Instructor: Dr. Anne Gull
BRWN 1144E
765-494-5250
gulla@purdue.edu

Office Hours: T, Th and F – 12:00 PM – 12:50 PM

Lecture: M, T, Th, and F, 1:00 – 1:50 PM, WTHR 160

Recitation: W, 1:00 – 1:50 PM and F, 8:40 – 9:30 AM

Laboratory: T and Th, 8:00 – 10:50 AM or T and Th, 2:10 – 5:00 PM

Lab Supervisor: Kathleen Jeffery, kjeffery@purdue.edu, BRWN 1144, 765-494-5250. Kathleen supervises the lab teaching assistants while they are teaching lab. She can assist you with lab procedure questions, lab grade inquiries, and lab policy issues.

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, and to get signatures on university forms such as add/drop forms. Staff members 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:

• Kinetics and the quantitative application of kinetics concepts to understand the factors that control rates of reaction;
• Equilibria in chemical reactions, including gas phase reactions, acid-base reactions, heterogeneous reactions, and reactions in solution and the application of quantitative equilibrium concepts to selected chemical reactions;
• Chemical thermodynamics and the quantitative application of chemical thermodynamics to understand the role of energy transfer in chemical changes;
• Electrochemical cells and evaluation of the potentials and energy changes associated with reactions in these cells;
• The relationships between thermodynamics, electrochemistry, and equilibrium.

Course Information Blackboard http://www.itap.purdue.edu/learning/tools/blackboard/
Lecture outlines, reading 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 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 or Spring 2017, 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 will be needed for exams. Two-line non-programmable calculators are allowed. Alpha-numeric and programmable calculators will NOT be allowed for exams.

Lab materials: A Sharpie (black, permanent ink) for marking lab glassware, a padlock for your assigned lab drawer *(by June 22)*, an electronic storage device for lab data, and *approved safety goggles* (available at the bookstores 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.
- Complete the first CONNECT homework assignment.
- Attend lab check-in.
- Attend recitation and lecture.
- Read all the information in this course packet.
- Read the Reading Assignments and Learning Objectives (on Blackboard).
- Complete the safety certification available on the course Blackboard page with a score of at least 20/25 before 11:59 PM on June 14, 2017.

*You must complete your safety certification before you can work in lab.*

Weekly Assignments:

- Attend lecture, recitation, and lab.
- Do the reading assignment for lecture.
- Complete your Connect homework assignments.
- Prepare for lab: read the relevant lab manual chapter, do the textbook reading assignment for lab, and complete the pre-lab exercises including the lab procedure outline.
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 16-24 hours of distraction-free studying and working with chemistry outside of class 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 16-24 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.
- Listen to 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?**
- 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.

  - Read the assigned pages in the textbook *before* you attempt any of your homework problems.

**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 and TA office hours (BRWN 1106). Find more information in the “Resources” folder on Blackboard.

**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 the lecture notes may be posted on Blackboard. These are not verbatim copies of the lectures, but are outlines of the lectures.

  - You may be expected to participate in problem-solving activities during lecture. These will generally be conducted in small groups within the lecture and will provide you more opportunities to interact with the concepts and communicate your understanding.

  - Cell phones, computers, iPods or other electronic devices not being used for instruction 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.
Recitation
Your teaching assistant facilitates recitation two times a week designed to help you understand laboratories and to discuss any questions you may have from lecture or the homework. You will have time to ask questions and check your homework and pre-lab answers so take your homework questions and lab manual with you to recitation.

Homework (CONNECT)
- Each week you will complete homework on the online Connect system (see Blackboard for the link). Homework will usually be due on Friday at 11:59 pm. Due dates will be listed on Blackboard.
- Homework assignments may consist of LearnSmart modules and/or Connect assignments (end-of-chapter questions).
- You have 2 assignment submission attempts for each Connect homework. Each Connect 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 homework assignment is worth a total of 20 points. Your score will be the sum of your scores from the LearnSmart portion and the Connect homework portion. 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 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.

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.
- 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 (grief absence) and MAPS (military absence) policies.
- You are required to complete 10 of the 12 scheduled lab projects to pass the course. If you fail to complete 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 before 11:59 PM on June 14, 2017. 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. The safety certification score is not part of your course grade.

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

- Complete the pre-lab exercises and prepare an experimental procedure in your lab notebook before coming to lab. Pre-labs are due at the beginning of the lab period.

- 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.

- Follow all lab safety regulations (see below).

- Endeavor to work as an effective member of team.

- 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 10:50 AM or 5:00 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 must be turned in to receive points for lab.

- Complete the lab report appropriately:
  - Use pen and write neatly.
  - Label graphs and tables.
  - Use the data you 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.

- 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 lab supervisor, Kathleen Jeffery, within one week of the report being returned to you. Your report must be completed in pen to be eligible for a regrade.

**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 below).

- 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 (collarbone) 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.

**Exams**
Exams are a chance for you to demonstrate your comprehension of the course material and are worth approximately 60% of your final grade.

**Summer 2017 hour exam schedule:**

<table>
<thead>
<tr>
<th>Exam I:</th>
<th>Wednesday</th>
<th>June 28, 2017</th>
<th>6:30 p.m.</th>
<th>WTHR 172</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exam II:</td>
<td>Thursday</td>
<td>July 20, 2017</td>
<td>6:30 p.m.</td>
<td>WTHR 172</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 and MAPS policies. You will receive no score (zero points) for any 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 60 minutes in length. You should arrive at least 15 minutes before the exam start time. If you arrive more than 15 minutes late for an exam, you will not be allowed to take the exam.
- Bring an appropriate calculator (see details on p. 2). You may not share a calculator with another student.

**Final Exam**

- The final is a 2-hour comprehensive exam. Time and place will be announced.
- 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 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, Summer 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:

- your one lowest homework score
- your one lowest quiz score
- your one lowest lab score, provided you complete at least 10 of 12 labs.

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

<table>
<thead>
<tr>
<th>Activity</th>
<th>Points</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homework</td>
<td>120 pts</td>
<td>(best 6 of 7 at 20 pts each)</td>
</tr>
<tr>
<td>Lab Projects</td>
<td>290 pts</td>
<td>(best 11 of 12 at 25 pts each plus Week 1 lab exercise (15 pts))</td>
</tr>
<tr>
<td>Quizzes</td>
<td>40 pts</td>
<td>(best 7 of 8 at 5 pts each)</td>
</tr>
<tr>
<td>Exams</td>
<td>300 pts</td>
<td>(2 at 150 pts each)</td>
</tr>
<tr>
<td>Final Exam</td>
<td>300 pts</td>
<td>(comprehensive)</td>
</tr>
<tr>
<td>Total</td>
<td>1050 pts</td>
<td></td>
</tr>
</tbody>
</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.

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 ($S_{99}$) will be determined, and then letter grades will be assigned based on this percentile score as follows:

- A: 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: Total Score $< 0.60 \times S_{99}$ or if you fail to complete 9 of the 11 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.
- Check your grades on Blackboard after each exam. If there are any errors or discrepancies, notify Dr. Gull 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 lab and homework score is dropped at the end of the term 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 Dr. Gull 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). Contact General Chemistry Administrative Assistant Melissa Roadruck 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. Contact General Chemistry Administrative Assistant Melissa Roadruck for more information.

Academic Integrity

All students are expected to be familiar with Purdue’s policies on academic integrity (http://www.purdue.edu/odos/osrr/academic-integrity/index.html)

“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.
Changing Sections/Adding/Dropping

**UNIVERSITY DEADLINES – Summer 2017**

- **Fri., Jun 18:** Last day to cancel (drop) a course without it appearing on your record.
- **Fri., Jun 23:** Last day to cancel (drop) a course without a grade.
- **Wed., Jul 12:** Last day to cancel (drop) a course (with a passing or failing grade).

**Late Registration:** If you register late, notify Dr. Gull no later than Friday, June 23 to see about the possibility of making up missed assignments.

**Lab Drawer Check-Out:** All students must check-out of their lab drawer, if you switch sections, drop, or withdraw from the University. 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. You will be charged for all equipment that is in unacceptable condition.

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 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 prepared by the Disability Resource Center. **Take a copy of this letter to Mrs. Melissa Roadruck in BRWN 1144 within the first two (2) weeks of the semester or within one week of the date of the letter to discuss your accommodations.** Timely notification of the course coordinator is critical for timely 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.
<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Lecture</th>
<th>Lecture Topic</th>
<th>Textbook Chapter/Section</th>
<th>Date</th>
<th>Lab (Lab Manual Chapter)</th>
<th>Lab Reading Assignment</th>
<th>Exams</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>06/12</td>
<td>1</td>
<td>Introduction to CHM 11600</td>
<td>Course Packet Sect. 4.1, 13.5, CH 16</td>
<td>06/13</td>
<td>Check-in; Observing; Recording and Communicating Experimental Information (hand-out) – 15 pts</td>
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<tr>
<td></td>
<td>06/13</td>
<td>2</td>
<td>Concentration Expressions; Kinetics</td>
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<tr>
<td></td>
<td>06/15</td>
<td>3</td>
<td>Kinetics</td>
<td>CH 16</td>
<td>06/15</td>
<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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<tr>
<td></td>
<td>06/16</td>
<td>4</td>
<td>Kinetics</td>
<td>CH 16</td>
<td></td>
<td><strong>(Safety Certification must be completed before working in lab)</strong></td>
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<td>2</td>
<td>06/19</td>
<td>5</td>
<td>Kinetics</td>
<td>CH 16</td>
<td>06/20</td>
<td>Lab 2: Factors Affecting Rates of Chemical Reactions (hand-out)</td>
<td>textbook CH 16</td>
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<td></td>
<td>06/20</td>
<td>6</td>
<td>Kinetics</td>
<td>CH 16</td>
<td></td>
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<tr>
<td></td>
<td>06/22</td>
<td>7</td>
<td>Equilibrium</td>
<td>CH 17</td>
<td>06/22</td>
<td>Lab 3: Chemical Kinetics, Part I (Rate Law) (CH 2; review Appendix A &amp; D)</td>
<td>textbook CH 16</td>
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<td>06/23</td>
<td>8</td>
<td>Equilibrium</td>
<td>CH 17</td>
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<td>3</td>
<td>06/26</td>
<td>9</td>
<td>Equilibrium</td>
<td>CH 17</td>
<td>06/27</td>
<td>Lab 4: Chemical Kinetics, Part II (Activation Energy) (CH 2; review Appendix A &amp; D)</td>
<td>textbook CH 16</td>
<td>Exam I, June 28, 6:30 pm WTHR 172</td>
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<tr>
<td></td>
<td>06/27</td>
<td>10</td>
<td>Acids and Bases</td>
<td>CH 4, 18</td>
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