Course Syllabus
General Chemistry 1411
Fall 2016

Math, Natural Science & Sports Sciences Learning Center
Division Office: P-330
Phone: 972-273-3500
Hours: Vary by semester so check the posted hours.

This course syllabus is intended as a set of guidelines for General Chemistry 1411. Both North Lake College and your instructor reserve the right to make modifications in content, schedule, and requirements as necessary to promote the best education possible within prevailing conditions affecting this course.

Instructor Information
Instructor: Tara Arrington
Email: tarrington@dcccd.edu
Office Phone: 972-273-3914
Office: A-266 (Main Campus)

<table>
<thead>
<tr>
<th>Office Hours</th>
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<tr>
<td>Monday</td>
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<td>2-3 PM</td>
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Course Information
Course title: General Chemistry 1411 Section 73112, 73202 & 73512
Credit hours: 4 credit hours
Class meeting time:
1411-73202
Fast Track
3/20-5/11
Lec. MW 11 – 1:50 PM
Lab MW 8 – 10:50 AM

1411-71512
Lec. TR 5:45 PM – 7:05 PM
Lab TR 7:15 PM – 8:35 PM

1411-71112
Lec. F 9:00 AM – 12:10 PM
Lab F 1:00 PM – 4:10 PM

Course description: This course counts toward the green diploma honor. This course qualifies for all three categories of sustainability: environmental, economic, and societal.

This course is for science and science-related majors including health sciences and engineering. Fundamental principles of chemistry are presented including measurements, fundamental properties of matter, states of matter, the history of chemistry, chemical reactions, chemical stoichiometry and the mole concept, periodicity of elemental properties, atomic structure, chemical bonding, molecular structure, solutions, properties of gases, and an introduction to thermodynamics and descriptive chemistry. Basic laboratory experiments support the fundamental principles and include the introduction of the scientific method, data collection and analysis and the preparation of laboratory reports.

Course prerequisites: MATH 1314 or equivalent preparation (Statistics or DMAT 0310 may be accepted) AND DIRW 0310 or English as a Second Language (ESOL) 0044 or have met the Texas Success Initiative (TSI) Reading standard. High school chemistry is strongly recommended.

Required or Recommended Textbooks and Materials

Mastering Chemistry Access Code: New current edition books can be bought in a package from North Lake which contains a free code. Otherwise the code must be purchased separately online at www.pearsonmylabandmastering.com or at the NLC bookstore. When purchasing the access code, choose the current edition even if you have an older edition textbook

- Lab Experiments: posted online in eCampus under the Labs button.
- Online documents: in eCampus
- Scientific calculator: Nothing more advanced than a TI 83/84 plus. A simple scientific calculator will do just fine.

Course Objectives
The course objective is to demonstrate a general knowledge of the basic concepts in chemistry, and to prepare the student for General Chemistry II.

Specific Course Learning Outcomes

Upon successful completion of this course (according to the ACGM from the Texas Higher Education Coordinating Board), students will:
1. Define the fundamental properties of matter. Describe the history; relate basic laws and theories to the behavior of matter.
2. Classify matter, compounds, and chemical reactions. Differentiate between ionic and molecular compounds.
3. Determine the basic nuclear and electronic structure of atoms. Investigate the quantum mechanical model of the atom recognizing the historical contributions, write and interpret quantum numbers for the electrons in an atom. Write electronic configurations and show the correlation to chemical properties.
4. Identify trends in chemical and physical properties of the elements using the Periodic Table. Recognize the correlation between electronic structure and the organization of the periodic table.
5. Describe the bonding in and the shape of simple molecules and ions. Write Lewis structures: utilize the VSEPR theory to predict the shapes and polarities of molecules. Describe molecular orbitals using hybridization, distinguish between σ and π bonds,
and account for properties using the molecular orbital theory.
6. Solve stoichiometric problems including calculations with empirical formulas,
molecular formulas, limiting reactants, percent yield and molarity.
7. Write chemical formulas.
8. Write and balance equations.
9. Use the rules of nomenclature to name chemical compounds.
10. Define the types and characteristics of chemical reactions
11. Use the gas laws and basics of the Kinetic Molecular Theory to solve gas problems.
   Describe the behavior and characteristics of gases.
12. Determine the role of energy in physical changes and chemical reactions. Determine
    methods of measurement of enthalpy, and perform related calculations. Recognize the
    environmental issues related to energy
13. Convert units of measure and demonstrate dimensional analysis skills; include the use
    of significant figures. Be able to express, interpret, and utilize relationships between
    variables. Utilize data, including graphs, and interpret results.
14. Use basic apparatus and apply experimental methodologies used in the chemistry
    laboratory.
15. Demonstrate safe and proper handling of laboratory equipment and chemicals.
16. Conduct basic laboratory experiments with proper laboratory techniques.
17. Make careful and accurate experimental observations.
18. Relate physical observations and measurements to theoretical principles.
19. Interpret laboratory results and experimental data, and reach logical conclusions.
20. Record experimental work completely and accurately in laboratory notebooks and
    communicate experimental results clearly in written reports.
21. Design fundamental experiments involving principles of chemistry.
22. Identify appropriate sources of information for conducting laboratory experiments
    involving principles of chemistry

**Course Outline (Calendar)**

Please see Appendix A attached to this syllabus as the last page for a complete and
detailed Course Outline (Calendar). Pay careful attention to the listed dates.

**Means of Assessment of Course Learning Outcomes**

The Course Learning Outcomes are addressed in more detail for each chapter in the
Learning Objectives. These outcomes (objectives) will be assessed using methods of
testing through departmental exams, in class group work, Mastering Chemistry
assignments, and written lab reports.

**Evaluation Procedures**

**HOMEWORK PROBLEMS** are assigned and graded. You will be using Mastering
Chemistry, an online tutorial and homework program. Your homework problems count
toward your course grade (see Grading Scale). You can go directly to the Mastering
Chemistry web site without going through eCampus by going to
www.pearsonmylabandmastering.com
Details on how to register and enroll in our course on Mastering Chemistry can be found under the “Assignments” button in eCampus. There you will also find the Course ID you need to use to join our class in Mastering Chemistry.

Many of the problems in Mastering Chemistry come from the textbook (your numbers may be different) and the odd numbered problems have answers. You can check the answers in the back of the book to help you figure out the problems. Also be sure to read the messages from your instructor included in some of the assignments.

Students are strongly encouraged to complete the assignments in preparation for the tests. Homework due dates will be shown in Mastering Chemistry and in the Course Outline. All the homework assignments are due at 11:30 pm on the date indicated. Late homework will worth 50% of the total points so be sure to do the homework on time. Be sure to check the due dates frequently. The Mastering Chemistry assignments will stay available until the time of the final for studying or completion of late assignments.

Do NOT wait until the weekend to begin the homework assignment. Work the assignments during the week a little at a time as we finish the sections. You can bring any questions to class and we can talk about them. If you click on “show answer” you will receive a grade of zero for that problem so ask for help before you do that.

Also included in the Mastering Chemistry assignments are practice problems to help you understand the material. The practice problems are optional. Be sure to do Assignment 1, Intro to Mastering Chemistry, as this will help you understand how to input your answers (even though this first Assignment is not counted for a grade). There is also a study area in mastering chemistry that provides additional practice problems.

Once you have completed the homework and the due date has passed, you can still review or rework them in preparation for the exams. Often the problem will provide different numbers when you choose to rework them. Also available are additional problems under the Question Sets which are located in the Study area in Mastering Chemistry.

Your homework grades are posted on the Mastering Chemistry web site. Your final homework average for the course will be posted in eCampus.

Note: If you are having trouble getting mastering chemistry to accept your multiple choice answer or show the problem, then switch browsers or go back to a previous version of your current browser. The problem can also be that you need to update your flash player or enable your JavaScript. Go to the mastering chemistry website for details and downloads. On the log in page scroll over the Support tab in the upper right hand corner and click on Support for Students. There you will find the info along with other questions.

LAB REPORTS will be graded by the following week in lab. You may look over your reports, but they will not be returned. Further information will be discussed in your lab section.
EXAMS
The 5 exams and the optional final will be multiple choice. Each exam (except the optional final) will be taken using the computer in the Testing Center on the stated dates. A green scantron is required for the optional final. For the computer exams, you will log on to eCampus and click on the “Exams” button and select the exam. You may take the exam once the testing center has put in the password. Exam scores will appear on eCampus immediately upon completion of the exam (except the optional final). The optional final exam will be given during our scheduled time in the classroom.

Students taking tests in math and science should not leave the testing center or the classroom during a test and return to complete the test. If you need special accommodations you must submit a request to the Disability Services Office in person (A414) or by phone at 972-273-3165. Visit the North Lake College Disability Services for more information.

Exams must be taken during the scheduled times! Any student who misses a test deadline with an excused absence can only earn a maximum of 70% of the total points on a make-up exam! Exams will be cumulative; however, they will focus on more recent material. *If you take your exam during class time then you will have 10 points deducted from your exam.

MAKE-UPS: For a missed exam with an excused absence during the testing dates, a make-up exam must be taken as soon as possible at the discretion of the instructor. It is the Math/Science division policy that you will not be allowed under any circumstances to take more than 2 tests during the last week of the regular semester or more than 1 test on any given day in the same subject. Excused absences will only be offered for one of the following reasons: illness, death in family, official University business, or documented emergency.

The testing center will provide scratch paper and a copy of the periodic table. You must turn in these when you are finished with the exam. Do NOT take any testing materials with you when you finish the test. This includes the test, answers, charts, scratch paper, etc. To do so constitutes Academic Dishonesty. Do NOT use websites or other additional information during the test other than what is provided as that also constitutes Academic Dishonesty.

There will also be some formulas and additional info provided on the exam itself. Refer to the document under the Exams button to see what will be provided so you will know what formulas or information you do need to know that are not provided.

You will need to bring a pen or pencil and your scientific calculator to the testing center along with your government or school issued photo identification. You do not need a programmable calculator. You may use your own programmable calculator (TI 83/84 plus) if you agree to have the memory cleared before and after the exam. The testing center can provide a calculator during your exam if you need it. You should fill out the Test Request Form upon arrival at the testing center and you may want to bring a quarter for the coin return lockers. You may not bring personal items such as bags, cell phones or pagers into the testing area. You may not bring any children to the testing center.
Be sure to know the following information when you request your test:
• Instructor’s name
• Subject, course number, and section number (ex: CHEM 1411 7111)
• Exam number (1st, 2nd, 3rd, etc.)
• Exam deadline

The Testing Center is located in A425. Be sure to arrive in plenty of time to take the exam. Be aware that exams are not given within one hour of closing. **Do not wait until the end of the last day as you may not get in due to large numbers of students taking exams and there are no extensions of the deadlines due to over crowding or schedule conflicts.**

Be sure to **check the hours** of the testing center particularly if there are changes due to **holiday hours.** For more information about the Testing Center go to [North Lake College Testing Center](#)

As you study, be sure to refer to the **Learning Objectives** for each chapter. These Learning Objectives will help you prepare for the exams and are located under the "Course Documents” button.

**Grading Scale**

The grades will be based on the following distribution

<table>
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<tr>
<th>Component</th>
<th>Percentage</th>
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<tr>
<td>Five Exams*</td>
<td>55%</td>
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<tr>
<td>Homework</td>
<td>13%</td>
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<tr>
<td>Lab</td>
<td>32%</td>
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A = 90-100  B = 80-89  C = 70-79  D = 60-69  F = 0-59

Numerical grades will be rounded to the nearest whole number.

Use the following formula to calculate your grade:

**Grade = (Exam Av x 0.55) + (Hwk Av x 0.13) + (Lab Av x 0.32)**

* You may take an **optional** comprehensive Final Exam to replace your lowest grade in Exams 1 through 5. The final **will not hurt** if your optional final score is below your lowest exam.

Please **do not beg** for grades; you earn them.

Also **do not ask for additional extra credit.** We already have extra credit in the homework as well as bonus questions on each exam

During the last week of classes as well as during finals week, please **do not** ask me about your grade or if you need to take the optional lecture final. I will **not** be able to answer your questions about your grade at that time. Taking the optional final is your decision.
CLASSROOM POLICIES
• Attendance in all class lectures and labs are mandatory and roll will be taken daily. Please arrive on time every day so as not to disturb the class with a late arrival. Students should be aware of the fact that they are responsible for all materials handed out and all announcements made during their absence regardless of the reason(s) of the absence.
• You are encouraged to ask questions and to participate in class discussions. You are expected to be an active learner and not a passive one.
• Excused absences will only be offered for one of the following reasons: illness, death in family, official University business, or documented emergency. For any excused absence written documentation is required. To obtain an excused absence, email me by the next class period. Documentation should be brought to the next class meeting.
• No cell phones or beeping devices allowed.
• Distractive talking or any disorderly conduct is prohibited. Please be courteous of others.
• Taping of lectures is not allowed unless permission is obtained from the instructor.
• Follow the Code of Student Conduct for model behavior.
• Do not beg for points; you earn them.
• Students are encouraged to go to the Science Learning Center

SCIENCE LEARNING CENTER
The Science Learning Center provides student services in the following subjects (majors and non majors): Biology, Botany, Microbiology, Anatomy and Physiology, Chemistry, Geology, Physics, Nutrition and Ecology.

The center is located in P-333 & P-334 and offers various resources all of which are free to the students. The SLC features tutors, software, videos, CDROM’s, internet, models, places to study quietly, places for group work, and other materials to assist in science classes. In order to access resources of the SLC a North Lake College ID Card is required. The subject specific schedule of tutors is updated every semester and is located at the front of the SLC.

When students attend SLC we ask that you sign in and out. These data helps us keep the center stocked, running, and most of all, free of charge!

Hours of operation:
Spring/Fall semester: M - R 9 am - 7 pm, F & Sa 9 am – 3 pm
Maymester and Wintermester: M – R 2pm – 6 pm
Summer I & II: M – R 2 pm – 7 pm

Contact information
Center Phone: 972-273-3273
Coordinator: Amanda Turley

North Lake College Tutorial Services
Institutional Policies

Financial Aid Certification of Attendance:

You must attend and participate in your on-campus or online course(s) in order to receive federal financial aid. Your instructor is required by law to validate your attendance in your on-campus or online course in order for you to receive financial aid. You must participate in an academic related activity pertaining to the course such as but not limited to the following examples:

- initiating contact with your instructor to ask a question about the academic subject studied in the course;
- submitting an academic assignment;
- taking an exam;
- completing an interactive tutorial;
- participating in computer-assisted instruction;
- attending a study group that is assigned by the instructor;
- or participating in an online discussion about academic matters relating to the course.

In an online class, simply logging in is not sufficient by itself to demonstrate academic attendance. You must demonstrate that you are participating in your online class and are engaged in an academically related activity such as in the examples described above.

ACADEMIC DISHONESTY

The Student Code of Conduct prohibits academic dishonesty and prescribes penalties for violations. According to this code, which is printed in the college catalog, "academic dishonesty", includes (but is not limited to) cheating, fabrication, facilitating academic dishonesty, plagiarism, and collusion".

1) The Vice-President of Academic & Student Affairs may initiate disciplinary proceedings against a student accused of academic dishonesty.

2) Academic dishonesty includes, but is not limited to, cheating on a test, plagiarism and collusion.

3) Cheating on a test includes:
   a) Copying from another student’s test paper;
   b) Using, during a test, materials not authorized by the person giving the test;
   c) Collaborating with another student during a test without permission to do so.
   d) Knowingly using, buying, selling, stealing, transporting, or soliciting in whole or part the contents of an un-administered test.
   e) Substituting for another student, or permitting another student to substitute for you to take a test; and
   f) Bribing another person to obtain an un-administered test or information about an un-administered test.
4) “Plagiarism” means the appropriation of another’s work (ideas and/or words) and the unacknowledged incorporation of that work in one’s written work offered for credit. Quotes not identified as quotes constitute a form of plagiarism even if the borrowed ideas are documented.

5) “Collusion” means an unauthorized collaboration with another person in preparing written work offered for credit.

**Academic dishonesty may result in the following sanctions, including, but not limited to:**

1. A grade of zero or a lowered grade on the assignment or course.
2. A reprimand.
3. Suspension from the college.

**NOTIFICATION OF ABSENCE DUE TO RELIGIOUS HOLY DAY(S)**
Students who will be absent from class for the observance of a religious holiday must notify the instructor in advance. Please refer to the Student Obligations section of the college catalog for more explanation. You are required to complete any assignments or take any examinations missed as a result of the absence within the time frame specified by your instructor.

**DCCCD OIE**
The Office of Institutional Equity, in coordination with DCCCD colleges, has the primary responsibility for reviewing, updating and implementing compliance policies and procedures. The Institutional Equity and Compliance Officer and the Office of Institutional Equity will ensure compliance with College District policies, federal and state laws related to sexual assault, Title IX, Title II (Americans with Disabilities Act) and the Military Veterans Full Employment Act to support diversity and inclusion.

**Students with Disabilities:**
If you are a student with a disability and/or special needs, or if you think you may have a disability, please contact the college Disability Services Office (DSO). Please note that all communication with DSO is confidential. If you are eligible for accommodations, please provide or request that the DSO send your accommodation letter to me as soon as possible (students are encouraged to contact DSO at the beginning of the semester). For more information regarding the College Disability Services Office, please visit the Student Services website: dcccd.edu/DSO Offices or contact DCCCD Office of Institutional Equity at (214) 378-1633.

North Lake College Disability Services Office: A414, 972-273-3165

**North Lake College Disability Services**

**A Note on Harassment, Discrimination and Sexual Misconduct**
We are committed to assure all community members learn and work in a welcoming and inclusive environment. Title VII, Title IX and DCCCD policy prohibit harassment, discrimination and sexual misconduct. If you encounter harassment, sexual misconduct (sexual harassment, sexual assault, stalking, relationship violence, stalking), retaliation or discrimination based on race, color, religion, age, national origin, disability, sex, sexual orientation, gender identity, and/or gender expression, please contact your College Title IX
Coordinator or the Office of Institutional Equity. We treat this information with the greatest degree of confidentiality possible while also ensuring student welfare and college safety.

We are concerned about the well-being and development of our students, and are available to discuss any concerns. There are both confidential and non-confidential resources and reporting options available to you. If students wish to keep the information confidential, please contact the college Counseling or Student Health Services. As required by DCCCD policy, incidents of discrimination and/or sexual misconduct shared with faculty will be reported to the College Title IX Coordinator or District Title IX Coordinator. The Title IX Coordinator will contact the student and determine if further investigation is needed. For more information about policies, resources or reporting options, please contact your college Title IX Coordinator or visit www.dcccd.edu/titleIX.

North Lake College Title IX Coordinator: Rosemary Meredith (acting), TitleIX-NLC@dcccd.edu, 972-860-3992
District Title IX Coordinator: Office of Institutional Equity, LaShawn Grant, TitleIX-District@dcccd.edu, 214-378-1633

**DROP POLICY**

If you are unable to complete this course, you must officially withdraw by the date stated on the academic calendar. Withdrawing is a formal procedure which you must initiate; your instructor cannot do it for you. **There are important additional factors which are affected by withdrawals.** See the categories below for additional information. It is strongly encouraged that a student speaks with the instructor before withdrawing. If a student stops attending class and does not officially withdraw, that student will receive a performance grade based on work completed and missed. For more details concerning withdrawals go online to [Dropping or Withdrawing from Classes](#).

All Dallas County Community Colleges charge a higher tuition rate to students registering the third time for a course. This rule applies to the majority of credit and Continuing Education / Workforce Training courses. Developmental Studies and some other courses are not charged a higher tuition rate. Third attempts include courses taken at any DCCCD college since the fall 2002 semester. For further information, go online to [Third Attempt at DCCCD](#).

**ADMINISTRATIVE WITHDRAWAL**

Students with valid extenuating circumstances may be eligible for an administrative withdrawal by the Dean of the Division in which the course or courses are taught. An administrative withdrawal will not be awarded to students who simply fail to withdraw prior to the last day to receive a “W.” The request for an administrative withdrawal must be made in writing to the Dean of the Division with any supporting documentation attached. This must occur before the last official day of the semester.

**FINANCIAL AID STATEMENT**

Students who are receiving any form of financial aid should check with the Financial Aid Office prior to withdrawing from classes. Withdrawals may affect your eligibility to receive further aid and could cause you to be in a position of repayment for the current semester. Students who fail to attend or participate are also subject to this policy.

To apply for financial aid in the DCCCD, students must complete FAFSA (Free Application for Federal Student Aid) on the web at [FAFSA](#).
STOP BEFORE YOU DROP
For students who enrolled in college level courses for the first time in the fall of 2007, Texas Education Code 51.907 limits the number of courses a student may drop. You may drop no more than 6 courses during your entire undergraduate career unless the drop qualifies as an exception. Your campus counseling/advising center will give you more information on the allowable exceptions. Remember that once you have accumulated 6 non-exempt drops, you cannot drop any other courses with a “W”. Therefore, please exercise caution when dropping courses in any Texas public institution of higher learning, including all seven of the Dallas County Community Colleges. For more information, you may access: eConnect Facts About Dropping Classes

COUNSELING SERVICES
Counseling services for personal issues are provided to all students currently enrolled at North Lake College. These services are provided by licensed professionals who are bound by confidentiality (within ethical parameters) at no charge. With the assistance of a counselor, students are able to identify, understand, resolve issues and develop appropriate skills. To make an appointment, call 972-273-3333 or visit A 311.

The Academic Success Center (ACS)
The Academic Success Center (ASC) is designed to provide assistance to students in the following areas:

Labs for students enrolled in foreign language, Developmental Reading, and ESOL courses. One-on-one tutoring is available.

- The Writing Center can help students clarify writing tasks, understand instructors’ requirements, develop and organize papers, explore revision options, detect grammar and punctuation errors, and properly use and document sources. Rather than merely editing or "fixing" papers, tutors focus on helping students develop and improve their writing skills. To schedule a tutoring appointment go to the ASC homepage on the North Lake website, http://bit.ly/NLC-ASCHomepage Find the “Writing Center” heading, click Appointments

- The Online Writing Lab (OWL) allows students to submit papers to our writing tutors electronically and get feedback within 24-48 hours. The OWL can be accessed by going to the ASC homepage on the North Lake website, http://bit.ly/NLC-ASCHomepage Find “The Online Writing Lab” heading, click “SUBMIT PAPER HERE!”

For more information, come by A-332 or call 972-273-3089.

State Outcomes Core Curriculum
As part of the core, this course contributes to the development of 6 basic Program Level Outcomes. These Outcomes are essential to the learning process in any discipline and are defined by the Texas Higher Education Coordinating Board.

This course reinforces Program Level Outcome 1 with written and visual communications, Program Level Outcome 2, 3, and 4.
Program-Level Outcome 1: Communication Skills - to include effective development, interpretation and expression of ideas through written, oral and visual communication

1. **Written**: Process and produce effective written communication adapted to audience, purpose, and time constraints.

2. **Oral**: Produce effective oral communication adapted to audience, purpose, and time constraints.

3. **Visual**: Effectively interpret visual images or produce effective visual images.

4. **Listening**: Comprehend, and analyze oral information.

Program-Level Outcome 2: Critical Thinking Skills - to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information

Program-Level Outcome 3: Empirical and Quantitative Skills - to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions

Program-Level Outcome 4: Teamwork - to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal

Program-Level Outcome 5: Personal Responsibility - to include the ability to connect choices, actions and consequences to ethical decision-making

Program-Level Outcome 6: Social Responsibility - to include intercultural competence, knowledge of civic responsibility, and the ability to engage effectively in regional, national, and global communities.

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8. **Listening**: Comprehend, and analyze oral information.

Program-Level Outcome 2: Critical Thinking Skills - to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information
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**Learning Activities, Outcomes, and Assessment**

The following table shows how the Course Outcomes reflect the State Outcomes and are incorporated and assessed in the course.

1. **Learning Activity:** Students will measure the volume of a metal cylinder using the direct and indirect methods in lab and will write a comparison of those methods in the lab report.
   a. **Learning Outcomes:** Students will write a comparison of two methods of determination of the volume of a solid with 70% proficiency
   b. **Assessment:** The students will be able to produce effective communication to express their ideas of the two different methods of volume determination in the lab report.
   c. **Program Level Outcome 1.1, Specific Course Outcomes 14, 19 and 20.**

2. **Learning Activity:**
   a. **Learning Outcomes:** Students will determine the correct number of significant figures in an image of thermometer with 70% proficiency on departmental exams.
   b. **Assessment:** Students will discuss their answers in class and in lab. The assessment is a question on the departmental exam.
   c. **Program Level Outcome 1.3, Specific Course Outcomes 13 and 17.**

3. **Learning Activity:**
   a. **Learning Outcomes:** Students will predict the outcome of a precipitation reaction in aqueous solution at 70% proficiency on exam.
   b. **Assessment:** Students will discuss their answers in class and the assessment is the question on the departmental exam.
   c. **Program Level Outcomes 2 and 3, Specific Course Outcomes 7, 8 and 10.**
## APPENDIX A

### CHEM 1411 Spring 2017 COURSE OUTLINE

<table>
<thead>
<tr>
<th>Sunday</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Saturday</th>
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<tbody>
<tr>
<td>Jan 15</td>
<td>Ch. 1 this week</td>
<td>Jan 16</td>
<td>Martin Luther King Jr. Holiday</td>
<td>Jan 17</td>
<td>Classes Begin</td>
<td>Jan 18</td>
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<td>Jan 22</td>
<td>Ch. 1 &amp; 2 this week</td>
<td>Jan 23</td>
<td>Jan 24</td>
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<td>Feb 12</td>
<td>Ch. 3 &amp; 4 this week</td>
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<td>Feb 14</td>
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<td>Feb 26</td>
<td>Ch. 4 &amp; 10 this week Test 2 (Ch. 3 &amp;4)</td>
<td>Feb 27</td>
<td>Feb 28</td>
<td>Mar 1</td>
<td>Mar 2</td>
<td>Mar 3</td>
</tr>
<tr>
<td>Mar 5</td>
<td>Ch. 10 &amp; 5 this week</td>
<td>Mar 6</td>
<td>Mar 7</td>
<td>Mar 8</td>
<td>Mar 9</td>
<td>Mar 10</td>
</tr>
<tr>
<td>Mar 12</td>
<td>Mar 13</td>
<td>Mar 14</td>
<td>Mar 15</td>
<td>Mar 16</td>
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</tr>
<tr>
<td>Mar 19</td>
<td>Ch. 5 &amp; 6 this week Test 3 (Ch. 10 &amp; 5)</td>
<td>Mar 20</td>
<td>Mar 21</td>
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</tr>
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<td>Mar 26</td>
<td>Ch. 6 this week</td>
<td>Mar 27</td>
<td>Mar 28</td>
<td>Mar 29</td>
<td>Mar 30</td>
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</tr>
<tr>
<td>Apr 2</td>
<td>Ch. 6 &amp; 7 this week</td>
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<td>Apr 6</td>
<td>Apr 7</td>
</tr>
<tr>
<td>Apr 9</td>
<td>Ch. 8 this week Test 4 Ch. 6,7</td>
<td>Apr 10</td>
<td>Apr 11</td>
<td>Apr 12 Last Day to Drop with a W</td>
<td>Apr 13</td>
<td>Apr 14 Holiday</td>
</tr>
<tr>
<td>Apr 16</td>
<td>Ch. 8 &amp; 9 this week</td>
<td>Apr 17</td>
<td>Apr 18</td>
<td>Apr 19</td>
<td>Apr 20</td>
<td>Apr 21</td>
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<tr>
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<td>Ch. 9 this week</td>
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</tr>
<tr>
<td>Apr 30</td>
<td>Ch. 9 this week Test 5 (Ch. 8&amp;9)</td>
<td>May 1</td>
<td>May 2</td>
<td>May 3</td>
<td>May 4</td>
<td>May 5</td>
</tr>
<tr>
<td>May 7</td>
<td>Optional Final Exam taken in-class this week</td>
<td>May 8</td>
<td>May 9</td>
<td>May 10</td>
<td>May 11</td>
<td>May 12</td>
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*Schedule subject to change*