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Chem 330 – 1 credit
Fall 2017
Instructor:  Bhaskar Chilukuri
Meeting in Room Fulmer 225
Every Wednesday, 2:10 to 4:00 PM for 8-9 weeks.

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**Office hours:**
After class and 12 to 2 PM on Thursday in room 116 or by appointment.
My email is bhaskar.chilukuri@wsu.edu and my office phone is 335-6688

**Course books:**
- "Mathematics for Physical Chemistry" by Robert G. Mortimer, 4th Edition, ISBN: 978-0-12-415809-2 (Primary)
- "Applied Mathematics for Physical Chemistry" by James R. Barrante
- Class notes and slides is the most useful

**Learning Goal:**
To develop familiarity and facility with the mathematics tools required for undergraduate physical chemistry.  Students will review topics from mathematics through the third year of calculus and become proficient with those tools as they are applied in the specific discipline of Physical Chemistry.

**Prerequisites:**
Chem 116 and Math 273 or 283 with a C or better.

**Homework and grading:**
**Read the chapter for the next week BEFORE coming to class**.    You will be expected to work on the problems BEFORE the lecture. That way we can use class time to focus on those topics you find most difficult.

All problems must be clearly and completely written out with words of explanation inserted were appropriate. Show all your work!  Since most of the "answers" are in the back of the book, I will be looking for how well you understood the method of solution.  I plan to have homework every week, but not all the assigned problems will be graded.  I will typically pick two or three problems (after the papers are turned in) for grading.  Your best n-1 homework grades will be used in computing your class grade.  There will also be m in class quizzes (random but nearly every class).  Your best m-1 quiz grades will be used. Homework will be weighted 30%, quizzes 50%, class participation 10%, and final exam 10%. No retaking of quizzes will be allowed. Absence due to a life altering event (death, major surgery, etc) will be handled by dropping one additional quiz and/or homework score.  The final exam will be given in class on the last day of class.

While some scaling of grades may occur, students earning 90% of the points are guaranteed an A-, those gaining 80% a B-, and those earning 70% a C.

Unless otherwise indicated, no notes, calculators, or books should be seen during a quiz. If I see any signs of cell phones, or any other form of information transfer not provided with the exam, you will be assigned a grade of zero for the exam.

**Notes:**
Cheating of any kind will not be tolerated. This includes the inappropriate use of solution manuals for homework sets, as well as the usual forms of copying, etc. Homework will NOT be accepted late. Makeup exams will not be given, but accommodation as indicated above can be arranged in the case of University required activities and proven medical emergencies.

**Study habits:**
Besides the obvious, I have four pieces of advice. 1) Do the problems and study the concepts until you can work all the homework with your book closed; 2) Work problems that are NOT assigned to hone your problem solving skills; 3) Form study groups and work together; 4) You learn best when you use as many senses as possible. So read it, write about it, talk about it, listen to others talk about it, and remember all the weird smells and exciting colors! And, yes, do work together on your **first try** at the homework, but eventually do it all on your own.

## Schedule of activities:
The following schedule is subject to revision. If I am required to travel out of town, or if we are not making satisfactory progress, we will shift forward one or more weeks. The topics to be covered and the order they are covered in will remain the same.

1. *August 23: Chapter 2 Mortimer: Functions: Algebraic, Logarithmic, Exponential, Trigonometric*
2. *August 23: Chapter 3: 2D, 3D-Coordinate Systems*
3. *August 29: Chapter 3: Imaginary and Complex numbers*

*****NO CLASS ON SEPT 6*****

4. *August 29 & September 13: Chapter 5: Solving Algebraic (Polynomial) functions*
5. *September 13 and 20: Chapter 4: Scalars, Vectors and Vector Algebra*
6. *September 27 and October 4: Chapter 6: Differential Calculus – Single variable Derivatives*
7. *October 11, 18: Chapter 7, 9: Integral Calculus – Single variable Integrals*
8. *October 18: Chapter 8, 9: Multivariable Differentials and Integrals (Specific Topics)*
9. *October 25: Final Exam*

**Homework assignments are given every week and are due the following week by the end of the day's class**

**ACADEMIC INTEGRITY:** Cheating or plagiarism in any form will not be tolerated. Cheating includes, but is not limited to: copying work or allowing your work to be copied; use of unauthorized material at quizzes or exams, any communication between students during a quiz or exam, and actively looking at another student's paper during a quiz or exam. Students repeating the course must rework and rewrite all assignments. Plagiarism includes resubmitting previously

graded homework or lab reports, even if they were your own work. Plagiarism also includes using laboratory data from another person or a previous semester. All incidences of cheating may be reported to the Office of Student Conduct. The first incidence of cheating will result in a score of zero for that assignment, quiz or exam. A second incident of cheating will result in an F for the course and possible dismissal from the University.

**SAFETY:** The campus safety plan is at [http://safetyplan.wsu.edu/](http://safetyplan.wsu.edu/) . Go to [http://oem.wsu.edu/Planning.html](http://oem.wsu.edu/Planning.html) to prepare for emergencies. The campus-wide alert system is at [http://alert.wsu.edu/](http://alert.wsu.edu/) .

"Washington State University is committed to enhancing the safety of the students, faculty, staff, and visitors. It is highly recommended that you review the Campus Safety Plan ([http://safetyplan.wsu.edu/](http://safetyplan.wsu.edu/)) and visit the Office of Emergency Management web site ([http://oem.wsu.edu/](http://oem.wsu.edu/)) for a comprehensive listing of university policies, procedures, statistics, and information related to campus safety, emergency management, and the health and welfare of the campus community."

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**Students with Disabilities**: Reasonable accommodations are available for students with a documented disability. If you have a disability and need accommodations to fully participate in this class, please either visit or call the Access Center (Washington Building 217; 509-335-3417) to schedule an appointment with an Access Advisor. All accommodations MUST be approved through the Access Center

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**Learning Outcomes:** To gain proficiency in basic math skills essential to the successful completion of Physical Chemistry courses. These include (but are not limited to) the ability to manipulate complex numbers, differential equations, logarithmic and exponential problems, and the solution of simple integral equations.

Behavior that persistently or flagrantly interferes with classroom activities is considered disruptive behavior and may be subject to disciplinary action. Such behavior inhibits other students' ability to learn and an instructor's ability to teach. A student responsible for disruptive behavior may be asked to leave class pending discussion and resolution of the problem and may be reported to the Office of Student Standards and Accountability.

Cell phones, newspapers, magazines, or any device or object that detracts from a student's attention to the class room activities may not be used in class. Persistent use of such objects will result in the student being asked to leave class pending discussion and resolution of the problem and may be reported to the Office of Student Standards and Accountability.

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to schedule an appointment with an Access Advisor. All accommodations MUST be approved through the Access Center. For more information contact a Disability Specialist on your home campus:

**Pullman or WSU Online**: 509-335-3417
http://accesscenter.wsu.edu, Access.Center@wsu.edu
**Spokane**: http://spokane.wsu.edu/students/current/studentaffairs/disability/
**Tri-Cities**: http://www.tricity.wsu.edu/disability/
**Vancouver**: 360-546-9138 http://studentaffairs.vancouver.wsu.edu/student-resource-center/disability-services

**Graduate-level courses:** Faculty may also use the statement available on the GSC website:
http://gradschool.wsu.edu/FacultyStaff/Committee/