Semester/Year: Summer 2015 Section N1

Lecture Hours: 3  Lab Hours: 0  Credit Hours: 3

Class Time:  Days: ---------  Room: ---------
on-line

Instructor’s Name: Mitchel D. Millan, Ph.D.

Instructor's Contact Information:
Office: PS333, 307-2683017  Email: mmillan@caspercollege.edu

Office Hours: By appointment only

IMPORTANT SCHEDULE ANNOUNCEMENT:

Your instructor will have limited internet access from June 5 to June 15. As a consequence of this:

-you can contact me via email at mmillan@caspercollege.edu or Moodle Class Communication within Moodle. I will still check email and MCC at least once a day, and I will reply to you within 24 hours, excluding weekends.

-if you have any issues with Moodle, contact the Helpdesk at helpdesk@caspercollege.edu or call them at 307-2683648. You may also email Michael Deal at mdeal@caspercollege.edu. However, his availability MAY be limited during the Summer term.

-Your Introduction Forum and Chapters Forum will be graded by June 16 if not earlier. All remaining Moodle Forums will be graded within 3 days from the due date.

-if you have any issues with ALEKS, contact their Customer Support at (714)6197090 or http://support.aleks.com. Customer Support is available Mondays – Thursdays 7 AM to 1 AM, Fridays 7 AM to 9 PM, and Sundays 4 PM to 1 AM. They are closed Saturdays.

Course Description: Designed primarily for students who have not had high school chemistry or feel that they need a review, this course consists of a study of matter, atomic structure and bonding, the periodic table, chemical symbols, nomenclature and chemical equations, quantitative composition of compounds, calculations from chemical equations. Provides acceptable credit for students enrolled in agriculture, forestry, home economics, nursing, and petroleum technology. Not recommended for engineering, pre-medicine, pre-dentistry, pre-pharmacy, pre-veterinary medicine or any of the physical science majors. Students needing laboratory credit should enroll concurrently in CHEM 1006. (Taken with CHEM 1006, equivalent to UW CHEM 1000.)

Statement of Prerequisites: none

Goal: This class will introduce students to the principles of chemistry. Skills involved will include (but will not
be limited to) critical thinking, and ability to analyze qualitative, numerical and chemical problems.

**Outcomes:** [http://www.depts.ttu.edu/chemistry/Undergraduate/LearningOutcome.php](http://www.depts.ttu.edu/chemistry/Undergraduate/LearningOutcome.php)

Upon successful completion of this course, students will be able to:
1) understand the physical and chemical properties of matter.
2) perform basic algebraic operations relating to dimensional analysis with full attention to units and significant figures.
3) apply dimensional analysis to chemistry calculations
4) understand the basic and currently accepted models of the atom
5) understand the concepts of bonding
6) use the concepts of bonding in drawing simple Lewis structures and determining molecular geometry
7) use the concepts of electronegativity and symmetry to determine polarity
8) balance chemical equations
9) use the mole concept in stoichiometric calculations.

**Methodology:** Students are **required** to use the ALEKS Introductory Chemistry tutorial and assessment system. ALEKS is a third party Learning Management System and access must be purchased separately. They will also use Casper College’s Moodle system for discussion Forums and as a document repository. See the SUPPLEMENTARY SYLLABUS for more detail.

**Evaluation Criteria (1000 points) for the course:**

- **Moodle Forums (100 pts maximum).** A discussion assignment will be posted as Forum topics in Moodle. These will be based somewhat loosely on the chapters in the text, so it is necessary for you to read each chapter as scheduled and post/reply by the date specified. These forums will be labeled as Ch2 Forum, Ch3 Forum, etc.. Your grade out of 10 pts will be based on the Forum Rubric posted in Moodle. The Forum scores added together contribute a maximum of 100 points towards the 1000 point total. Late Forums posts will not be graded. No partial credit will be given.

- **ALEKS Objectives (500 pts maximum).** In what ALEKS calls “Learning Mode,” you will be working on seven ALEKS Objectives, containing a fixed number of topics (see last section of this syllabus) keyed to chapters in your textbook, and subject to completion dates listed in the Schedule below.

An ALEKS Objective will contain a list of topics found in a number of textbook chapter(s). When you choose a particular topic to learn, ALEKS will present you with a series of practice problems on that topic. The problems will have enough variability that you will only be able to get them consistently correct by understanding the core principle defining the topic. Once you can consistently get the problems for a given topic correct, ALEKS considers that you have learned the topic (“added to your pie slice”), and you may then choose another topic to learn.

Your percentage of the topics finished by the completion date for each Objective is recorded, ranging from 100% (all topics completed) to 0% (no topics completed). You can find your percentages in the GRADEBOOK of your ALEKS account. The ALEKS and Moodle systems do not communicate automatically, so your instructor will have to manually transfer any ALEKS grades to the Moodle gradebook. You will NOT find your Moodle Forum scores in the ALEKS gradebook.

The percentages for the FIVE highest scoring Objectives (two lowest scoring Objectives dropped)
will be added, and a maximum of 500 points will be contributed to your 1000 point total. For example:

Math and Algebra  86% (score dropped)
Ch 2  95%
Chs 3 & 4  100%
Chs 5  67% (score dropped)
Chs 6 & 7  90%
Chs 8 & 9  100%
Ch 10  88%

Contribution to 1000 points = 95 + 100 + 90 + 100 + 88 = 473 points out of a 500 point maximum

- **ALEKS Progress Assessments (100 points maximum).** After each Objective, you will take a Progress Assessment to gauge your retention (“mastery”) of the topics covered. If ALEKS determines that your retention is shaky in some areas, you will be required to relearn the material before you move on to new topics that build on these previous ones.

You can find your scores for these Progress Assessments in the REPORT of your ALEKS account, and scrolling down to the History section. A bar graph (one per Progress Assessment) will show your assessment score in blue, progress in learning mode in green, and topics left to be learned in yellow. Your score in Progress Assessments will be taken as the sum of blue and green.

At the end of the semester, the SINGLE highest scoring (blue plus green) Progress Assessment will be determined, giving a maximum of 100 points will be contributed to your 1000 point total. Since the only HIGHEST scoring Progress Assessment will be considered, it is crucial that you prepare and do well in all your Progress Assessments. Do not take any of these for granted.

For example:

07/23/2011 Progress Assessment  77+12%

For example, shown above is the highest scoring Progress Assessment from July 23rd showing an Assessment score of 77% and a Progress in Learning Mode of 12% (the remaining 11% being material still unlearned by the student). The score for this highest Progress Assessment equals 77 + 12 = 89%. Therefore, the contribution to the 1000 points is 89 points.

- **Comprehensive Assessment (200 pts maximum).** This comprehensive Final Test will contain about 30 questions, and will include all the Topics covered during the semester. It will be available on ALEKS for 48 hours from July 23 to 24. Your percentage multiplied by 2 equals the contribution (for example, 87% x 2 = 174 pts) out of 200 to the 1000 point course total. This ALEKS Final Test may be taken early (if you finish all Objectives before the last due date; contact your instructor). However, no Final Test beyond July 24 will be allowed.
Time Well-Spent (100 pts maximum).

READ THIS SECTION CAREFULLY!

Quizzing and testing contribute only 30% (100 pts for Progress Assessment and 200 pts for Comprehensive Assessment) to your total grade. This is because this course emphasizes mastery of the material through consistent and persistent work on ALEKS, making sure your time is well-spent. This means you are REQUIRED to spend AT LEAST 5 HOURS A WEEK on ALEKS for the roughly eight weeks of the Summer term. Spread out your work evenly, rather than cramming all the work on the due date of the current Objective. Cramming almost certainly guarantees you won’t get 100% of the topics in the ALEKS Objectives.

For Time Well-Spent, you can earn a maximum of 16 pts during any particular week (Monday to Sunday). You get 2 point for each DAY you spend at least one hour on ALEKS (for a maximum of three days). You will also earn 2 points per HOUR of work (maximum of five hours). This does NOT mean you should spend ONLY three days and five hours in the week (you will probably need to put in a lot more time than this)-this means you can only get credit for a maximum of three days and five hours.

Time Well Spent is actually a reasonable (and minimal) requirement. When taught on campus, Chem 1005 meets for 100 minutes, three days a week. That is a total of 300 minutes, or 5 hours per week. This does NOT include the EXPECTED study time outside the classroom. So the 5 hour, 3 day requirement for Time Well Spent completely matches the meeting times for a face-to-face class.

Here is a sample ALEKS work week:

Monday 1.5 hrs   Tuesday 2.5 hrs   Wednesday 1 hr   Thursday 3.5 hrs   Friday 0.5 hr

For this week, you get the 6 pts (3 days x 2 pts). Although you worked for 5 days, you get credit for only 3 days. You get the 6 pts credit for Monday, Tuesday, and Wednesday. You get no credit for Thursday since you already have full points for 3 days, and Fridays would not count anyway since you worked only half an hour (remember, one hour minimum to get the 2 points for each day).

For this week, you worked for 1.5 + 2.5 + 1 + 3.5 + 0.5 = 9 hrs. However, you only get credit for a maximum of 5 hrs in the week, so you get your full 10 pts (5 hrs x 2 pts) here.

Your total points for this work week equal 6 + 10 = 16 points, the maximum you can earn for any given week.

A second sample ALEKS work week:

Monday ---------   Tuesday ---------   Wednesday ---------   Thursday ---------   Friday 7 hrs

You completely spaced out about ALEKS during the week, and didn’t do any work until Friday. You only get 2 point for Friday, the only day you did work in ALEKS. You worked 7 hours for this week, so you get 10 points
(5 hrs x 2 pts). Remember, you can get credit for up to 5 hours, although you worked longer than this. Your total points for this work week equal 2 + 10 = 12 points out of the 16 points possible.

Do not try to cheat the system by just logging onto ALEKS and doing nothing. Here are two reasons why you shouldn't:

1- ALEKS will log you off after a certain amount of time of inactivity. So, you can't just log on, watch NCIS or (seriously!) Keeping up with the Kardashians and just do nothing.

2- Remember that Time Well-Spent points are separate from the 500 pts you can get for completing the 7 ALEKS Objectives. No work means no topics learned, and no Objectives completed.

There are almost 8 weeks in the Summer term. However, to allow to make adjustments in your schedule and learn to use the ALEKS system, you will be given credit for 6 out of the 8 weeks. With a maximum of 16 points per week, you can get up to 16 points x 6 weeks = 96 points for the Summer term. To make this 100 points for Time Well Spent, an extra 4 points will be added to everyone’s scores across the board.

Remember that this is separate from the 500 pts you can get for completing the 7 ALEKS Objectives.

**Your instructor understands that the summer is the peak season for vacation and travel, but the pace of a summer academic term is more than twice that of a regular fall or spring term.** If you have your schedule and know for a fact that you will be able to do little to no ALEKS work at all during a particular week, you must let your instructor know IN ADVANCE so that arrangements can be made (on a per-student) basis so you can make up the 16 pts for the week. **Adjustments will be made only for up to 2 of the six weeks that will earn Time Well Spent points.**

<table>
<thead>
<tr>
<th>GRADE DISTRIBUTION</th>
<th>Max. Scores</th>
<th>GRADING SCALE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moodle Forums</td>
<td>100 pts</td>
<td>A: 900-1000 pts</td>
</tr>
<tr>
<td>ALEKS Objectives</td>
<td>500 pts</td>
<td>B: 800-899 pts</td>
</tr>
<tr>
<td>ALEKS Progress Assessments</td>
<td>100 pts</td>
<td>C: 700-799 pts</td>
</tr>
<tr>
<td>Comprehensive Assessment</td>
<td>200 pts</td>
<td>D: 600-699 pts</td>
</tr>
<tr>
<td>Time Well-Spent</td>
<td>100 pts</td>
<td></td>
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</tbody>
</table>

**Required Text, Readings, and Materials:**
Introductory Chemistry 4th Ed. by Nivaldo Tro

**Class Policies:** Last Date to Change to Audit Status or to Withdraw with a W Grade:
- By registering for, and staying in, this class, you agree to (i) abide by the policies, and (ii) fulfil all the requirements, described in this syllabus. Your instructor reserves the right to make revisions and modifications to this syllabus as needed, subject to sufficient notice to the class of such changes. You are responsible for all announcements (posted in Moodle). It is your responsibility to put in the necessary time in both ALEKS and Moodle.
- The term ‘Basic’ in Basic Chemistry is used to describe this course. It is assumed that as college students, you have the ‘basic’ science, math and English skills from high school. You may not have taken chemistry at all, but you should be able to do (or are currently taking) simple algebra and word-problem
calculations. Your instructor will assume that you can READ. This is a science class that will exercise your science, math, and English abilities through a variety of on-line tutorials and assessments in ALEKS, as well as discussion topics in the Moodle forums. Ignoring your deficiencies in basic science, math, and English will not make Basic Chemistry any easier.

- **The last day for withdrawal (a grade of W) without instructor permission is July 9.**

**Student Rights and Responsibilities:** Please refer to the Casper College Student Conduct and Judicial Code for information concerning your rights and responsibilities as a Casper College Student.

**Chain of Command:** If you have any problems with this class, you should first contact the instructor to attempt to solve the problem. If you are not satisfied with the solution offered by the instructor, you should then take the matter through the appropriate chain of command starting with the Department Head/Program Director (Dr. Eric Mechalke), the Dean of the School of Science (Dr. Grant Wilson), and lastly the Vice President for Academic Affairs (Dr. Tim Wright).

**Academic Dishonesty** - Cheating & Plagiarism: Casper College demands intellectual honesty. Proven plagiarism or any form of dishonesty associated with the academic process can result in the offender failing the course in which the offense was committed or expulsion from school. See the Casper College Student Code of Conduct for more information on this topic.

**Official Means of Communication:** Casper College faculty and staff will employ the student’s assigned Casper College email account as a primary method of communication. Students are responsible to check their account regularly.

**ADA Accommodations Policy:** If you need academic accommodations because of a disability, please inform me as soon as possible. See me privately after class, or during my office hours. To request academic accommodations, students must first consult with the college’s Disability Services Counselor located in the Gateway Building, Room 344, (307) 268-2557, bheuer@caspercollege.edu. The Disability Services Counselor is responsible for reviewing documentation provided by students requesting accommodations, determining eligibility for accommodations, and helping students request and use appropriate accommodations.

**Schedule of Activities** (Chapters are from Tro):

<table>
<thead>
<tr>
<th>Chapter</th>
<th>FORUMS due in Moodle</th>
<th>ALEKS Objectives Completion Date</th>
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<tbody>
<tr>
<td>Introduction</td>
<td></td>
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<tr>
<td>Math and Algebra</td>
<td></td>
<td>(18 topics) June 10</td>
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<tr>
<td>Ch 2 (Measurement and Problem Solving)</td>
<td>June 15</td>
<td>(19 topics) June 17</td>
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<tr>
<td>Ch 3 (Matter and Energy)</td>
<td>June 19</td>
<td>(Chs 3 &amp; 4, 19 topics)</td>
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<tr>
<td>Ch 4 (Atoms and Elements)</td>
<td>June 22</td>
<td>June 24</td>
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<tr>
<td>Ch 5 (Molecules and Compounds)</td>
<td>June 29</td>
<td>(19 topics) July 1</td>
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<tr>
<td>Ch 6 (Chemical Composition)</td>
<td>July 6</td>
<td>(Chs 6 &amp; 7, 20 topics)</td>
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<tr>
<td>Ch 7 (Chemical Reactions)</td>
<td>July 7</td>
<td>July 8</td>
</tr>
<tr>
<td>Ch 8 (Quantities...)</td>
<td>July 10</td>
<td>(Chs 8 &amp; 9, 20 topics)</td>
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<tr>
<td>Ch 9 (Electrons and Atoms...)</td>
<td>July 13</td>
<td>July 15</td>
</tr>
<tr>
<td>Ch 10 (Chemical Bonding)</td>
<td>July 20</td>
<td>(16 topics) July 22</td>
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<tr>
<td>Comprehensive ALEKS Assessment</td>
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<td>July 23-24</td>
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*Chapter 1 contains introductory material, and will not have a Forum associated with it.*