, you may be excused and the final score prorated. Documents requesting to be excused should be submitted as follows.

  Workshops: Your workshop instructor Exams and ALEKS: Dr. Nagan
- All students must take the final exam. Unexcused absence will result in a score of 0. A student who is unable to take the final exam because of illness or other extenuating circumstances must send an email to che132@stonybrook.edu before or within 24 hours following the exam. Only then will a grade of incomplete (I) be assigned. The make-up final will be given Wednesday January 30, 2019 from 1:00 – 3:30 PM and appropriate documentation is required at that time. Failure to take the make-up exam will result in a permanent course grade of F.

Description and schedule of meetings and assignments.

MWF Class Meetings: Javits Room 102, Mon, Wed, and Fri 2:30–3:23 PM. You will need to bring to each class a notebook, pens or pencils, a calculator, and your clicker. These meetings are interactive learning sessions designed to help you understand the key concepts and apply them in exercises and problems (flipped classroom environment). You will work on these activities with others in the class and report your answers with a response card (clicker) that you need to purchase and register. You will benefit most from these sessions if you prepare by completing the reading assignment in advance.

Reading Assignments: Reading assignments in the online textbook will be accompanied by short quizzes that will be due immediately before the lecture.

Workshop (Recitation) Sessions: You will need to bring to each workshop paper, pens or pencils, a calculator, and a ring binder to record your work. Each team will also need a blank Team Report form. Individuals or teams who fail to bring these may have points deducted from their workshop grade.

The chemistry workshops are intended to help you maximize your performance in introductory chemistry courses. During workshops you will work with a team of 2-3 other students on activities designed to increase your understanding of course topics, your ability to apply these in simple contexts, and your ability to solve problems. The format of the workshops can be understood through an analogy to a sport like swimming. The workshops are like swimming practice and the instructors are like coaches. During practice, coaches do not have you sit on the edge of the pool while they show you how to swim, after which you go home to practice on your own. Instead, they have you do the swimming so they can observe you and provide guidance to improve your performance. Because there are too many students for the instructor to observe and help individually, you work in teams of three or four students so you can help each other as much as possible. You can only help each other if you work together on answering each question. If you follow the guidelines, this approach will help everyone in your team learn as much as possible during workshops. If you find chemistry challenging, your teammates and the instructor will help you gain the insights you need to understand concepts and solve problems. If you find chemistry easy, you will find your performance improving as you explain things to others. We have found that the difference between B+/A- students and A students is often the ability to explain concepts and strategies to others. This is consistent with the old saying that "The best way to learn is to teach".

Team roles are used to distribute the responsibilities.

Manager: Actively participates; keeps the team on task, distributes work and responsibilities; assures that all team members participate, are learning, and are having fun.

Technician: Actively participates; enters all team answers in the computer in consultation with team members.

Strategy Analyst: Actively participates; takes notes on team strengths and areas for improvement; completes and submits this form in consultation with team members.

ALEKS Online Homework: Regular online homework will use the ALEKS system. Solutions to homework should be kept in your three-ring binder. There will be one ALEKS assignment due each week on Tuesday at 11:59 PM covering the previous Wednesday through Monday lecture topics. The first will be due Tuesday September 4th at 11:59 PM.

Problem solving is the single most important step towards succeeding in this course and is the only effective way to prepare for exams which decide your grade. It is not sufficient to memorize the steps to solving a particular a problem. You need to work on your own to figure out and interconnect the important concepts and procedures and why they are necessary. Posted solutions to end-of-chapter problems may be used to check and validate your ability to do this. If you are unable to readily solve problems on your own, you are probably not prepared for the exams and need to work additional problems to develop your ability.

Exams

Multiple-choice exams based on material from the lectures, text, workshops, and ALEKS are scheduled as indicated above. You must take each exam in the room to which you are assigned as will be posted in Blackboard. You must bring to each exam two or more #2 pencils with erasers, your University ID, and a scientific calculator with spare batteries. This is all that is allowed on your desk. All other belongings must be placed out of sight beneath your seat or at the front of the room, and electronic devices must be powered off. Violations may result in a report to Academic Judiciary and a course grade of F.

A review of all relevant materials will be conducted prior to each exam. Exams will include both familiar problems as well as some you have not seen before. Because of this, you need to go beyond memorizing the steps needed to complete problems from the lectures, text, workshops, and homework. Instead, you need to understand the concepts that are being used, why they are being used, and how solutions to problems relate to these concepts. If you understand assigned problems in this way and test your understanding on problems that are not assigned, you are more likely to do well in this course.

Student Responsibilities

Each student is responsible for knowing all procedures and course expectations detailed in this document, in other handouts or announced during lectures or workshops or in Blackboard. Failure to attend a lecture or workshop is not an excuse for not knowing what was presented or announced. If you miss a lecture or workshop it is your responsibility to find out what transpired from a fellow student, or from your instructor.

GRADING: Course grades will be based on the percentage of points earned out of 600 with the following contributions.

Reading:	10 points	
Lecture:	20 points	
Workshop:	40 points	
ALEKS:	80 points	40 from the average weekly grade and 40 from the final grade
Exam 1:	100 points	
Exam 2:	100 points	
Exam 3:	100 points	
Final Exam:	150 points	

The lowest workshop and ALEKS weekly scores and the lowest six lecture scores will be dropped at the end of the semester. Final percent grades will be rounded to one decimal place. Final letter grades will be based on the total number of points earned with the following general cutoffs.

A: ≥ 90% A-: ≥ 85% B+: ≥ 80% B: ≥ 75% B-: ≥ 70% C+: ≥ 65% C: ≥ 55% D: ≥ 45% F: < 45%

Grades will be posted in LUCID after each exam. All issues with grades must be raised within two weeks after posting.

Proctored Exercise: On Wednesday, December 5th, for the duration of the lecture class, a *Proctored Exercise* will take place. The exercise will be similar to the midterm exams in format. It will include topics from midterm exams one through three. Topics covered after the third midterm will appear on the final exam. The midterm grades that will be considered at the end of the semester will be the best three out of four grades, those of the midterms and the proctored exercise. The *Proctored Exercise* is ***mandatory*** for anybody who was excused for one or more midterms and recommended for all to begin preparing for the final exam.

Workshop Grading: Workshop grades are assigned using a Team Report from each team. Team Reports are available in Blackboard under Documents. Your team is responsible for bringing a Team Report to each class. The following information must be entered or points may be deducted.

- The course and section number, e.g., CHE 132.R04, and date
- The team name (and/or number supplied by your instructor) and a self-assessed team grade
- The name of each team member next to their role for the day along with the points earned for homework
- Answers to the questions
- As indicated by the instructor, a recorder's report on the back of the form.

Optionally, you can provide feedback to the instructor. All other fields must be left blank.

Each workshop is graded on a scale of 15 points as follows.

3-5 points, self-assessed team. Entered by your strategy analyst in consultation with the team.

Based on the grading criteria provided by the instructor, your team should give yourselves:

3 points if your performance was poor, e.g., not focused, little work done

4 points if your performance was reasonable, e.g., some time spent off-topic, not all criteria met

5 points if your performance met all of the criteria

0-5 points, instructor's validation of your self-assessed grade. Entered by your instructor.

This is usually the same as your self-assessed grade if the instructor agrees or a 0 if the instructor disagrees. For example, if your team does very little work but enters a self-assessed grade of 5, the instructor may give you a 0 for the instructor's validation for a total of 5 out of 10 points. If you had honestly given yourselves a 3, the instructor's validation of 3 would have given you 6 out of 10 points. Always check that your instructor agrees with your self-assessed grade before submitting your Team Report.

0-5 points, other. Entered by your instructor.

These may be assigned at the instructor's discretion and will be clearly communicated to the class prior to being deducted. For example, your instructor may deduct 1 point if your team does not have a textbook, or 1 point for each 5 minutes of workshop you miss.

Students whose names do not appear on the team report will receive a zero for the grade for the day. The percentage of points earned over the semester contributes to your course grade as outlined above. The lowest workshop grade is dropped at the end of the semester.

CLASS PROTOCOLS:

- All cell phones must be silenced during class sessions; if an emergency conversation is required you should step out of the room.
- Questions regarding class topics are always welcome. During workshops, questions should be directed to the instructor through the team spokesperson. Questions that are not directly related to class topics should be directed to the instructor immediately before or after class, and instructors will do their best to be available at these times. If the instructor is not available immediately before or after class, questions can be taken to staff office hours or sent to che132@stonybrook.edu.
- Please do not bring food to any class meetings, and please take with you anything you bring, including trash.
- Stony Brook University expects students to maintain standards of personal integrity that are in harmony with the educational goals of the institution; to observe national, state, and local laws and University regulations; and to respect the rights, privileges, and property of other people. Any behavior that interrupts the ability of instructors to teach, the safety of the learning environment, and/or students' ability to learn will be reported to University Community Standards. Students who display such behavior may be asked to consult with one of the course instructors or asked to leave a class session, whereupon University Police will be notified. Information on campus policy regarding student disruptions can be found at http://www.stonybrook.edu/sb/behavior.shtml.

CLASS RESOURCES:

Library resources: A few copies of textbooks will be placed on reserve in the Chemistry Library on the second floor of the Chemistry Building.

Blackboard: should be checked regularly for announcements, reading and homework assignments, lecture notes, help room schedules, grades, solutions to homework problems, sample exams from previous semesters, and other important matters. Support for Blackboard is available at tlt.stonybrook.edu/StudentServices/BbStudents/Pages/default.aspx.

Getting Help:

- Help with concepts or assignments is available in the Chemistry Learning Center, Chemistry Building, Room 124. Hours are posted in Blackboard under Information. Such help should not be addressed to the course email. Issues with the Chemistry Learning Center may be addressed to Dr. Tooker, Chemistry 470, during his office hours or by email at Bradford.Tooker@stonybrook.edu.
- Technical problems with CONNECT must be addressed to Connect Technical Support at mpss.mhhe.com/contact.php. Issues with CONNECT grades should be addressed to Dr. Nagan or email che132@stonybrook.edu.
- Technical problems with ALEKS must be addressed to ALEKS Technical Support at www.aleks.com. Issues with ALEKS grades should be addressed to Dr. Nagan, Chemistry 575, or email che132@stonybrook.edu.
- Technical issues with your response cards should be directed to Turning Point technical support at www.turningtechnologies.com/responsesystemsupport. Please report difficulties with technical support to Dr. Nagan.
- Issues with the Workshops should be addressed to your Workshop Instructor. Issues that cannot be resolved by your instructor should be taken to Dr. Nagan during his office hours as posted on Blackboard under Staff Information.
- Questions about course content, organization, grades, exams, or personal problems should be addressed to Professors Raineri or Nagan or Dr. Wolfskill during their office hours or by email at CHE132@stonybrook.edu. Please do not use instructors' personal email addresses as your message may be lost or overlooked.
- Office hours for all instructors are posted under Staff Information in Blackboard.
- Difficulties with mathematics may be addressed at the Math Learning Center, Math Building, room S-240A.

- Additional academic help may be available through the Residential Tutoring Centers (studentaffairs.stonybrook.edu/res/rtc/) or the Academic Success & Tutoring Center (stonybrook.edu/commcms/academic_success/).

DISABILITY SUPPORT SERVICES (DSS) STATEMENT:

If you have a physical, psychological, medical or learning disability that may impact your course work, please contact Disability Support Services, ECC (Educational Communications Center) Building, Room 128, (631) 632-6748. They will determine with you what accommodations, if any, are necessary and appropriate. All information and documentation is confidential. Students who require assistance during emergency evacuation are encouraged to discuss their needs with their professors and Disability Support Services. For procedures and information go to www.stonybrook.edu/ehs/fire/disabilities.

ACADEMIC INTEGRITY STATEMENT:

Each student must pursue his or her academic goals honestly and be personally accountable for all submitted work. Representing another person's work as your own is always wrong. Faculty are required to report any suspected instances of academic dishonesty to the Academic Judiciary. Faculty in the Health Sciences Center (School of Health Technology & Management, Nursing, Social Welfare, Dental Medicine) and School of Medicine are required to follow their school-specific procedures. For more comprehensive information on academic integrity, including categories of academic dishonesty, please refer to the academic judiciary website at http://www.stonybrook.edu/uaa/academicjudiciary/.

In this course you are strongly encouraged to work with others to master the material in the class activities, workshops, and ALEKS homework. However, in working with others to arrive at your response to a question, you must understand and be able to explain the rationale behind your response not just report someone else's answer. It is intellectually dishonest to report someone else's work and understanding as your own. Therefore, violations of the following will result in a course grade of F and a report to the Academic Judiciary.

- You must submit responses to in-class questions and problems only with your own response pad. Students holding more than one clicker will be considered in violation along with the student whose clicker they hold.
- You must record and submit your own answers to CONNECT and ALEKS questions based on your understanding not on how someone else told you to respond.
- You must work independently when asked to do so.
- You must take the examinations independently with no assistance from any other person, without the aid of any unauthorized materials, and without access to any electronic communication devices.

CRITICAL INCIDENT MANAGEMENT:

Stony Brook University expects students to respect the rights, privileges, and property of other people. Faculty are required to report to the Office of Judicial Affairs any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, or inhibits students' ability to learn. Faculty in the HSC Schools and the School of Medicine are required to follow their school-specific procedures.

ELECTRONIC COMMUNICATION STATEMENT:

Email and especially email sent via Blackboard (http://blackboard.stonybrook.edu) is one of the ways the faculty officially communicates with you for this course. It is your responsibility to make sure that you read your email in your official University email account. For most students that is Google Apps for Education (http://www.stonybrook.edu/mycloud), but you may verify your official Electronic Post Office (EPO) address at http://it.stonybrook.edu/help/kb/checking-or-changing-your-mail-forwarding-address-in-the-epo.

If you choose to forward your official University email to another off-campus account, faculty are not responsible for any undeliverable messages to your alternative personal accounts. You can set up Google Mail forwarding using these DoIT-provided instructions found at http://it.stonybrook.edu/help/kb/setting-up-mail-forwarding-in-google-mail.

If you need technical assistance, please contact Client Support at (631) 632-9800 or supportteam@stonybrook.edu.