CHM 11600 Course Packet Spring 2017

CHM 11600A:
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and
Dr. Roy Tasker; WTHR 216G; 765-494-3055; rtasker@purdue.edu (2nd 8 weeks)
Lecture: M/W 10:30 and 11:30 AM, WTHR 200
PARTÉ (PSO): F 10:30 and 11:30 AM, WTHR 200

CHM 11600B:
Dr. David Thompson; BRWN 4103B/BIND 294; 765-494-0386; davethom@purdue.edu (1st 8 weeks)
and
Dr. Adam Wasserman; WTHR 265B; 765-494-2348; awasser@purdue.edu (2nd 8 weeks)
Lecture: M/W 2:30 and 3:30 PM, WTHR 200
PARTÉ (PSO): F 2:30 and 3:30 PM, WTHR 200

Course Coordinator: Marybeth Miller, BRWN 1144, phone: 765-494-5251; mille201@purdue.edu.
Mrs. Miller supervises the lab teaching assistants (TAs) and maintains all of the grade records for
the course. She can address concerns or questions you may have about your grades, course
policies and procedures.

BRWN 1144, The General Chemistry Office, 765-494-5250 The General Chemistry office
handles all the administrative details associated with the course. All non-chemistry questions
about the course should be directed to this office. For example, go to BRWN 1144 to get grade
checks, to discuss exam conflicts, to get clarification on course policies, to resolve grade issues, to
change your schedule (weeks 2 and 3), and to get signatures on university forms such as add/drop
forms. Course Coordinator Mrs. Miller and assistants Mrs. Linn and Mrs. Roadruck are able to
help you with a variety of requests so you can maximize your success in general chemistry.

In CHM 11600, General Chemistry II, the following topics will be covered:

- Chemical kinetics, and the quantitative application of kinetics concepts to
  understand the factors that determine the rate of a reaction under specified
  conditions.
- Chemical equilibria, including gas phase reactions and acid-base reactions; and the
  application of quantitative equilibrium concepts to selected chemical reactions.
- Electrochemical equilibria, voltaic cells, and prediction of the potentials and energy
  changes associated with reactions in these cells.
- The quantitative relationships between quantities in thermodynamics,
  electrochemistry, and equilibria to understand the factors that determine the extent
  of a reaction under specified conditions.

Course Information: Blackboard http://www.itap.purdue.edu/tlt/blackboard
Assignments, announcements and other course information are available on the course
Blackboard page. We recommended you visit it often.

Foundational Core: This course meets the science requirement of Purdue University's
foundational core curriculum. Learning Objectives will be provided in lecture and on Blackboard.
Required Course Materials

Textbook and Online Homework: In CHM 11600, you are required to complete online homework assignments using the McGraw-Hill Connect program. Connect includes an electronic version (ebook) of the textbook, *The Molecular Nature of Matter and Change*, 7th Edition, by Silberberg and Amateis. If you took CHM 11500 in Fall 2016, your Connect access is still valid, so you do not need to purchase access again. If you do not already have Connect access, there are several options available for purchasing Connect access and an optional loose-leaf copy of the textbook. See the course Blackboard page for instructions.


Calculator: A simple battery operated scientific calculator with exponential, logarithm and square root functions is needed for exams. You are NOT allowed to use alpha-numeric, graphing and/or programmable calculators for exams. (Two-line non-programmable calculators are allowed.) Solar calculators do not function well in some areas of the Hall of Music. Approved calculators are available for purchase outside WTHR 200 during the first 2 weeks of class.

Lab materials: A padlock for your assigned lab drawer (by the end of week 4 – Feb. 3) and approved safety goggles, available at the bookstores, outside WTHR 200 during the first two weeks of classes, or from the storeroom on the 1st or 2nd floor in BRWN.

Week #1 Assignments:

- Purchase required materials (see above).
- Register for your CONNECT account and begin your first assignment.
- Attend lab check-in.
- Attend recitation and lecture.
- Read all the information in this course packet.
- Review the Reading Assignments and Learning Objectives (on Blackboard).
- Complete the safety certification on the course Blackboard page with a score of at least 20/25 by 11:59 PM on Wed. Jan. 18. You must complete your safety certification before you can work in lab and receive credit for the lab.

Weekly Assignments:

- Attend lecture, recitation, lab and PARTÉ (PSO).
- Do the reading assignment for lecture.
- Complete your Connect homework assignment (due each Monday at 9:59 PM).
- Complete the concept problems (posted on Blackboard) in preparation for the recitation quiz.
- Prepare for lab: read the relevant lab manual chapter, do the textbook reading assignment for lab, and complete the pre-lab assignment in preparation for the lab quiz.

Late Registration If you register late, notify the Course Coordinator, Mrs. Miller (mille201@purdue.edu), no later than Fri., Feb. 3 to see about the possibility of making up missed assignments.
Overview of CHM 11600 Activities and Policies

How to Study for CHM 11600 (written by Dr. John Nash and Dr. Marcy Towns)

It will take you at least two hours out of class for every hour we spend in class in order to study and learn the material. This means about 8-12 hours of distraction-free studying and working with chemistry each week. You may spend this time working on your lecture notes, reading the text, studying the required material, doing homework, studying for exams, or other things. You may find yourself spending more than 8-12 hours per week if your math skills need improvement or if it has been a few years since you took a chemistry course. If you are committed to your goals and dreams, then dedicate yourself to spending the necessary time to study and do well.

Before Class
- Complete the assigned reading (given in lecture) and review your notes from the previous class.

During Class
- Take notes!
- Write down each step of every problem or example even if you do not understand the step. You can always ask about it later.
- Try to answer all the questions that the professor presents.
- Write a question mark next to things you don't understand so you can return to them after class.
- Use shorthand or abbreviations so that you can write quickly, but understandably.

After Class
- Review your notes while things are still fresh in your mind.
- Check your text in order to understand those items that you did not understand and marked in lecture. If necessary, use graduate instructor (TA) office hours to help you.
- Never miss lecture. Chemistry is cumulative. What is presented tomorrow depends upon your knowledge of what was covered today. If you will miss class, then get a friend to take notes for you or get the notes from the Boilercast recording.
- Watch the Boilercast lecture recordings on Blackboard to fill in things you missed.

Read Differently
- Read technical material (like your Chemistry textbook) differently than you would read a novel. Read in short "chunks" and give yourself time to reflect and interpret the information presented. With technical material, it is often difficult to pick up the "story" in the second paragraph if you did not process the first paragraph.

- Try the problems in the book without looking at the solutions! If you have understood what you've read, then you should be able to do the problems. First, cover the solution and try the problem. Second, quickly look at the answer to see if you are correct. If your answer is incorrect, try re-reading the section to see if you missed anything. Third, look at your work again to find your mistake. Fourth, look at the solution of the problem presented in the book. The key is to force yourself to recall and apply material.

- Read technical material in a "distraction-free" environment. Processing technical information will be more effective in the absence of TVs, radios, headsets, etc. Turn your phone off!

- Read and interpret subheadings. With technical material, the subheadings often carry important information. This is different from the chapter headings in a novel which usually contain no information.
• Use the textbook as a reference when you study your lecture notes. Fill in any gaps and correct any information.

When Should I do the Homework?
• Read the assigned pages in the textbook before you attempt any of your homework problems.

• Do some work in chemistry every day. Work at least two chemistry problems each day. If you are drawing a blank about the problem after 5-10 minutes, go on to another a problem. Seek help from a graduate instructor (TA) the next day during office hours. After a day or so, work related problems in the textbook.

Practice, Practice, Practice
• Work additional problems at the end of each chapter which were not assigned as homework.

• Look for similarities and differences in problems (homework questions, lecture examples). Classify problems by the type of knowledge that is needed to solve the problem.

Sources of Help
There are several free sources of help for CHM 11600 students, including professor office hours, TA office hours (WTHR 116C), Supplemental Instruction (SI, www.purdue.edu/SI), PARTÉ sessions (see below), and the Chemistry Resource Room (WTHR 117B). Find more information in the “Resources” folder on Blackboard. Note that you can attend the office hour of any 11600 TA, not just your TA.

Reading Assignments and Learning Objectives
• Reading assignments will be provided in lecture and/or posted on Blackboard. Reading the assigned material prior to lecture and laboratory is recommended. Some of the material will be covered in lecture and some on your own.

• Your Connect account includes access to SmartBook, an interactive digital version of the textbook. SmartBook highlights key concepts, offers learning resources like slides and videos, and asks questions so you can gauge your comprehension. Instructions for using SmartBook are posted on Blackboard.

• Learning Objectives list the concepts you are expected to understand and the skills (calculations) you are expected to demonstrate for each topic covered in the course. Exam questions are based on the Learning Objectives.

Lectures
• Student versions of lecture slides may be posted on Blackboard. These are outlines of the lectures and are not a substitute for taking notes in lecture.

• Recordings and slide capture of lectures may be viewed or downloaded using the Boilercast link on Blackboard.

• A smartphone-based classroom response system will be used during the second half of the semester to gauge your understanding of lecture material. Up to 10 points of extra credit will be available for lecture participation. Details about installing the app on your device will be provided in lecture and on Blackboard.
• Cell phones, computers, iPods or other electronic devices not being used for instructional purposes are distracting for everyone in a learning situation. Please respect your classmates and turn off your cell phones and iPods in lectures as well as in recitations and labs. Computers can be used to take notes and follow lecture, but you should not be using Facebook, texting, etc. during class. Talking out loud to classmates during lecture is distracting to other students and is disrespectful to the lecturer. If you have a question please ask, but otherwise remain quiet and allow the students around you the opportunity to pay attention.

**PSO (Optional Friday PARTÉ sessions)**

During Preparation And Readiness to Take Exams (PARTÉ) sessions you will have the opportunity to work exam-type questions with other students and get help from TAs.

• PARTÉ will be held on Fridays in WTHR 200 at 10:30 AM, 11:30 AM, 2:30 PM and 3:30 PM, beginning in Week 3.

• PARTÉ is a time to work problems with your classmate and get help from the TAs. As such, you are expected to stay for *all or most* of the class period (50 minutes). You are not allowed to obtain the PARTÉ packet and leave immediately.

• Answers will be provided only *after* you have attempted or completed all of the problems. If you don’t have time to check your answers during the session, you may consult with a TA during office hours.

• Two PARTÉ packets will be provided each week: PARTÉ I at 10:30 AM and 2:30 PM and PARTÉ II at 11:30 AM and 3:30 PM. To obtain both packets, you must obtain both sessions. If you are unable to attend both sessions, you can connect with a classmate to share the packets.

• PARTÉ sessions are not a time to get help with homework or prelab questions; TA office hours are available for this purpose.

**Homework (Connect)**

• Each week you will have one homework assignment on the online Connect system (see Blackboard for the link). Homework will *usually* be due on **Monday at 9:59 pm**, 10 days after it is assigned. Due dates will be listed on Blackboard.

• You have 2 assignment submission attempts for each Connect homework. Each assignment attempt contains 3 question attempts. You must submit your first assignment attempt to access your second assignment attempt. Your score is the best of the 2 assignment submissions.

• Each Connect homework assignment is worth 10 points. The one lowest homework score will be dropped at the end of the semester to account for illnesses, trips, technical difficulties and other situations.

• No time extensions are possible for Connect homework assignments. Allow plenty of time to do your homework and get the highest possible score.

• Exams are likely to include questions taken from homework assignments.

• For technical difficulties with the Connect system, call 1-800-331-5094 or use the online form: [http://mpss.mhhe.com/contact.php](http://mpss.mhhe.com/contact.php).
Recitation and Concept Problems

- Each week a number of concept problems will be assigned and posted on the CHM 11600 Blackboard site (on Fridays, unless otherwise stated). Plan to bring these problems to lecture and work on them during the next week. Resources to aid you in completing the problems are lecture, TA office hours, professor office hours and group work with fellow students.

- There will be a 10-minute quiz over one of the concept problems at the beginning of most recitation classes. (Refer to schedule on pp. 16-17.) Each recitation quiz is worth 10 points. The lowest recitation quiz score will be dropped at the end of the semester. There are no make-up quizzes.

- If you are late for recitation, you will not receive extra time to complete the quiz.

- You need to bring a simple, battery-operated scientific calculator and a non-erasable ink pen with you to each recitation quiz. There will be no “spare” calculators available during quizzes and you may not share a calculator with another student. Cell phones and programmable (graphing) or alphanumeric calculators may not be used during quizzes.

- Quizzes must be written in non-erasable ink to be eligible for a regrade. A written request for a regrade, which provides an explanation that the grader can follow, must be submitted to the General Chemistry office, BRWN 1144, within one week of the graded quiz being returned to you.

- After the recitation quiz, there will be time for you to discuss the solutions to the concept problems with the class.

- The remainder of the recitation period will be devoted to preparing for lab and answering your questions about prelab and homework assignments.

PeerWise Project

During the second half of semester, you will use PeerWise, a web-based software that allows you to create multiple choice questions which will then be shared with fellow students for evaluation and discussion. You will also be required to answer and discuss questions created by your peers.

The goal of this program is for you to develop a deeper understanding of the course material and key learning objectives. The project will also create a large repository of questions that can be used for exam review.

Your participation in Peerwise is worth 25 points. Details and instructions will be provided in class and on Blackboard.
Laboratory
Laboratory exercises are an integral part of CHM 11600 and are an opportunity for you to experience in a hands-on way the chemical concepts discussed in lecture.

Laboratory Attendance and Participation
- Lab attendance is required since CHM 11600 is a laboratory course. There are no make-up labs or excused absences, except those covered by the GAPS or MAPS policies (see p. 13).

- You are required to complete 10 of the 12 scheduled lab projects to pass the course. If you fail to complete or miss more than 2 lab projects, an automatic grade of “F” will be assigned for the course at the end of the semester.

A failure to complete (zero score) will be assigned in the following cases:
- being absent for any reason (except GAPS/MAPS approved absences)
- being dismissed from lab for an incomplete Safety Certification (score <20/25)
- being dismissed from lab for safety violations, including dress and goggle violations
- arriving more than 10 minutes late
- leaving lab early or otherwise not completing the lab project and/or report
- inadequate preparation that hinders lab participation
- not contributing constructively to the group’s work in lab
- failure to submit a lab report
- not participating in preparation of the lab report

- You must complete the online safety certification found on Blackboard with a score of 20/25 or better by 11:59 PM on Wed. Jan. 18. You must confirm your score in the Blackboard grade center. You will receive a zero for each lab you miss due to an incomplete safety certification.

- In lab, you must endeavor to work as an effective member of a team. During lab check-in, your lab group will complete a Group Agreement for Cooperative Work, which you will sign and submit to your instructor. Midway through the semester, your group will review the agreement and complete a peer and self-evaluation, ranking each member’s contribution to the lab projects. Note that if you come to lab unprepared, don’t carry your fair share of the load and/or don’t do what you are supposed to do, you may receive a lower score for the lab project. (See above for examples of situations in which a zero or reduced score can be assigned.)

Lab Preparation
- Before lab, read the experiment and attend recitation to help you prepare.

- Complete the prelab practice questions posted on Blackboard each week. These exercises are designed to help you prepare for the lab and the prelab quiz. The practice problems will not be collected or graded, although time will be spent working on them in recitation.

- Arrive on time, properly dressed, and prepared for lab work. If you arrive at lab more than 10 minutes late or improperly dressed, you will be asked to leave the lab and will receive a score of zero for that week’s lab and the lab quiz.
**Lab Quizzes**  
There will be a quiz based on the lab procedure and the prelab practice questions before each lab. The purpose of these quizzes is to ensure your preparation for and safety in lab.

- Lab quizzes are worth 10 points each. You must *attend and complete* the lab to receive credit for the corresponding quiz. The lowest lab quiz score will be dropped at the end of the semester. There are no make-up quizzes.

- Quizzes will either be online (before lab) or written format (in lab).

- No time extensions are possible for online quizzes.

- For quizzes given in lab, you will not receive extra time to complete the quiz if you are 1-10 minutes late for lab. (If you arrive *more than* 10 minutes late, you will not be allowed to complete the quiz or the lab.)

- For quizzes given in lab, you need to bring a simple, battery-operated scientific calculator and a non-erasable ink pen. There will be no “spare” calculators available during quizzes and you may not share a calculator with another student. Cell phones and programmable (graphing) or alphanumeric calculators may not be used during quizzes.

**Lab Safety**  
*Students’ safety in the laboratory is a priority and everyone is required to comply with the following safety regulations. Failure to comply will result in being sent home from lab with a score of zero, which counts as a lab absence.*

- Dress appropriately (see p. 9).
- Goggles are required *at all times* in the laboratory, including during report-writing and lab check-out. If you are in lab and your goggles are not covering your eyes, you will be sent home and will receive a zero for the lab and the lab report (failure to complete).
- Wear gloves when specified.
- If your hair is longer than shoulder length you must tie it behind your head.
- Contact lens wearers are encouraged to wear glasses in the laboratory.
- Food and beverages are not allowed in the labs. (This includes water bottles.)
- Follow your instructor’s guidance on appropriate handling of hazardous materials and disposal of chemical waste.
- Promptly clean up spills and tidy the laboratory before leaving.
- Proper dress (clothing and shoes) is required. Your clothing must *cover you from your neck (collarbones) to your ankles* when sitting, standing or reaching. Your feet must be completely covered by your shoes.
If you attend lab in unacceptable attire, you will be sent home and will receive a zero for the lab (failure to complete).

Unacceptable clothing includes, but is not limited to:

- tops that are sleeveless, low-cut or V-neck (below the collar bone), bare midriff or tank-style
- pants that are ripped or have holes in the fabric of any size
- tights or thin (translucent or transparent) leggings
- Capri or cropped pants
- shorts
- short skirts
- open-toed and/or open-heeled shoes (including Crocs, Birkenstocks or other clogs)
- sandals (with or without socks)
- boat shoes, ballet flats, slippers, moccasins, or any shoe that doesn’t cover the entire top of your foot and ankle, with or without socks

► If you come to lab wearing anything in the list above, you will be sent home and you will get a zero for that lab.

► Your best option for chemistry lab attire is a crew neck t-shirt, jeans without holes, and sneakers with socks.
Lab Reports

- Complete the lab report appropriately:
  - Use ink and write neatly.
  - Label graphs and tables.
  - Use the data your team collected for the calculations and analysis.
  - Use correct units of measurement and significant figures.
  - Use chemical terms and concepts correctly.
  - Ensure results and conclusions are consistent with your data and observations.

- Lab reports are completed on worksheets contained in the lab manual or distributed by your instructor. Lab reports are due before leaving lab the day lab work is completed and the lab is over (i.e. at 10:20 AM, 2:20 PM or 5:40 PM). Lab reports submitted after the lab period ends, up to 24 hours late, are worth 50%. Lab reports submitted after 24 hours are worth no (zero) credit.

- Lab reports are worth 15 points each. The lowest lab report score will be dropped at the end of the semester.

- Graded lab reports will be returned by your lab instructor one week after they are submitted. It is suggested that all lab partners review the graded report, as exams will include lab-related questions. If you have questions about a lab report grade, speak with your lab instructor (TA) or the Course Coordinator (Mrs. Miller) within one week of the report being returned to you. Your report must be completed in pen to be eligible for a regrade.

- After Labs 5 and 10, you will be required to complete an individual post-lab discussion (maximum one page, typed), each worth 20 points. Details will be provided by your instructor.

Exams

Exams are a chance for you to demonstrate your comprehension of the course material and are worth approximately 50% of your final grade. Your lowest exam score or ½ your final exam score will be dropped at the end of the semester.

Spring 2017 hour exam schedule:

<table>
<thead>
<tr>
<th>Exam</th>
<th>Date</th>
<th>Time</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exam I</td>
<td>Tues. Feb. 7</td>
<td>6:30 – 7:30 PM</td>
<td>Elliott Hall of Music</td>
</tr>
<tr>
<td>Exam II</td>
<td>Wed. Mar. 8</td>
<td>8:00 – 9:00 PM</td>
<td>Elliott Hall of Music</td>
</tr>
<tr>
<td>Exam III</td>
<td>Wed. Apr. 5</td>
<td>6:30 – 7:30 PM</td>
<td>Elliott Hall of Music</td>
</tr>
</tbody>
</table>

†Final Exam: time and place to be announced – see below

- Attendance at exams is required. There are NO make-up exams and absences are not excused except those covered by the GAPS/MAPS policies (see p. 13). If you are absent for one exam, your score will appear as a zero until the end of the semester, at which time one zero score can be dropped. You will receive no score (zero points) for additional missed exams.

- If you have a direct conflict with another exam, class, or required university activity, contact the General Chemistry office (BRWN 1144) at least one week before the conflict. You will be asked to provide written verification of the conflict. If an emergency occurs, contact the General Chemistry office (BRWN 1144) as soon as possible.

- Hour exams are one hour in length. You should arrive at least 15 minutes before the exam start time. If you arrive more than 15 minutes after the exam start time, you will not be allowed to take the exam.
• Exams are given in the Elliott Hall of Music. Before Exam I, you will receive an exam seat assignment (level, aisle, row, and seat) for the entire semester. Take your PU ID, your seat assignment, an appropriate (non-graphing) calculator (see details on p. 2), and #2 lead pencils with you to the exam. You may not share a calculator with another student.

Final Exam
• Details about the final exam, including content, date, time and location, will be announced mid-semester.

• Wait until you know the date of the final exam before you make travel plans that might conflict with the exam. Final exams will NOT be rescheduled to accommodate your travel plans.

• University policy on Final Exams states: “Students scheduled for more than two (final) examinations in one calendar day are entitled to reschedule any examination in excess of two... It is the responsibility of the student to make necessary arrangements before the last week of regularly scheduled classes.”

Determining your Course Grade, Spring 2017
Each of the assigned course activities for CHM 11600 is worth the number of points listed below. Before course grades are finalized at the end of the semester the following scores will be dropped:

- Lowest homework score
- Lowest lab report score, provided you have completed at least 10/12 labs
- Lowest lab quiz score
- Lowest concept (recitation) quiz score
- Lowest exam score or ½ your final exam score, whichever is lower

The total number of points for CHM 11600 will be distributed as follows:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Points</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exams I - III</td>
<td>450 pts.</td>
<td>(3 at 150 pts. each)</td>
</tr>
<tr>
<td>Final Exam</td>
<td>300 pts.</td>
<td>(comprehensive)</td>
</tr>
<tr>
<td>Homework</td>
<td>140 pts.</td>
<td>(best 14 of 15 at 10 pts. each)</td>
</tr>
<tr>
<td>Concept Quizzes</td>
<td>90 pts.</td>
<td>(best 9 of 10 at 10 pts. each)</td>
</tr>
<tr>
<td>Lab Quizzes</td>
<td>110 pts.</td>
<td>(best 11 of 12 at 10 pts. each)</td>
</tr>
<tr>
<td>Lab Reports</td>
<td>165 pts.</td>
<td>(best 11 of 12 at 15 pts. each)</td>
</tr>
<tr>
<td>Post-lab Discussions</td>
<td>40 pts.</td>
<td>(2 at 20 pts. each)</td>
</tr>
<tr>
<td>Peerwise Project</td>
<td>25 pts.</td>
<td></td>
</tr>
<tr>
<td><strong>Sub-total</strong></td>
<td><strong>1320 pts.</strong></td>
<td></td>
</tr>
<tr>
<td>Drop</td>
<td>-150 pts.</td>
<td>drop lowest exam or ½ final exam score, whichever is less</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1170 pts.</strong></td>
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</table>

►If you miss more than 2 labs your course grade will automatically be an F. Except for approved GAPS or MAPS leaves, there are NO EXCUSED ABSENCES in CHM 11600.
Up to 10 points of extra credit will be available from lecture participation (classroom response system use) during the second half of the semester.

The point total available for exams is 600 (4 x 150). Your dropped exam score will be determined as follows: Your points earned on the Final Exam will be divided equally in half and considered as separate scores, T4 and T5. These scores will be compared with your scores on Exams 1-3 (T1, T2, and T3) and the lowest of these 5 scores will be dropped (i.e. not counted into your total points).

At the end of the semester, the total scores for all students will be arranged in numerical order, the score that corresponds to the 99th percentile (S99) will be determined, and then letter grades will be assigned based on this percentile score as follows:

A: \[ \text{Total Score} \geq 0.90 \times S_{99} \]
B: \[ 0.80 \times S_{99} \leq \text{Total Score} < 0.90 \times S_{99} \]
C: \[ 0.70 \times S_{99} \leq \text{Total Score} < 0.80 \times S_{99} \]
D: \[ 0.60 \times S_{99} \leq \text{Total Score} < 0.70 \times S_{99} \]
F: \[ \text{Total Score} < 0.60 \times S_{99} \text{ or if you fail to complete 10 of the 12 lab projects} \]

At various times during the semester, this approach will be used to create tentative grading scales (letter grade cut-offs) which you can use to see how well you are doing in the course.

This grading system has several advantages:

- It lets you know several times during the semester how you are doing in the course.
- Unlike a curved scale, it encourages cooperation among students because no student is penalized when another is successful.
- Unlike an absolute scale, it tends to neutralize the effects of differences from one semester to another and thereby ensures that the same criteria are used to assign grades from one semester to another.

This approach to grading means that the grade you get in this course depends primarily on your own effort and performance. It also ensures that all students who do well in the course will get good grades.

- Check all your grades on Blackboard after each exam. If there are any errors or discrepancies, notify the Course Coordinator, Mrs. Miller, within 2 weeks of the exam.
- Save all returned graded papers and your exams until after you have received your course letter grade for CHM 11600. To resolve any discrepancies, your paper(s) will need to be reviewed.
UNIVERSITY AND COURSE POLICIES

Absences
- Verified grief and military absences are the only excused absences in CHM 11600. Students who experience the death of a family member or close friend and students who are called into military service should contact the Office of the Dean of Students at 765-494-1747. (See below.)

- The lowest score in each category (lab report, HW, lab quiz, concept quiz, exam) is dropped at the end of the semester to account for absences due to illnesses, trips, conflicts or other situations. If you have concerns about how an absence will affect your course grade, contact your instructor or Course Coordinator Mrs. Miller at the time of the absence.

- If you experience an absence that is expected to be for an extended period of time (normally a week or more), you should contact the Office of the Dean of Students at 765-494-1747. As a courtesy to the student, a member of the Dean of Students staff will notify your instructor(s) of the circumstances. This intervention does not excuse you or change in any way the outcome of the instructor’s decision regarding your academic work and performance in CHM 11600.

- Grief Absence Policy for Students (GAPS)
  If you experience the death of a family member or close friend, notify the Office of the Dean of Students at 765-494-1747. Scores for any missed assignments covered under a verified GAPS absence will be pro-rated (assigned a score based on your average grade for that type of assignment). See the Course Coordinator (Mrs. Miller) for more information.

- Military Absence Policy for Students (MAPS)
  If you are required to complete mandatory military training, notify the Office of the Dean of Students (ODOS) at 765-494-1747 to request that a notice of the leave be sent to instructors. See the Course Coordinator (Mrs. Miller) for more information.

Academic Integrity
All students are expected to be familiar with Purdue’s policies on academic integrity (https://www.purdue.edu/odos/osrr/academic-integrity-brochure/).

“Dishonesty in connection with any University activity may result in informal action or disciplinary sanctions. Cheating, plagiarism, or knowingly furnishing false information to the University are examples of dishonesty. The commitment of acts of cheating, lying, stealing, and deceit in any of their diverse forms (such as the use of ghost-written papers, the use of substitutes for taking examinations, the use of illegal cribs, plagiarism, and copying during examinations) is dishonest and must not be tolerated. Moreover, knowingly to aid and abet, directly or indirectly, other parties in committing dishonest acts is in itself dishonest.” From University Senate Document 72-18.

Consequences of academic dishonesty include receiving a lower or failing grade for an assignment, being required to repeat the assignment, receiving a lower or failing grade for the course and/or dismissal from the University. All incidents of academic integrity are referred to the Office of the Dean of Students. A student accused of academic dishonesty will be afforded due process as defined by Purdue University procedures.

This course packet is a contract between CHM 11600 students and instructors. If a student violates the contract by committing an act of academic dishonesty, the instructor reserves the right to alter the terms of the contract (including grading policies) at his/her discretion.
**Adding/Changing Sections**

<table>
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<tr>
<th>Details</th>
<th>Deadline</th>
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| Mon. Jan. 16: | last day to add CHM 11600 or switch lab sections *without* instructor’s signature  
Fri. Jan. 27: | last day to switch lab sections *with* instructor approval*; last day to add CHM 11600 with instructor approval* if not already enrolled in another CHM course  
Fri. Feb. 3: | last day to switch from another CHM course to CHM 11600 with instructor approval*  

*Add/Drop forms (Form 023) must be signed by your advisor and delivered to the General Chemistry office, BRWN 1144, to obtain a signature for the instructor.

► Late Registration  If you register late, notify the course coordinator no later than Fri. Feb. 3 to see about the possibility of making up missed assignments.

**University Drop Deadlines – Spring 2017**

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<th>Details</th>
<th>Deadline</th>
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| Mon. Jan. 23: | Last day to cancel (drop) a course without it appearing on your record.  
Mon. Mar. 10: | Last day to cancel (drop) a course with a grade of “W.”  

**Course Drop and Lab Drawer Check-Out**  If you drop CHM 11600 after having checked into a lab drawer, it is your responsibility to check-out of your assigned drawer during your scheduled lab period. Failure to check-out of lab will result in your padlock being cut, a $45 fee, and forfeiture of the right to determine the acceptability of all locker drawer equipment. If you change sections after you check into a locker drawer, you must check out of your old locker drawer before checking into a drawer in your new section.

**Disability Accommodations**

If you require accommodations to access course activities or materials, the accommodations must be described and approved by the Disability Resource Center, Young Hall Room 830, 302 Wood Street, 765-494-1247, [www.purdue.edu/drc](http://www.purdue.edu/drc). To implement accommodations you must follow the instructions in the letter provided by the Disability Resource Center. **Take a copy of this letter to the General Chemistry Office (BRWN 1144) within the first three (3) weeks of the semester or within one week of the date of the letter to discuss your accommodations.** Timely notification of the General Chemistry office is critical for implementation.
Emergencies

In the event of a major campus emergency, course requirements, deadlines and grading percentages are subject to changes that may be necessitated by a revised semester calendar or other circumstances beyond the instructor’s control. Relevant changes to CHM 11600 will be posted on the course Blackboard site or can be obtained by contacting the instructors or TAs via email or the General Chemistry office via phone at 765-494-5250.

You are expected to read your @purdue.edu email on a frequent basis.

- “Shelter in Place” means seeking immediate shelter inside a building or University residence. This course of action may need to be taken during a tornado, earthquake, release of hazardous materials in the outside air, active shooter, building intruder, or a civil disturbance. If you hear the All Hazards Outdoors Emergency Warning Sirens or are notified via text or other means, immediately go inside a building to a safe location and use all communication means available to find out more details about the emergency. Remain in place until police, fire, or other emergency response personnel provide additional guidance or tell you it is safe to leave. There is no “all safe siren;” the notification will come via text, internet, or email announcement.

- In the case of a major campus emergency involving a shelter-in-place, all laboratory experiments will be halted while students shelter in lab. Students’ lab grades will not be penalized in this situation.
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<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Lecture</th>
<th>Lecture Topic</th>
<th>Textbook Chapter/Section</th>
<th>Week</th>
<th>Lab (Lab Manual Chapter)</th>
<th>Lab Reading Assignment</th>
<th>Exams Quizzes Etc.</th>
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<tr>
<td>1</td>
<td>9-Jan</td>
<td>1</td>
<td>Introduction to CHM 11600; Review concentration expressions</td>
<td>Course Packet; 4.1, 4.4, 13.5 16.1</td>
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<td>Check-in; Cooperative Work Agreement; Plan for Lab 1; Safety Certification</td>
<td>textbook 4.1, 13.5</td>
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<td>11-Jan</td>
<td>2</td>
<td>Kinetics</td>
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<td>2</td>
<td>16-Jan</td>
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<td>NO CLASSES (MLK Day)</td>
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<td>Lab 1: A Chemical Oscillation Reaction - 25 pts (CH 1; review Appendix B &amp; C)</td>
<td>textbook 4.1, 13.5</td>
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<td>18-Jan</td>
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<td>CH 16</td>
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<td>23-Jan</td>
<td>4</td>
<td>Kinetics</td>
<td>CH 16</td>
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<td>Lab 2: Factors Affecting Rates of Chemical Reactions - 25 pts (posted on Blackboard)</td>
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<td>Concept Quiz 1</td>
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<td>25-Jan</td>
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<td>Kinetics</td>
<td>CH 16</td>
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<td></td>
<td>27-Jan</td>
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<td>First PARTE session (every Friday in WTHR 200 at normal lecture time)</td>
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<td>30-Jan</td>
<td>6</td>
<td>Kinetics</td>
<td>CH 16</td>
<td>4</td>
<td>Lab 3: Chemical Kinetics, Part I (Rate Law) - 25 pts (CH 2; review Appendix A &amp; D)</td>
<td>textbook CH 16</td>
<td>Concept Quiz 2</td>
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<td>1-Feb</td>
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<td>Kinetics</td>
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<td>5</td>
<td>6-Feb</td>
<td>8</td>
<td>Equilibrium</td>
<td>CH 17</td>
<td>5</td>
<td>Lab 4: Chemical Kinetics, Part II (Activation Energy) - 25 pts (CH 2; review Appendix A &amp; D)</td>
<td>textbook CH 16</td>
<td>Exam I Tues. 2/7 6:30 PM Concept Quiz 3</td>
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<td>8-Feb</td>
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<td>13-Feb</td>
<td>10</td>
<td>Equilibrium</td>
<td>CH 17</td>
<td>6</td>
<td>Lab 5: Bromocresol Green Equilibrium Systems - 25 pts (CH 3; review Appendix C &amp; D)</td>
<td>textbook CH 17</td>
<td>Concept Quiz 4</td>
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<td>15-Feb</td>
<td>11</td>
<td>Acids and Bases</td>
<td>CH 4, 18</td>
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<td>12</td>
<td>Acids and Bases</td>
<td>CH 4, 18</td>
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<td>Lab 6: Iron(III) Thiocyanate Equilibrium System - 25 pts (CH 4; review Appendix A &amp; D)</td>
<td>textbook CH 17</td>
<td>Lab 5 discussion due</td>
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<td>22-Feb</td>
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<td>Redox Chemistry</td>
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<td>27-Feb</td>
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<td>Acid-Base Equilibria</td>
<td>CH 18</td>
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<td>Lab 7: Oxidation-Reductions Reactions/Oxidizing Agents and Reducing Agents - 25 pts (CH 8)</td>
<td>textbook Sec. 4.4</td>
<td>Concept Quiz 5</td>
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<td>20-Mar</td>
<td>18</td>
<td>Acid-Base Buffers</td>
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<td>Lab 8: Acid-Base Equilibria (Part I) - 25 pts (CH 5)</td>
<td>textbook 19.2, CH 18</td>
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<td>Acid-Base Titrations</td>
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<td>Lab 9: Acid-Base Equilibria (Part II) - 25 pts (CH 5)</td>
<td>textbook 19.2, CH 18</td>
<td>Concept Quiz 8, Exam III</td>
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<td>27-Mar</td>
<td>20</td>
<td>Coordination Chemistry</td>
<td>CH 23</td>
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<td>Lab 10: How Much Copper is in a Penny? 25 pts (posted on Blackboard)</td>
<td>textbook 13.4, CH 20</td>
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<td>3-Apr</td>
<td>22</td>
<td>Coordination Chemistry</td>
<td>CH 23</td>
<td>13</td>
<td>Lab 11: Thermodynamics and Equilibrium - 25 pts (CH 7)</td>
<td>textbook CH 21</td>
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<td>5-Apr</td>
<td>23</td>
<td>Spontaneity and Entropy</td>
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<td>24</td>
<td>Entropy Changes</td>
<td>Sect. 20.2</td>
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<td>Lab 12: A Metal Ion Sensor - 25 pts (CH 9)</td>
<td>textbook CH 22</td>
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<td>15</td>
<td>17-Apr</td>
<td>26</td>
<td>Electrochemical Cells</td>
<td>Sect. 21.1, 21.2</td>
<td>15</td>
<td>Lab 13: Electrode Potentials</td>
<td>textbook CH 22</td>
<td>Concept Quiz 10</td>
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<td>Electrode Potentials</td>
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<td>16</td>
<td>24-Apr</td>
<td>28</td>
<td>Electrochemistry and</td>
<td>Sect. 21.4</td>
<td>16</td>
<td>Lab Check-out (You must attend or will be charged a $45 failure-to-check-out fee.)</td>
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<td>Final Exam TBA</td>
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<td>26-Apr</td>
<td>29</td>
<td>Thermodynamics</td>
<td>Sect. 21.7</td>
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Do NOT make travel plans until you know the date of the final exam.