Syllabus Physical Chemistry I (CHM 3410) Fall Semester 2018

Instructor: Alexander Mebel, Department of Chemistry and Biochemistry, CP 332 Tel.: 305-348-1945. E-mail: mebela@fiu.edu Website: http://faculty.fiu.edu/~mebela

Time and location: MWF 1-2:15 pm, SIPA-100

Office Hours: MW 3:00-5:00 pm or by appointment

Required Text: Physical Chemistry, 10th Edition, Peter Atkins and Julio de Paula (Freeman: New York, 2014), ISBN 1-4292-9019-6, ISBN-13: 978-1-4292-9019-7.

Prerequisites: Calculus I and II (MAC 2311 and 2312), Physics WITH Calculus (PHY 2048, 2048L, 2049, and 2049L), Quantitative Analysis (CHM 3120 and 3120L)

Course Description: Physical chemistry (PChem) provides a language and set of concepts on which all of chemistry is founded. One could say that PChem makes a science of chemistry. This semester's topics in PChem are thermodynamics and, briefly, kinetics. Next semester will be devoted to quantum mechanics and spectroscopy. Together with statistical mechanics, which you may meet at a later date, these are the cornerstones of the field. Remember: mastery requires application; understanding is the reward.

Grading: Grades will be based on two Exams (55%), a Final Exam (40%), and Homework (5%). The Final Exam will be comprehensive. Cheating will not be tolerated.

Homework: Problem sets will be assigned most Fridays and will be due in class the following Friday. Solutions to the homework will be posted on my website and/or discussed in subsequent lectures. Homework will not be graded but will be assigned a check (complete), check minus (incomplete), or minus (absent). Late homework will not be accepted. **Be sure to keep up with the homework. Only by doing it will you solidify your learning.**

Tentative Exam Schedule: Exam 1 9/21 Exam 2 10/29 Final Exam: Monday, 12/3, noon – 2 pm

Course Outline:

Chapters	Topic
1-3	Development of the formalism of thermodynamics
4-6	Applications of thermodynamics to physical and chemical equilibrium
20-21	Kinetics and dynamics (some sections may be omitted)

Important dates: 08/27 - last day of early drop, 10/29 - last day of late drop.