Instructor: Dr. Angela Wilson

Office: Chemistry Building, Room 205C

Office Phone: (940) 565-4296

E-mail: akwilson@unt.edu

Class times: Monday, Wednesday, Friday - 10:00 - 10:50 a.m.; Recitation - Friday - 12:00 - 12:50 p.m. (Recitation is mandatory only on exam dates or as otherwise announced in class.)

Location: Chemistry Building, Room 352 (lecture); Room 106 (recitation)

Office Hours: Mondays - 11:00 a.m. - 1:00 p.m., Wednesdays – 11:00 a.m. – 12:00 p.m., or by prior arrangement


An optional manual for mathematics aid for physical chemistry is entitled: Applied Mathematics for Physical Chemistry, 3rd edition, James R. Barrante, (Prentice-Hall, Upper Saddle River, New Jersey, 2004). It is available in paperback, and is relatively inexpensive. There is also a mathematics review section in the back of your text. However, the Barrante book provides a more thorough review.

Super TA: While the CRC is available long hours to provide additional help, there is also a Super TA for the class who will be available for questions only during given office hours. The Super TA will also be available during recitation sections.

COURSE CONTENT

Topics that will be addressed include quantum mechanics: atomic structure and molecular orbital theory, spectroscopy: microwave, infrared, electronic, photoelectron, electron spin, NMR, and statistical mechanics.

COURSE GRADING

<table>
<thead>
<tr>
<th></th>
<th>Points</th>
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<tbody>
<tr>
<td>4 Exams (100 points each)</td>
<td>400 points</td>
</tr>
<tr>
<td>Final Exam</td>
<td>200 points</td>
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<tr>
<td>Lowest score dropped (see conditions below)*</td>
<td>- 100 points*</td>
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<tr>
<td>TOTAL</td>
<td>500 points</td>
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Final course grades will be based on the Course Grading Scheme as follows:

90% and above = A
80-89% = B
70-79% = C
60-69% = D
Below 60% = F

PLEASE NOTE: According to University policy, the grade of I (incomplete) cannot be given as a substitute for a failing grade in a course.

EXAMS:
The exams primarily will be composed of concepts and problems such as those assigned or discussed in class and those found in each chapter in the text. Early preparation is important! It has been observed that 95% or more of students who wait until the last minute (=2-3 days prior to the exam) to prepare for a physical chemistry exam earn grades of C or lower in the class.

There will be NO make-up exams.

* Your lowest test score (one exam) will be dropped, or, if your final exam score is your lowest score for the semester, it will only count as one semester exam, rather than the equivalent of two semester exams (e.g., a score of 140/200 will be considered as a score of 70/100). However, for students who opt to skip an exam, NO test scores will be dropped. As the FINAL EXAM is COMPREHENSIVE, it is important to do your best to understand each topic, and not opt to skip any that may appear more challenging.

TENTATIVE EXAM SCHEDULE:

ALL regular exams are given in TWO parts – Students must be present for both parts of the exam!

EXAM 1: Friday, February 11 (Part I of exam at 10:00; Part II of exam at 12:00)
EXAM 2: Friday, March 11 (Part I of exam at 10:00; Part II of exam at 12:00)
EXAM 3: Friday, April 8 (Part I of exam at 10:00; Part II of exam at 12:00)
EXAM 4: Friday, Apr 29 (Part I of exam at 10:00; Part II of exam at 12:00)
FINAL EXAM: FRIDAY, May 13, 8:00 – 10:00 a.m.
(The final exam will be comprehensive. Early (or late!) final exams are NOT allowed. Please plan accordingly.)

Please note: If the university is CLOSED on a test date due to conditions such as inclement weather, then the test will be moved to the next class date that the university is open. This serves as your notification.
Also note: Cheating will not be tolerated in this course, and will result in a grade of “F” in the course and will be reported to the Dean of Students. On exam day, there will be no sharing of calculators, no backpacks or coats near your desks, no wandering eyes, no papers, no baseball caps or other hats, no cell phones near your desks, no ear pieces of any sort, no radios, etc. Your calculators, hands, jackets, shoes, etc. are subject to examination at any time before, after, or during the exam.

**HOMEWORK:**

A number of homework problems will be assigned. These problems will not be collected or graded. However, these problems are strongly recommended. As well, it is advised to begin your homework well in advance of the exam dates. Success in physical chemistry is highly dependent upon the application of concepts - the more problems you work through on your own (and well in advance of exam dates), the better you will grasp the subject (and the easier the exams will seem!). Therefore, it is strongly recommended that you work through problems in addition to those assigned.

A quote from a student in a previous year’s physical chemistry course: “In every class our instructors tell us how important the homework is to succeed (pass) in the course and that we need to work on the homework in advance. However, we find that we do not have to do this in most of our courses. We did not realize until after the first exam that you really meant it!”

**MATERIAL TO BE COVERED:**

Chapters 7-17 (Note: Not all chapters will be covered in their entirety.)

**ATTENDANCE POLICY:**

Class attendance is highly recommended. Please note: missing class may (will for 98% of students!) result in poor exam performance. As well, if you miss an exam, you receive a “0” score for that exam and NO exam score will be dropped in this case! Note the exam schedule is TENTATIVE.

If you miss class without notifying the instructor in advance, you are responsible for finding the materials (i.e., class notes) from sources other than the instructor. Additionally, questions on the missed material will not be addressed by the instructor during class, office hours, or during recitation.

**RECITATION:**

Recitation is optional, with the exception of exam dates and any other times announced by the instructor. During the recitation, we will focus upon homework problems, derivations, and student questions, all as needed. As well, recitation sessions will include chapter reviews for the exams.

**CALCULATORS:**

1. You WILL need a calculator. As problems will often be worked in class, calculators should be brought to class and to recitation sections.
2. A calculator WILL be needed for exams.
   a. One will NOT be provided to you on exams (or otherwise).
   b. You may NOT borrow a calculator from a classmate.
3. On EXAM DAY, only specific kinds of calculators will be allowed for the exams.
   a. Non-programmable basic calculator.
   b. Allowed functions: sin, cos, tan, addition, subtraction, multiplication, division, exponents, logarithms. *(These types of calculators can often be found for under $5-10.)*
   c. Calculators that perform unit conversions, calculus (integrals, derivatives), can store formula, numbers, etc. will not be permitted.

**EXAM DAY CHECKLIST:**

1. Appropriate calculator.
2. Pens or pencils.
3. Show up at 10:00 for Part I. (CHEM 352)
4. Show up at 12:00 for Part II. (CHEM 106)
5. Show up on time. Extra time will not be given to those who show up late.
6. “Clean” calculators, pens, pencils, jackets, jacket pockets, clothes, hats, sleeves, shoes, pants, arms, hands, backpacks, etc.

**DURING EXAM:**

1. No cheating.
2. No roaming eyes.
3. If questions arise, raise your hand.
4. Devices that allow language translation are **not** permitted.
5. No sharing of calculators.
6. No cell phones or other devices.

**COURSE WEB PAGE:**

Supplemental course information may be found via:
http://www.chem.unt.edu/~akwilson/chem3520/chem3520.html

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Holidays:
March 14-19 (Spring Break)

Drop deadline:
Tuesday, March 29

******************************************************************************NOT E: This department believes in reasonably accommodating individuals with disabilities and complies with the university policy established under Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act (1990) to provide for equal access and opportunity. Please communicate with your professor as to your specific needs so appropriate arrangements can be made through the department and/or the Office of Disability Accommodation (Room 318A, University Union, (940) 565-4323).
### TENTATIVE SCHEDULE

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<td>Week 2, Jan. 24</td>
<td>Chapter 7/8</td>
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<td>Week 3, Jan. 31</td>
<td>Chapter 8</td>
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<td>Week 4, Feb. 7</td>
<td>Chapter 8</td>
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<td>Friday, Feb. 11</td>
<td>EXAM 1</td>
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<tr>
<td>Week 5, Feb. 14</td>
<td>Chapter 9</td>
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<td>Week 6, Feb. 21</td>
<td>Chapter 9/10</td>
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<td>Week 7, Feb. 28</td>
<td>Chapter 10</td>
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<td>Week 8, Mar. 7</td>
<td>Chapter 11</td>
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<tr>
<td>Friday, Mar. 11</td>
<td>EXAM 2</td>
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<tr>
<td>March 14-19</td>
<td>SPRING BREAK</td>
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<td>Week 9, Mar. 14</td>
<td>Chapter 11</td>
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<td>Week 10, Mar. 21</td>
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<td>Week 11, Mar. 28</td>
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<td>Week 12, Apr. 4</td>
<td>Chapter 12</td>
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<td>Friday, Apr. 8</td>
<td>EXAM 3</td>
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<td>Week 13, Apr. 11</td>
<td>Chapter 12/13</td>
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<td>Week 14, Apr. 18</td>
<td>Chapter 13</td>
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<td>Week 15, Apr. 25</td>
<td>Chapter 15</td>
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<td>Friday, Apr. 29</td>
<td>EXAM 4</td>
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<tr>
<td>Week 16, May 2</td>
<td>Selected sections from chapters</td>
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<tr>
<td>FRIDAY, MAY 13</td>
<td>FINAL EXAM</td>
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