CHEM 341/342: Physical Chemistry I (2/3 Credits)  FALL 2007
South Dakota School of Mines and Technology
Chemistry/Chemistry Engineering Building, Room C304  MWF 3:00-3:50 pm

INSTRUCTOR: Justin P. Meyer  Office: Chemistry and Chemical Engineering 122
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Email: Justin.Meyer@sdsmt.edu

Office Hours: Monday, Wednesday, Friday 9:00-11:00 am, or by appointment

Course Description: 341: Physical transformations of pure substances; simple mixtures and phase diagrams; chemical equilibrium and equilibrium electrochemistry.
342: A study of the fundamental principles governing the behavior of chemical systems. Properties of gases; first and second laws of thermodynamics; physical transformations of pure substances; simple mixtures and phase diagrams; chemical equilibrium and equilibrium electrochemistry.
Duplicate credit for CHEM 341 and CHEM 342 not allowed.

Course Prerequisites: 341: Prerequisite: CHE 222. Prerequisite or corequisite: PHYS213.
342: Prerequisites: CHEM 114 and MATH 225. Prerequisite or corequisite: PHYS 213.

TEXT: Physical Chemistry, 8th Ed, Peter Atkins-Julio de Paula, Freeman

COURSE POLICIES:

Attendance: Attendance at lectures is not required, but is expected.

Grading: Your final grade will be determined from a weighted average of your exam grades and your homework grades. Exams (midterm and final) will make up 80% of your overall grade while homework will make up 20%. Homework must be turned in by the specified due date and time.

Homework. Collaboration with other students is allowed/encouraged. Remember the definition of collaboration is to work together, this means you need to contribute, not copy. If homework is done in a group, each student must hand in there own copy of the results (no homework with multiple names signed on it). Make sure homework is neat; you may lose points for homework that is hard to follow. LATE HOMEWORK WILL NOT BE ACCEPTED.

Exams: I will be giving up to five exams during the course of the class. These exams will be given at times decided in class prior to the exam. They may be either take home, in class, or a combination of both, again decided prior to the exam.

Final Exam: Will be a combination of take home and in class problems. Take home problems will be given out in class a week prior to the final exam time of Wednesday, Dec. 17th at 10:00 am. This exam will likely be mostly comprehensive and over some new material.

Withdrawal Deadline: The last day to drop this class with a grade of “W” recorded on your transcript is Tuesday, November 19, 2007.
**Objectives:** The course is divided into three modules designed to expose the student to concepts in thermodynamics, chemical and phase equilibrium and the application of thermodynamics to solids and solutions. **These dates are subject to change.**

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<tr>
<th>Module</th>
<th>Topics</th>
<th>Text Chapters</th>
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| **One** | Properties of Gases  
Three Laws of Thermodynamics  
Thermodynamic Functions | 1-3 |
| **Two** | Thermodynamic Functions  
Physical Transformations and Solutions | 4,5 |
| **Three** | Equilibrium and Phase Diagrams | 6,7 |

**ADA Statement:** Students with special needs or requiring special accommodations should contact the instructor, (Justin Meyer, at 394-2431) and/or the campus ADA coordinator, Jolie McCoy, at 394-1924 at the earliest opportunity.

**Freedom in learning.** Under Board of Regents and University policy student academic performance may be evaluated solely on an academic basis, not on opinions or conduct in matters unrelated to academic standards. Students should be free to take reasoned exception to the data or views offered in any course of study and to reserve judgment about matters of opinion, but they are responsible for learning the content of any course of study for which they are enrolled. Students who believe that an academic evaluation reflects prejudiced or capricious consideration of student opinions or conduct unrelated to academic standards should contact dean of the college which offers the class to initiate a review of the evaluation.

**IF YOU HAVE QUESTIONS, ASK THEM.**