CHEM 1312.03 – General Chemistry II

Summer I 2018

Instructor: Dr. K. Christopher Smith, SCIE 3.120, telephone: 665-2063, e-mail: kenneth.smith@utrgv.edu


Office hours: T, Th: 1:00pm – 2:00pm, SCIE 3.120
Office hours can also be scheduled by appointment (send e-mail)

   b) Sapling Learning Online Access (required).
   b) Calculator (required).
   c) Study guide to accompany the text (not required).

CHEM 1312 Course Description:

“This course presents the properties of liquids and solids, solutions' acid-base theory, chemical kinetics, equilibrium, chemical thermodynamics, electrochemistry, nuclear chemistry and representative organic compounds. Prerequisite: CHEM 1301.”

Learning Outcomes for CHEM 1312

The overall goal in terms of learning outcomes is to help you to have meaningful learning of the topics we will cover in this course. This meaningful learning involves two main types of learning: a) learning to use formulas, equations, and procedures to carry out calculations and similar types of operations, and b) learning ideas and concepts in order to be able to explain and apply them in possibly new and different situations.

The end of each chapter in the text has a section with a chapter summary, in which important terms, key equations, and a summary of facts and concepts are outlined. The key equations are important for the type of learning outlined in part a) above, while the important terms and summary of facts and concepts are important for the type of learning in part b) above. Use these resources!

Learning Objectives for Core Curriculum Requirements

In addition to these general chemistry content learning outcomes above, there are several specific learning objectives for this course. These are to develop critical thinking skills, communication skills, empirical and quantitative skills, and teamwork skills.
Where can you go for help with CHEM 1312?

a) **Professor**: I have office hours available, or you can schedule an appointment or e-mail me if you need help.

b) **The UTRGV Learning Center** advertises free tutoring available for a number of subject areas, including chemistry.

c) **Each other**: there are many other students enrolled in CHEM 1312, and it is a great idea to use one another as resources. Help each other, support each other, and challenge each other!

**Tips for success in CHEM 1312**

a) **Attend lectures**: Lecture attendance is expected. Attending lectures, paying attention, and participating will aid your success in general chemistry. The more active your role is in your learning, the greater your chances for your success. In addition, minimizing distractions during lecture (such as cell phones ringing, pagers beeping, etc.) encourages a more productive learning environment.

b) **Review your notes after lecture**: Go over your notes after each lecture, and pay special attention to ideas or concepts which may not have been clear to you during the lecture.

c) **Get an overview of the lecture material before coming to lecture**: Once you attend the lectures, and you review your notes after each lecture, you will have a good idea of the lecture material which will come in the following lectures. Take a look at the lecture material to get an overview of the concepts and ideas which will be coming.

d) **Do the assigned homework**: Completing the assigned homework helps you to gain experience with a greater variety of problems and exercises, and also allows you to identify possible areas of difficulty. Also, be aware that listening to an idea being explained or watching a problem being solved is not the same as applying the idea yourself or solving the problem yourself.

e) **Form study groups**: Forming study groups is a great way to learn the material and to help one another learn the material.

f) **Ask questions**: Don’t be afraid to ask questions about concepts or ideas that you might have difficulty with. You can ask in class, because there is always a good chance that someone else has the same question, or you get help with your questions out of class.

g) **Keep up with the course material**: It is very difficult to “catch up” with the material in chemistry once you get behind, so try your best to keep up!
Tentative Lecture and Exam Schedule:

<table>
<thead>
<tr>
<th>Date</th>
<th>Week</th>
<th>Lecture</th>
<th>Lecture Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>6/4</td>
<td>1</td>
<td>1</td>
<td>Introduction to the Course; Chapter 11: Intermolecular Forces &amp; Liquids/Solids</td>
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<tr>
<td>6/5</td>
<td>1</td>
<td>2</td>
<td>Chapter 11 continued</td>
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<tr>
<td>6/6</td>
<td>1</td>
<td>3</td>
<td>Chapter 11 continued</td>
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<tr>
<td>6/7</td>
<td>1</td>
<td>4</td>
<td>Chapter 13: Physical Properties of Solutions</td>
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<tr>
<td>6/8</td>
<td>1</td>
<td>5</td>
<td>Chapter 13 continued</td>
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<tr>
<td>6/11</td>
<td>2</td>
<td>6</td>
<td>Chapter 14: Chemical Kinetics</td>
</tr>
<tr>
<td>6/12</td>
<td>2</td>
<td>7</td>
<td>Chapter 14 continued</td>
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<tr>
<td>6/13</td>
<td>2</td>
<td>--</td>
<td>Exam #1: Chapters 11 &amp; 13</td>
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<tr>
<td>6/14</td>
<td>2</td>
<td>8</td>
<td>Chapter 15: Chemical Equilibrium</td>
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<tr>
<td>6/15</td>
<td>2</td>
<td>9</td>
<td>Chapter 15 continued</td>
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<tr>
<td>6/18</td>
<td>3</td>
<td>10</td>
<td>Chapter 16: Acids and Bases</td>
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<tr>
<td>6/19</td>
<td>3</td>
<td>11</td>
<td>Chapter 16 continued</td>
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<tr>
<td>6/20</td>
<td>3</td>
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<td>Exam #2: Chapters 14 &amp; 15</td>
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<tr>
<td>6/21</td>
<td>3</td>
<td>12</td>
<td>Chapter 17: Acid-Base &amp; Solubility Equilibria</td>
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<tr>
<td>6/22</td>
<td>3</td>
<td>13</td>
<td>Chapter 17 continued</td>
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<tr>
<td>6/26</td>
<td>4</td>
<td>15</td>
<td>Chapter 18 continued</td>
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<tr>
<td>6/27</td>
<td>4</td>
<td>--</td>
<td>Exam #3: Chapters 16 &amp; 17</td>
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<tr>
<td>6/28</td>
<td>4</td>
<td>16</td>
<td>Chapter 19: Electrochemistry</td>
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<tr>
<td>6/29</td>
<td>4</td>
<td>17</td>
<td>Chapter 19 continued</td>
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<tr>
<td>7/2</td>
<td>5</td>
<td>18</td>
<td>Chapter 19 continued</td>
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<tr>
<td>7/3</td>
<td>5</td>
<td>19</td>
<td>Chapter 20: Nuclear Chemistry</td>
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<tr>
<td>7/4</td>
<td>5</td>
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<td>Independence Day, no classes</td>
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<tr>
<td>7/5</td>
<td>5</td>
<td>--</td>
<td>Exam #4: Chapters 18 &amp; 19</td>
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<tr>
<td>7/6</td>
<td>5</td>
<td>20</td>
<td>Chapter 20 continued</td>
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<tr>
<td>7/9</td>
<td>6</td>
<td>--</td>
<td>Study Day</td>
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<tr>
<td>7/10</td>
<td>6</td>
<td>--</td>
<td>Final Exam</td>
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</tbody>
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Grading

Grades are based on the following scale:
100% - 90% = A; 89% - 80% = B; 79% - 70% = C; 69% - 60% = D; <60% = F
The distribution of the course grade is as follows (lowest exam grade will be dropped):

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Final exam</td>
<td>22.5%</td>
</tr>
<tr>
<td>Exam #1</td>
<td>22.5%</td>
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<tr>
<td>Exam #2</td>
<td>22.5%</td>
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<tr>
<td>Exam #3</td>
<td>22.5%</td>
</tr>
<tr>
<td>Exam #4</td>
<td>22.5%</td>
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<tr>
<td>Homework</td>
<td>10%</td>
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</tbody>
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Exams

There will be four exams during the semester, in addition to the final exam at the end of the semester. The semester exams will be held during the regular meeting time of the course, and in the regular meeting place of the course, as indicated at the start of this syllabus.

There will be no make-up exams. Any unexcused absence from an exam will result in a score of zero for the exam. The only excusable reasons for missing an exam are as follows: you have a major medical illness requiring immediate treatment, there is a death of an immediate family member, you must participate in a required university activity, or you are observing a religious holy day. Documentation is required for all four of these cases. In the cases of your illness or a family member’s death, documentation is required when you return to campus. In the case of a required university activity or a religious holy day, documentation is required at least one week prior to the activity.

Final Exam

The final exam will be held on Tuesday July 10th from 11:50am – 1:35pm in the regular meeting place of the course, as indicated at the start of this syllabus. There will be no make-up final exam.

Homework

Homework will be assigned and graded through the Sapling Learning homework system. These questions will be assigned to help you think about the concepts and ideas in the course, and to help you practice the types of calculations and problem-solving situations involved in the course.

In order to gain access to the Sapling Homework, go to the following website: https://community.macmillan.com/docs/DOC-5972-sapling-learning-registering-for-courses

Once you are at the website, follow the instructions to create an account, and to register for our course.
Important Dates to Remember

The UTRGV academic calendar can be found at http://my.utrgv.edu at the bottom of the screen, prior to login. Important dates for Summer I 2018 include:

June 4 (Mon.) Summer I classes begin
June 5 (Tues.) Last day to add a class or register for Summer I classes
June 6 (Wed.) Last day to withdraw (drop all classes) and receive an 80% refund
June 7 (Thurs.) Census Day (last day to drop without it appearing on the transcript)
June 11 (Mon.) Last day to withdraw (drop all classes) and receive a 50% refund
June 28 (Thurs.) Last day to drop (DR grade) a class or withdraw (grade of W)
July 4 (Wed.) Independence Day. No classes.
July 9 (Mon.) Study Day. No classes.
July 10 (Tues.) Final Exams

There are several other important dates on the webpage; you are encouraged to take a look.

Students with Disabilities

Students with a documented disability (physical, psychological, learning, or other disability which affects academic performance) who would like to receive academic accommodations should contact Student Accessibility Services (SAS) as soon as possible to schedule an appointment to initiate services. Accommodations can be arranged through SAS at any time, but are not retroactive. Students who suffer a broken bone, severe injury or undergo surgery during the semester are eligible for temporary services. Brownsville Campus: Student Accessibility Services is located in Cortez Hall Room 129 and can be contacted by phone at (956) 882-7374 (Voice) or via email at ability@utrgv.edu. Edinburg Campus: Student Accessibility Services is located in 108 University Center and can be contacted by phone at (956) 665-7005 (Voice), (956) 665-3840 (Fax), or via email at ability@utrgv.edu.

Mandatory Course Evaluation Period

Students are required to complete an ONLINE evaluation of this course, accessed through your UTRGV account (http://my.utrgv.edu); you will be contacted through email with further instructions. Students who complete their evaluations will have priority access to their grades. Online evaluations will be available: Summer I 2018: July 1 – July 10.

Attendance

Students are expected to attend all scheduled classes and may be dropped from the course for excessive absences. UTRGV’s attendance policy excuses students from attending class if they are participating in officially sponsored university activities, such as athletics; for observance of religious holy days; or for military service. Students should
contact the instructor in advance of the excused absence and arrange to make up missed work or examinations.

**Scholastic Integrity**

As members of a community dedicated to Honesty, Integrity and Respect, students are reminded that those who engage in scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and expulsion from the University. Scholastic dishonesty includes but is not limited to: cheating, plagiarism (including self-plagiarism), and collusion; submission for credit of any work or materials that are attributable in whole or in part to another person; taking an examination for another person; any act designed to give unfair advantage to a student; or the attempt to commit such acts. Since scholastic dishonesty harms the individual, all students and the integrity of the University, policies on scholastic dishonesty will be strictly enforced (Board of Regents Rules and Regulations and UTRGV Academic Integrity Guidelines). All scholastic dishonesty incidents will be reported to the Dean of Students.

**Sexual Harassment, Discrimination, and Violence**

In accordance with UT System regulations, your instructor is a “Responsible Employee” for reporting purposes under Title IX regulations and so must report any instance, occurring during a student’s time in college, of sexual assault, stalking, dating violence, domestic violence, or sexual harassment about which she/he becomes aware during this course through writing, discussion, or personal disclosure. More information can be found at [www.utrgv.edu/equity](http://www.utrgv.edu/equity), including confidential resources available on campus. The faculty and staff of UTRGV actively strive to provide a learning, working, and living environment that promotes personal integrity, civility, and mutual respect that is free from sexual misconduct and discrimination.

**Course Drops**

According to UTRGV policy, students may drop any class without penalty earning a grade of DR until the official drop date. Following that date, students must be assigned a letter grade and can no longer drop the class. Students considering dropping the class should be aware of the “3-peat rule” and the “6-drop” rule so they can recognize how dropped classes may affect their academic success. The 6-drop rule refers to Texas law that dictates that undergraduate students may not drop more than six courses during their undergraduate career. Courses dropped at other Texas public higher education institutions will count toward the six-course drop limit. The 3-peat rule refers to additional fees charged to students who take the same class for the third time.

**Student Services**

Students who demonstrate financial need have a variety of options when it comes to paying for college costs, such as scholarships, grants, loans and work-study. Students should visit the Students Services Center (U Central) for additional information.
Central is located in BMAIN 1.100 (Brownsville) or ESSBL 1.145 (Edinburg) or can be reached by email (ucentral@utrgv.edu) or telephone: (888) 882-4026. In addition to financial aid, U Central can assist students with registration and admissions.

Students seeking academic help in their studies can use university resources in addition to an instructor’s office hours. University Resources include the Learning Center, Writing Center, Advising Center and Career Center. The centers provide services such as tutoring, writing help, critical thinking, study skills, degree planning, and student employment. Locations are:

- **Learning center**: BSTUN 2.10 (Brownsville) or ELCETR 100 (Edinburg)
- **Writing center**: BLIBR 3.206 (Brownsville) or ESTAC 3.119 (Edinburg)
- **Advising center**: BMAIN 1.400 (Brownsville) or ESWKH 101 (Edinburg)
- **Career center**: BCRTZ 129 (Brownsville) or ESSBL 2.101 (Edinburg)