Course Change Request

Data Submitted: 09/28/17 8:38 am

Viewing: **CHEM 119 101**: Fundamentals of Chemistry I

Formerly Known As: CHEM 101

Last edit: 02/02/18 1:14 pm

Changes proposed by: hgaede

<table>
<thead>
<tr>
<th>Programs referencing this course</th>
</tr>
</thead>
<tbody>
<tr>
<td>BA-CHEM: Chemistry - BA</td>
</tr>
<tr>
<td>BS-CHEM: Chemistry - BS</td>
</tr>
<tr>
<td>BS-MATH: Mathematics - BS</td>
</tr>
<tr>
<td>BA-CHEM-RCA: Chemistry - BA, Biological Chemistry or Medical, Dental, Pharmacy School Track</td>
</tr>
<tr>
<td>BA-CHEM-CET: Chemistry - BA, Chemical Education Track</td>
</tr>
<tr>
<td>BA-CHEM-TCA: Chemistry - BA, Environmental Chemistry Track</td>
</tr>
<tr>
<td>BS-CHEM-PCT: Chemistry, BS, Biological Chemistry Track</td>
</tr>
</tbody>
</table>

Faculty Senate Number

<table>
<thead>
<tr>
<th>Contact(s)</th>
<th>Name</th>
<th>E-mail</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Holly Gaede</td>
<td><a href="mailto:hgaede@tamu.edu">hgaede@tamu.edu</a></td>
<td>979-845-0520</td>
</tr>
</tbody>
</table>

Rationale for Course Edit

The proposed changes are part of a routine curriculum review.

Course prefix: CHEM
Course number: 119 101

Department: Chemistry
College/School: Science
Academic Level: Undergraduate

Undergraduate course level justification (Select One)

<table>
<thead>
<tr>
<th>College/Program Course Level Rubric</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Level (alternate)</td>
</tr>
<tr>
<td>Effective term: 2019-2020</td>
</tr>
</tbody>
</table>

Complete Course Title

Fundamentals of Chemistry I

Abbreviated Course Title

FUND OF CHEMISTRY I

Catalog course description

Introduction to modern theories of atomic structure and chemical bonding; chemical reactions; stoichiometry; states of matter; solutions; equilibrium; acids and bases; coordination chemistry; methods and techniques of chemical experimentation; qualitative and semiquantitative procedures applied to investigative situations.

Prerequisites and Restrictions

**Concurrent enrollment in CHEM 111.**

Concurrent Enrollment: No

Should catalog prerequisites / concurrent enrollment be enforced?

In Workflow

1. CHEM Department Head
2. Curricular Services Review
3. SC Committee Preparer UG
4. SC Committee Chair UG
5. SC College Dean UG
6. UCC Preparer
7. UCC Chair
8. Faculty Senate Preparer
9. Faculty Senate
10. Provost II
11. President
12. Curricular Services
13. Banner

Approval Path

1. 09/28/17 8:42 am Simon North (swnorth): Approved for CHEM Department Head
2. 09/28/17 10:53 am Sandra Williams (sandra-williams): Approved for Curricular Services Review
3. 09/28/17 17:20 pm Sara Thigpin (sarathigpin): Approved for SC Committee Preparer UG
4. 09/28/17 5:38 pm Lucas Macri (lmacci): Approved for SC Committee Chair UG
5. 09/28/17 5:39 pm Lucas Macri (lmacci): Approved for SC College Dean UG
6. 10/10/17 10:52 am Sandra Williams (sandra-williams): Approved for UCC Preparer
7. 11/13/17 9:34 am Sandra Williams (sandra-williams): Rollback to UCC Preparer for UCC Chair
8. 12/14/17 2:05 pm Sandra Williams (sandra-williams): Approved for UCC Preparer

https://nextcatalog.tamu.edu/courseleaf/approve/
Enforced Prerequisites / Concurrent Enrollment

<table>
<thead>
<tr>
<th>And/Or</th>
<th>Course Prefix/Number</th>
<th>Min Grade/Score</th>
<th>Academic Level</th>
<th>Concurrency?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crosslistings</td>
<td>CHEM 1111</td>
<td>0</td>
<td>UG</td>
<td>Yes</td>
</tr>
<tr>
<td>Stacked</td>
<td>No</td>
<td>Crosslisted With</td>
<td>Stacked with</td>
<td></td>
</tr>
</tbody>
</table>

Semester: 43
Credit Hour(s): (per week):
Lecture: 3
Lab: 3
Other: 0
Total: 63

Repeatable for credit? No
Three-peat? No
CIP/Fund Code: 4005010002
Default Grade Mode: Letter Grade(G)
Alternate Grade Modes: Satisfactory/Unsatisfactory
Method of instruction:
- Lecture
- Lecture and Laboratory

Will sections of this course be taught as non-traditional? (i.e., parts of term, distance education) No

Will this course be taught as a distance education course? No
Is 100% of this course going to be taught in Texas? Yes
Will classroom space be needed for this course? Yes

This will be a required course or an elective course for the following programs:

Required (select program)
Elective (select program)
Has/will this course be(on) submitted for core curriculum consideration? Yes

Proposed Core Foundational Component Area: Core Life/Physical Sci (KLPS)
Approved Foundational Component Area: Core Life/Physical Sci (KLPS)
Course Syllabus

Syllabus: Upload syllabus

Upload syllabus: Combined 119 syllabus updated2.pdf

Letters of support or other documentation: No

Additional information: This course replaces the combination of CHEM101 and CHEM111 in previous catalogs.

Reviewer Comments:
Simon North (swnorth) (09/25/17 1:16 pm): Rollback: only 3 credits
Sandra Williams (sandra-williams) (09/26/17 10:03 pm): Rollback: Please attach a syllabus. Course number changes require a syllabus.
Sandra Williams (sandra-williams) (09/27/17 8:14 pm): Rollback: Syllabus: please do not alter ADA statement. If additional information is required, please use a separate paragraph. Reference our website for the approved statement: http://registrar.tamu.edu/Our-Services/Curricular-Services/Curricular-Approvals/Course-Inventory-Approvals#2-MinimumSyllabusRequirements
Sandra Williams (sandra-williams) (09/28/17 10:53 am): Update received.
Sandra Williams (sandra-williams) (11/09/17 10:31 am): Due to the impact on so many programs UCC tabled changes until February 2018.
Jon Jasper (jon.jasper) (01/27/18 6:41 pm): The attendance policy is slightly unclear. In paragraph 2, the policy states prior notice is require for missing an examination. In paragraph 4, a clause about "cases where advanced notice of an approved absence cannot be given" implies this only applies to missing class for acute illness lasting less than three days. However, as per rule 7, the clause should apply to all absences.
Jim Herman (jherman) (01/31/18 2:50 pm): Justification of course level is on prerequisites, but there are no prerequisites for this course? Other programs reference CHEM 101 besides those listed.
Sandra Williams (sandra-williams) (02/02/18 11:13 am): Programs referencing the course will be updated when all programs submit their changes.
Sandra Williams (sandra-williams) (02/02/18 1:15 pm): Concerns addressed.
Sandra Williams (sandra-williams) (02/05/18 2:12 pm): UCC approved February 2018.

Reported to state?: Change
Welcome to CHEM 119! The most straightforward definition of chemistry is that it is the science that studies the composition, properties, and transformations of matter. It is the central science that leads to the exploration and understanding of the universe around us. The study of chemistry can be exciting and rewarding when there is a joint effort among students and the instructor. This course is designed to introduce every student to various fundamental chemical concepts and laboratory techniques, as well as demonstrating their mastery of the material, while preparing them to continue on to CHEM 120.

**Course Description and Prerequisites:** Chemistry 119 is the first course in a two-semester sequence in general chemistry offered by the Chemistry department. These two courses cover the fundamental principles and applications of chemistry designed for science and chemical engineering majors. In this 4-credit course, students will be introduced to modern theories of atomic structure and chemical bonding; chemical reactions; stoichiometry; states of matter; solutions; equilibrium; acids and bases; coordination chemistry. In these integrated Lecture/Laboratory courses, both lecture and lab components are required and, since there is no separate lab course, independent credit for either separate component of the course is not offered.

**Required Materials**

- ALEKS Learning System registration
- Student account for Sapling Learning. Instructions for creating your account are on eCampus. =
- iClicker2 – This class will use a response system which requires the use of an iClicker remote. These remotes can be purchased or rented from the TAMU Bookstore. Once purchased you **must**
**register** your iClicker remote on the iClicker website: https://www1.iclicker.com/register-clicker. Make sure to use your TAMU ID number without any spaces or dashes.

- Non-programmable scientific calculator. Possible models include but are not limited to:
  - Casio: all fx-115 models; HP: 33 or 35 models; TI: 30X or 36X models.
  - If you have a calculator that you think may be acceptable, please ask for clarification.
    - Other electronic devices, i.e., cell phones, are not acceptable to be used as a calculator.
- Approved eye protection: Chemical splash goggles (fully enclosing goggles with four indirect vents) are required. These are the ONLY approved form of eye protection. **No other goggles will be allowed.**

**Questions:** If you have any questions regarding the lecture, please contact your Lecture Instructor in class or via email. For questions about the laboratory or specific experiments, e-mail your TA or go to the help desk in HELD 406. General questions regarding lost and found or other non-technical issues can be sent to chemfyp@chem.tamu.edu

**Communication and Conduct:** All electronic communication with your Lecture and Lab Instructors, TA, IA, and the FYP office must be conducted from a tamu.edu email account. Emails sent to university email addresses are a permanent document of communication. Therefore, be sure that your emails are polite, professional and well prepared before you send them. All emails should include the student’s first and last name, UIN, and the course and section number. Students are responsible for checking their tamu.edu email on a regular basis to receive messages regarding the course. Inappropriate language and/or disruptive behavior can result in loss of credit and/or reported to the Student Conduct Office.

**Attendance:** Attendance is required in both lecture and laboratory components of this class. If you miss a lecture, you are responsible for both notifying the Lecture Instructor and all material covered during the missed class period. In order to encourage steady attendance, clicker questions will occur daily to determine participation and understanding of that class’ lecture material. (See how clicker questions contribute to your grade below.)

What should you do if you are absent? If you are going to miss a lecture exam with a University excused absence, contact your Lecture Instructor prior to missing the examination. Documentation will be required for University excused absences. See http://student-rules.tamu.edu/rule07 to verify that your absence is excusable. Make-up exams are given within a week of the regularly scheduled exam. They contain multiple choice and free response questions, which cover the same objectives as the regularly scheduled exam.

All absences from lab and make-up lab requests must be reported to and processed by the First Year Program office in HELD 412. Your TA does not have the authority to approve a request for a make-up lab or to schedule a make-up experiment. All students with University-approved excused absences, (see above), will be allowed to make up missed laboratory work.

In cases where advanced notice of an approved absence cannot be given, students must contact your Lecture Instructor (for lecture exams) or FYP office (for laboratory periods) **by the end of the second working day after the end of the absence.**

Any acute illness lasting less than three days requires as doctor’s note as outlined in the student rule 7.1.6.2.b. Other forms of documentation for acute illnesses will not be accepted (ie. TAMU
Explanatory Statement for Absence from Class form). An absence for a non-acute medical service (such as a routine doctor’s appointment) does not constitute an excused absence. Missing lab for not having goggles or other required safety attire is not an excused absence. We are under no obligation to allow make-up opportunities for unexcused absences.

**Punctuality:** Arrive to lab on time. Lab sessions begin with important information concerning the procedures to be followed and safety considerations. If you arrive late, it is at the TA’s discretion as to whether you can stay for that lab session as you may not be able to properly follow the procedures and the safety instructions discussed prior to your arrival. If you arrive late to lecture, you will be responsible for any material covered before your arrival.

**eCampus:** All of your grades will be posted on the eCampus page for the course, which can be accessed via: ecampus.tamu.edu. All supplemental information and/or handouts for the lecture and laboratory will be posted on eCampus. Furthermore, all Sapling assignments and prelab quizzes can be accessed through eCampus.

**Academic Integrity Policy:** The Aggie honor code states that “An Aggie does not lie, cheat, or steal or tolerate those who do.” Upon accepting admission to Texas A&M University, a student immediately assumes a commitment to uphold the Honor Code, to accept responsibility for learning, and to follow the philosophy and rules of the Honor System. Students will be required to state their commitment on examinations, research papers, and other academic work. Ignorance of the rules does not exclude any member of the TAMU community from the requirements or processes of the Honor System. For additional information visit: [http://aggiehonor.tamu.edu/](http://aggiehonor.tamu.edu/)

Even though laboratory data is collected in pairs all submitted work must be completed individually. Each student has to turn in their own pre-lab, post-lab and data sheets. Copying entire or portions of prelab, postlab and data sheets instead of turning in your own original work is considered cheating. Allowing others to view your work is also cheating. Changing experimental data after leaving lab, making up or borrowing data that you did not obtain in class is also a violation of the honor code. All students found to be in violation of the honor code will be given a grade of 0 for the assignment and a report of the violation will be filed with the Aggie Honor System Office. If any two DRAs or Abstracts are alike in their entirety or in part, it is considered cheating. Turning in a post-lab and data sheets for a lab you did not complete is also considered cheating.

**Americans with Disabilities Act (ADA) Policy Statement**
The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact Disability Services, currently located in the Disability Services building at the Student Services at White Creek complex on west campus or call 979-845-1637. For additional information, visit [http://disability.tamu.edu/](http://disability.tamu.edu/)

The Student Services office is very busy, so please make an appointment with them immediately if you feel you require assistance. Students wishing to receive accommodations for disabilities for the lecture portion of the course must submit the appropriate paperwork to your Lecture Instructor. Students wishing to receive accommodations for disabilities for the laboratory portion of the course must submit the appropriate paperwork to the FYP office in HELD 412. We are not responsible for providing any accommodations until after the appropriate paperwork has been submitted.
Copyright: All handouts used in this course are copyrighted and may not be copied without the expressly granted permission of the First Year Chemistry Program Office. The term “handouts,” means all materials generated for this class, which include but are not limited to syllabi, quizzes, exams, lab problems, in-class materials, review sheets, problem sets or other materials. Tutors and tutoring services are expressly forbidden from copying any or all of these materials.

Electronic Devices: The use of cell phones, smart watches, iPads, etc. are prohibited during lecture and lab, and these devices must be turned off before you come to class. They may NOT be used as calculators for any exam. The use of laptops in lecture other than for note taking (and only by permission) is prohibited. Unauthorized use of these devices could result in your expulsion from class. Laptops are NOT permitted in lab unless explicitly permitted by your instructor or teaching assistant. If you leave them in sight or continue to use any of these items after being told not to, you will be asked to leave the lab and you will receive a zero for the missed lab.

Determination of Final Grades: Final grades will be based on both lecture and laboratory grades, as well as the online reinforcement module. The course percentage is 70% lecture, 25% lab, and 5% module. Letter grades will be awarded based on your total points earned, as weighted by these percentages.

Lecture % = Total points earned / 950 possible points × 70%
Laboratory % = Total points earned / 850 possible points × 25%
Reinforcement Module % = Total points earned / 137 possible points × 5%

Course percentage = Lecture % + Laboratory % + Module %

An example grade calculation:
Lecture % = 859 / 950 possible points × 70% = 63.3%
Laboratory % = 803 / 850 possible points × 25% = 23.6%
Reinforcement Module % = 129 / 137 possible points × 5% = 4.7%

Course percentage = 63.3% + 23.6% + 4.7% = 91.6%
Lecture Policies

Exams:
There will be four (4) exams given in class on the days indicated on the Tentative Lecture Schedule below. Each exam will cover the material listed in the objectives as noted in the course syllabus. You are responsible for these objectives even if the material is not expressly covered during the lecture. All exams are comprehensive and may include previously covered material. The format of the exams will either be all multiple choice questions or a combination of multiple choice and free response questions.

Lecture Exam Administration:
- Assigned seating will be arranged and posted at least one day prior to each exam. The seating chart can be found outside the exam room and as well as on your eCampus gradebook. Pay attention to YOUR specific section number. Each exam will have a different seating assignment. If you are left-handed or require table seating, please make your request to the instructor AS SOON AS POSSIBLE. The request only needs to be made once for the entire semester.
- Arrive to the exam on time. Late arrivals will not be given any time extensions.
- Bring at least two sharpened #2 pencils, a photo ID (TAMU ID or driver’s license), and an appropriate calculator (see required materials for specifications). All other items must be stored away completely in a book bag under your assigned seat. Calculators may not be shared during exams. Any student attempting to use an inappropriate calculator (graphing, cell phone, etc.) will receive a zero for that exam.
- Follow all directions given regarding the exam. These directions will be written on the cover page of the exam and will be announced before the exam beings. Additional announcements regarding time remaining and error corrections may be made at any time during the exam time period.
- All multiple choice answers must be marked for the appropriate question on the scantron sheet for proper grading. Do NOT write on the back of the scantron sheet for any reason. Be sure to erase any stray marks from the scantron sheet before submitting your exam. Failure to properly bubble in identifying information (i.e., name, UIN, section number) will result in a loss of points.
- Keep your exam answers covered as much as possible. Talking or looking around the room may result in a withheld grade for the exam.
- Work efficiently through the exam. All exams must be turned in on time. Late exams will not be graded. If you finish your exam early, you may turn it in and quietly exit the room through the doors at the front of the lecture hall.
- Exam grades will be posted as soon as possible on eCampus. If you wish to review your exam question booklet, please come to office hours or make an appointment. Neither the exam booklet nor the scantron sheet will be returned.

Homework:
Homework will be assigned and graded using the ALEKS Learning System See registration instructions on the “Getting Started with ALEKS” file on eCampus.

ALEKS is an artificially intelligent assessment and learning system designed to determine which topics a student has already mastered and which new topics they are ready to learn. An initial assessment, due by the add/drop deadline (September 2nd), will determine the student’s base knowledge. This assignment is NOT graded. The purpose of the initial assessment is to establish a baseline of
knowledge from which ALEKS assists the student’s progress through the course topics presented over the semester. Homework assignments ensure that each topic covered over the course of the semester is mastered.

The ALEKS homework assignments are available with their due dates posted on the system’s calendar. Assignments may be worked on repeatedly with only the highest score taken up until the posted due dates. At that point, the topics may be repeated; however, the score will not change. Extensions will not be given for any homework assignments. The one lowest ALEKS homework grade will be dropped before calculation of the overall homework average.

I also suggest practicing the end of chapter problems from the textbook as progress is made through the semester. While ALEKS focuses on each course topic individually, end of chapter questions from the textbook combine related topics in a single problem to determine overall understanding of concepts and theories. Such problems will be more representative of exam questions than those of individualized ALEKS topic questions. A list of end-of-chapter problems is posted on eCampus.

Quizzes:
There will be 8 quizzes administered on ALEKS over the course of the semester (see tentative lecture schedule for specific days). Each quiz will be open and available from 12:01 am until 11:59 pm on its assigned day. Once begun, there is a maximum time limit of 30 minutes to complete the 5 question quiz. There will be no make-up quizzes. Any missed quizzes will result in a grade of zero. The one lowest quiz grade will be dropped before calculation of the overall quiz average. Expect approximately one quiz per module.

Class Participation:
Active participation in lecture is encouraged and will be monitored through the use of iClickers. During most classes questions or problems will be posed to check for understanding of general concepts, mathematical calculations and conversions, etc. Your response via your personal iClicker will contribute to your class participation grade; therefore, bring your iClicker to every lecture. Points will NOT be assigned to accuracy of answers given but instead to attempt of all clicker questions. In other words, attempt a guess to all iClicker questions in order to gain all of your possible participation points. Two class participation opportunities will be dropped when your final Class Participation average is calculated. This means that a few absences from lecture will not necessarily affect your grade; however, chronic absences will negatively affect your participation grade.

Comprehensive Final Exam:
The final exam will cover all the material presented throughout the semester. The exam period is 2 hours; therefore, the final exam will be approximately twice the length of a normal in-class exam. The date and time for the final exam can be found in the tentative lecture schedule below. The final exam score may substitute for your lowest in-class exam score of the semester if it is to your advantage.

Grading Policy: The contribution to the grade in the lecture portion of the course will be based upon the following distribution:

<table>
<thead>
<tr>
<th>Component</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quizzes</td>
<td>25</td>
</tr>
<tr>
<td>Clicker Points</td>
<td>75</td>
</tr>
<tr>
<td>ALEKS Homework</td>
<td>100</td>
</tr>
<tr>
<td>Exams (4 @ 125 points each)</td>
<td>500</td>
</tr>
<tr>
<td>Comprehensive Final</td>
<td>250</td>
</tr>
</tbody>
</table>

**TOTAL POINTS FOR THE LECTURE** 950
Learning Objectives: By the end of this course, students will be able to:

- Perform composition and reaction stoichiometry calculations. Name binary ionic compounds and molecular compounds using the chemical formula. Calculate percent by mass composition and empirical/molecular formulas from data.
- Identify different types of chemical reactions, predict products for aqueous reactions, and calculate their concentrations reactant concentration data. Write net ionic reactions for aqueous reactions.
- Describe the electronic configurations of all the atoms and use this arrangement to predict atomic and ionic size, ionization energies and electron affinities. Correlate the structure of the periodic table with atoms’ electronic configurations.
- Predict bonding type between the atoms in a compound (ionic or covalent) and draw a Lewis dot structure for the compound. Recognize limitations of the octet rule and when violations of the octet rule are allowed. Minimize formal charges around the central atom.
- Determine the molecular geometry around the central atom in a molecule and predict bond polarities or lack thereof.
- Explain covalent bonding between two atoms in terms of valence bond theory and molecular orbital theory.
- Perform gas law calculations, using kinetic molecular theory to explain the ideal gas laws. Explain the difference between real and ideal gases, under what conditions each occurs and how to correct the ideal gas law to deal with real gases.
- Know the difference between ion-ion, dipole-dipole, ion-dipole, hydrogen bonding and dispersion/van der Waals intermolecular attractive forces and know which are the most important attractive forces present in a compound. Apply knowledge of intermolecular attractive forces to explain trends in melting and boiling points; capillary action; surface tension and viscosity, and their effect on compound phase.
- Perform a thermochemistry calculation involving reactions and phase changes, determining the system and surroundings and changes in state. Calculate enthalpies of reactions from data and from enthalpies of formation. Estimate the enthalpy or energy change for a reaction using bond energies. Perform a calorimetry calculation.
# Sample: Tentative Lecture Schedule Fall 2018 (Subject to change!)

<table>
<thead>
<tr>
<th>Week</th>
<th>Monday</th>
<th>Wednesday</th>
<th>Friday</th>
</tr>
</thead>
</table>
| 1    | August 27<sup>th</sup>  
   Review of Syllabus  
   Chapter R | August 29<sup>th</sup>  
   Chapter R & Chapter 1 | August 31<sup>st</sup>  
   *Last day of add/drop |
| 2    | September 3<sup>rd</sup>  
   Chapter 2 | September 5<sup>th</sup>  
   Chapter 2  
   Quiz R & 1 | September 7<sup>th</sup>  
   Chapter 2 |
| 3    | September 10<sup>th</sup>  
   Chapter 2 | September 12<sup>th</sup>  
   Chapter 2 & Chapter 3.1 – 3.2  
   Quiz 2 | September 14<sup>th</sup>  
   Exam #1 – Chapters R, 1, & 2 |
| 4    | September 17<sup>th</sup>  
   Chapter 3 | September 19<sup>th</sup>  
   Chapter 3 | September 21<sup>st</sup>  
   Chapter 3 |
| 5    | September 24<sup>th</sup>  
   Chapter 4 | September 26<sup>th</sup>  
   Chapter 4  
   Quiz 3 | September 28<sup>th</sup>  
   Chapter 4 |
| 6    | October 1<sup>st</sup>  
   Chapter 4 | October 3<sup>rd</sup>  
   Chapter 5  
   Quiz 4 | October 5<sup>th</sup>  
   Chapter 5 |
| 7    | October 8<sup>th</sup>  
   Chapter 5 | October 10<sup>th</sup>  
   Chapter 5  
   Quiz 5 | October 12<sup>th</sup>  
   Exam #2 – Chapters 3, 4, & 5 |
| 8    | October 15<sup>th</sup>  
   *Midterm grades due  
   Chapter 6 | October 17<sup>th</sup>  
   Chapter 6  
   Quiz 5 | October 19<sup>th</sup>  
   Chapter 6 |
| 9    | October 22<sup>nd</sup>  
   Chapter 6 | October 24<sup>th</sup>  
   Chapter 6  
   Quiz 6 | October 26<sup>th</sup>  
   Chapter 7 |
| 10   | October 29<sup>th</sup>  
   Chapter 7 | October 31<sup>st</sup>  
   Chapter 7 (9.9) | November 2<sup>nd</sup>  
   Chapter 7 |
| 11   | November 5<sup>th</sup>  
   Chapter 7 | November 7<sup>th</sup>  
   Chapter 8  
   Quiz 7 | November 9<sup>th</sup>  
   Exam #3 – Chapters 6 & 7 |
| 12   | November 12<sup>th</sup>  
   Chapter 8 | November 14<sup>th</sup>  
   Chapter 8 | November 16<sup>th</sup>  
   *Last day to withdraw  
   Chapter 8 |
| 13   | November 19<sup>th</sup>  
   Chapter 9 | November 21<sup>st</sup>  
   NO LECTURE  
   *Reading Day | November 23<sup>rd</sup>  
   THANKSGIVING |
| 14   | November 26<sup>th</sup>  
   Chapter 9 | November 28<sup>th</sup>  
   Chapter 9  
   Quiz 8 | November 30<sup>th</sup>  
   Exam #4 – Chapters 8 & 9 |
| 15   | December 3<sup>rd</sup>  
   * Redefined Day – Friday  
   Chapter 9 | December 5<sup>th</sup>  
   Chapter 9  
   Quiz 9 | December 7<sup>th</sup>  
   |
| 16   | December 10<sup>th</sup>  
   FINAL EXAM – 506  
   10:30 am to 12:30 pm  
   Room 100 Heldenfels | December 11<sup>th</sup>  
   FINAL EXAM – 503  
   10:30 am to 12:30 pm  
   Room 200 Heldenfels | December 12<sup>th</sup>  
   |
|      | December 13<sup>th</sup> | December 14<sup>th</sup> |   |
Laboratory Policies

Lab Safety:

- Student safety is a top priority in the Texas A&M Department of Chemistry.
- Protective eyewear, appropriate clothing and shoes that completely cover your feet must be worn at all times in the laboratory. Appropriate clothing includes pants or long skirts which come all the way down to the ankles so that no parts of the legs or feet are exposed and a shirt or top with sleeves.
- All CHEM 119 students accept a Lab Safety Acknowledgement (LSA) in Howdy upon registration.
- Furthermore, students must view a safety video and pass a safety quiz given during the first class meeting.
  - **Any student who does not view the safety video and pass the safety quiz will not be permitted to continue in CHEM 119.**
- The safety guidelines associated with individual experiments are explained in the lab manual and will be presented at the beginning of each experiment.
- Prelab quiz questions regarding safety aspects specific to each experiment should be expected.
- Failure to adhere to any safety regulation while in the laboratory will result in a reduced performance score and/or expulsion from the laboratory.
- Eating, drinking, and smoking are prohibited in the lab at all times. Chewing gum or tobacco is also prohibited.
- Long hair must be held in place to the back of your head. You are responsible for bringing the bands or clips to hold back your hair.
- If you do not comply with the attire rules, you will be asked to leave the lab to get appropriate clothing. If you do not make it back to complete the lab, you will receive a zero for that particular lab.
- All personal belongings must be placed in the back of the room and any food/drink should be inside a backpack.

Further details on appropriate lab attire and other safety regulations are provided in the lab manual and will be explained during the first class meeting. If you are pregnant or become pregnant during this semester, it is important to speak to a Lab Coordinator so that safety concerns can be discussed.

Accidents and Other Incidents: Any illness or injury incurred in the laboratory must be brought to the attention of your Teaching Assistant or Laboratory Coordinator. In the event of serious injury, 9-1-1 will be contacted by the Lab Coordinator or Instructor and the situation will be assessed by the responding EMT team. Because students are not eligible for workers compensation, the cost of any care not provided by the Beutel Health Center must be covered by the student’s personal health insurance plan.

Switching Lab Times and Locations: You are NOT at any time allowed to switch lab times or lab locations later in the semester unless we have proof that you need special accommodations. You have to notify the First Year Program office in HELD 412 before the conflict occurs so that we can make arrangements. **Conflicts between common exam times and regularly scheduled lab courses must be accommodated by the course administering the exam.**
Laboratory Assignments: Assignments associated with 6 laboratory experiments and 5 recitation assignments comprise the majority of the lab grade. The points for each experiment are divided into as many as four categories, including: quizzes, performance and safety, data reduction and analysis, and technical abstracts. The other grade component is the lab final exam. A brief description of each of the course components is given below. A schedule of experiments and a point breakdown for all assignments is listed in the schedule found on the last page of this syllabus.

1. Prelab Quizzes: A prelab quiz will be administered for each experiment, or portion of an experiment for multi-week projects, in the course. All of the quizzes for the course are electronic, and will be administered through the course page on Sapling Learning. The prelab quiz for each experiment will be due prior to the beginning of the class meeting in which the experiment is scheduled to be performed.

Please Note:
- Prelab quizzes will not be subject to extensions and there will be no opportunities to make up missed quizzes.
- Although use of the laboratory manual and other printed or electronic resources cannot be restricted, you are required to complete the quizzes individually.
- Students should also be aware that successful completion of the quizzes will require adequate preparation.
- If you experience a technical issue with a Sapling assignment, contact the Sapling Support Team (support@saplinglearning.com) immediately. Technical difficulties will not be considered an excuse for non-completion, so we encourage you to begin and complete the assignment well before the deadline.
- No time extension will be granted due to loss of connection or computer failure. The only exception would be a system wide outage of the network.
- All prelab quizzes for the next week will be made available after 7:00 PM the day your lab section meets. Furthermore, as this is graded course work, all rules and policies regarding the Aggie Honor Code apply to this assessment.

The prelab quizzes are designed to test a student’s preparedness for the upcoming experiment and his/her understanding of basic chemical concepts relevant to each experiment. Quiz questions may cover but are not limited to the following topics: basic calculations; experimental aim; ecological/environmental issues; analytical techniques; basic chemical concepts; experimental procedure; data manipulation, and equipment and reagents. At least one general safety question will be included in each quiz.

2. Safety and Performance (S&P):
- The safety and performance grade includes adhering to safety guidelines (including wearing appropriate goggles and attire), maintaining a clean workspace, and being organized and prepared for the day’s activities.
- Safety violations will result in lost points and can lead to dismissal from the laboratory. The performance form asks whether each student a) wore goggles throughout the entire exercise; b) was appropriately dressed; c) maintained a clean environment; d) was prepared; and e) followed directions.
- Each violation costs the student 3 points (making negative scores possible). The TAs must strictly follow the rules and are not allowed to exercise discretion in any of these criteria.
• Students will be allowed to borrow goggles from the stockroom (HELD 402), but it will cost 5 points on the safety and performance grade for that experiment. Students must bring their TAMU ID to the stockroom to be able to check out goggles. Goggles are the only component of safety attire that can be borrowed from the stockroom.

3. Data Reduction and Analysis (DRA): The laboratory manual provides a series of directions, calculations and questions after each experiment. These exercises are designed to guide students through the analysis of their experimental data. The data reduction and analysis assignment is due at the beginning of the following lab period. All calculations and questions will be completed on a worksheet found in the lab manual. Any plots or data tables should be completed using an electronic software package such as Microsoft Excel. Paper copies of all tables and plots should be attached to the data reduction and analysis worksheet. A hand-written sample calculation must accompany any calculations performed with electronic spreadsheets.

4. Technical Abstract: Most scientific findings are communicated through scientific research articles published in scientific journals. A brief research article or a technical abstract, will be written for one experiment in Chemistry 119. The required format for this assignment is described in the lab manual and specific guidelines are provided on eCampus. Both physical (to TA) and electronic submission (eCampus) of these reports will be required to receive credit.

5. Recitation Assignments: During the semester, you will complete 5 recitation assignments in-class and on Sapling Learning, available through eCampus and at www.saplinglearning.com. These assignments consist of two parts: a tutorial and a set of questions. The tutorial is designed to help you learn the key concepts in the exercise. The questions will test your understanding of and ability to apply those concepts.

Each assignment will be open for a two week period; the dates are given at the end of this syllabus. These assignments will not be subject to extensions and there will be no opportunities to make up missed online assignments. If you experience a technical issue with a Sapling assignment, contact the Sapling TA (support@saplinglearning.com) immediately. Technical difficulties will not be considered an excuse for non-completion, so we encourage you to begin and complete the assignment well before the deadline.

These exercises are to be completed independently; all rules and policies regarding the Aggie Honor Code apply to these assignments.

6. Lab Practical: One practical exam will be given in CHEM 119. This exam will be administered in lab during your regular lab time the week of November 26. You will need to be appropriately dressed to complete lab work.

Assignment Due Dates and Late Policy:
• All assignments (DRA sheets or other written assignments) will be due at the beginning of each lab meeting.
• A three point deduction per day beginning on the due date will be applied to any late assignments. For EXCUSED ABSENCES ONLY, the three point deduction will begin at the end of the working day after the end of the absence.
• Assignments submitted more than one week after the due date will not be graded.
Learning Objectives: The primary goals of the laboratory portion of Chemistry 119 are the introduction to the equipment and methods used in chemistry laboratories and the development of the skills necessary for handling chemicals both safely and properly. Several online assignments will help students learn how to present scientific data in a meaningful manner and locate it in the literature. In addition, insight into the use of the scientific method in the chemistry laboratory will be gained. As the semester proceeds, reactions will be explored that reinforce material presented in Chemistry 109 by utilizing problems chosen from the Texas environment.

Disclaimer: Any communications or handouts from your IA, the FYP office or Lab Instructor take precedence over the contents of this syllabus.
### Schedule for Lab Fall 2018

<table>
<thead>
<tr>
<th>Week of</th>
<th>Assignment</th>
<th>Last Day for Make-up Lab</th>
<th>Points</th>
<th>Quiz</th>
<th>S &amp; P</th>
<th>DRA</th>
<th>Technical Abstract</th>
<th>Total Lab Points</th>
</tr>
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<tbody>
<tr>
<td>9/3</td>
<td>Safety</td>
<td>**</td>
<td>20</td>
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<tr>
<td>9/3</td>
<td>Sapling Activity: Significant Figures</td>
<td></td>
<td>50</td>
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<td></td>
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<td>Assignment available: 9/3 Due 9/17 at 10 PM, all sections</td>
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<tr>
<td>9/10</td>
<td>Exp. 1: Density and Measurement</td>
<td>9/20</td>
<td>75</td>
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<tr>
<td>9/17</td>
<td>Recitation: Scientific Data and Graphing</td>
<td></td>
<td>50</td>
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<td>Assignment available: 9/17 Due 10/1 at 10 PM, all sections</td>
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<tr>
<td>9/24</td>
<td>Exp. 2: Physical Constants</td>
<td>10/4</td>
<td>75</td>
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<tr>
<td>10/1</td>
<td>Exercise 4: From Atoms to Molecules</td>
<td>10/11</td>
<td>65</td>
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<tr>
<td>10/8</td>
<td>Recitation: Stoichiometry</td>
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<td>Assignment available: 10/8 Due 10/22 at 10 PM, all sections</td>
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<td>10/15</td>
<td>Exp. 4: Chemistry of Recycling</td>
<td>10/25</td>
<td>75</td>
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<td>10/22</td>
<td>Exp. 5: Acids and Bases</td>
<td>11/1</td>
<td>75</td>
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<tr>
<td>10/29</td>
<td>Recitation: Scientific Literature</td>
<td></td>
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<td>Assignment available: 10/29 Due 11/12 at 10 PM, all sections</td>
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<td>11/5</td>
<td>Experiment 6: Enthalpy</td>
<td>11/15</td>
<td>75</td>
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<tr>
<td>11/12</td>
<td>Recitation: Enthalpy</td>
<td></td>
<td>50</td>
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<td>Assignment available: 11/12 Due 11/26 at 10 PM, all sections</td>
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<tr>
<td>11/26</td>
<td>Lab Practical</td>
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<td>140</td>
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<td>During your regular lab time</td>
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<td><strong>Total</strong></td>
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<td>850</td>
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* Students must report to the FYP office in HELD 412 within two days after the end of an absence to request a make-up lab. This lab is at 6 PM on the date indicated; requests may not be accepted after 3:00 pm the day of the lab.
** Students who miss the safety orientation must schedule and complete a makeup orientation BEFORE their next lab meeting.