SYLLABUS

Course:	CHEM 351 (Chemical Thermodynamics; 4 units)	
Prerequisites:	CHEM 102/L; PHYS 225 or 220A; MATH 150B or 255B	
Lecturer:	Dr. Jussi Eloranta	
E-mail:	Jussi.Eloranta@csun.edu	
Office:	Eucalyptus Hall 2025	
Office hours:	Fri 2:00 – 3:00 pm.	
Lectures:	Tue and Thu $7:30 - 9:15$ am. 4 hours / week of lectures	
	in Eucalyptus Hall 2227	
Exams:	One midterm (weight 50 %) and a final (weight 50 %)	
Content:	Chemical applications of thermodynamics, chemical kinetics,	
	introduction to statistical thermodynamics	
Optional material:	Physical Chemistry by Silbey, Alberty and Bawendi,	
	Physical Chemistry by P. W. Atkins and J. de Paula	
Web page:	http://www.csun.edu/~jeloranta/CHEM351/	

1. Student learning outcomes

Basic understanding of the following topics in physical chemistry:

- 2. First law of thermodynamics
- 3. Second and third laws of thermodynamics
- 4. Fundamental equations of thermodynamics
- 5. Chemical equilibrium
- 6. Phase equilibrium
- 7. Electrochemical equilibrium
- 8. Statistical thermodynamics
- 9. Chemical kinetics

2. Tentative schedule (fall 2017)

Chapters	Examination
$\overline{1-4}$	Midterm (Nov 2nd; CH 5126)
5 - 9	Final examination (Dec 14th at $08:00 - 10:00$ am in EH 2227)

3. Homework

Additional examples/homework for each chapter can be downloaded from the course web page.

4. Examinations

Additional material is allowed in the examinations (including lecture notes, textbooks, programmable calculators, etc.). A tentative grading scale is as follows:

Grade	Total score
А	> 190
A-	181 - 190
B+	171 - 180
В	161 - 170
B-	151 - 160
C+	141 - 150
С	131 - 140
C-	121 - 130
D+	111 - 120
D	101 - 110
D-	91 - 100
F	< 91

The overall grade is based on the sum of the midterm and final exams. Each exam is worth 100 points and the total is 200 points. The course grade is determined based on the scale given above.

5. Suggested reference material

The following reference material will be helpful during the course:

- 1. Physics Handbook for Science and Engineering, C. Nordling and J. Österman, Studentlitteratur (2004).
- 2. Mathematics for Physical Chemistry (3rd ed.), R. G. Mortimer, Academic Press (2005).

6. Practical hints

- 1. Read the corresponding textbook section and the notes before the lectures. The notes are available at the course web page. Ask questions!
- 2. The best way to learn physical chemistry is through exercises. This is the reason for the homework being mandatory.
- 3. Always try to understand the whole concept first and the work out the details.
- 4. Try to understand the material instead of just memorizing it. The latter approach will not work in physical chemistry.

7. Academic dishonesty

By enrolling in this class, you agree to abide by all California State University, Northridge policies of academic honesty and integrity. Students violating these standards will receive a zero for the work in question and will have their case referred to the Student Affairs Office for appropriate disciplinary action. See Appendix E of the California State University, Northridge catalog for details of the University policies.