

Course Schedule of MST Program ,TIGP

Semester: Fall, 2013 (102 學年度上學期)

Course(科目): 高等物化 三-Advanced Physical Chemistry (III)

Time(時間): 9:10~12:00 am, Thursday(R2R3R4)

Room(教室): 311 IAMS 中研院原分所 R311(台大校園)

NTHU coordinator(清大教師): 倪其焜

Course speakers(授課老師): Chi-Kung Ni 倪其焜、Huan-Cheng Chang 張煥正、Ta-Chau Chang 張大釗

Required(必修課), credit(學分): 3

Course No.(科號): TIGP727300

Date	lecturer	Date	lecturer
9/26 Thursday 9:10~12:00	Prof. Chi-Kung Ni	12/5 Thursday 9:10~12:00	Prof. Huan-Cheng Chang
10/3 Thursday 9:10~12:00	Prof. Chi-Kung Ni	12/12 Thursday 9:10~12:00	Prof. Huan-Cheng Chang
10/17 Thursday 9:10~12:00	Prof. Chi-Kung Ni	12/19 Thursday 9:10~12:00	Prof. Ta-Chau Chang
10/24 Thursday 9:10~12:00	Prof. Chi-Kung Ni	12/26 Thursday 9:10~12:00	Prof. Ta-Chau Chang
10/31 Thursday 9:10~12:00	Prof. Chi-Kung Ni	1/2/2014 Thursday 9:10~12:00	Prof. Ta-Chau Chang
11/7 Thursday 9:10~12:00	Prof. Chi-Kung Ni	1/9/2014 Thursday 9:10~12:00	Prof. Ta-Chau Chang
11/14 Thursday 9:10~12:00	Prof. Huan-Cheng Chang	1/16/2014 Thursday 9:10~12:00	Prof. Ta-Chau Chang
11/21 Thursday 9:10~12:00	Prof. Huan-Cheng Chang		
11/28 Thursday 9:10~12:00	Prof. Huan-Cheng Chang		

Speaker	Part 1 (Week 1-week6) Prof. Chi-Kung Ni 倪其焜教授
Class Outline	1. Molecular Motion in gases 2. Molecular Motion in liquids 3. Rates of Chemical Reactions 4. Elementary Chemical Reactions 5. Unimolecular Reactions
Introduction	Focus on the estimation of reaction rate constants both in gas phase and liquid phase for various reactions.
Grading	exam
Textbook	1.Chemical Kinetics and Reaction Dynamics by P. Houston 2001 2.Physical Chemistry, by P. Atkins, J. De Paula

Speaker	Part 3 (Week 7-week11) Prof. Huan-Cheng Chang 張煥正教授
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Class Outline	<ol style="list-style-type: none"> 1. The solid state 2. Processes at solid surfaces
Introduction	<p>The course will cover topics presented in Chapters 20 and 25 of the textbook of Atkins & de Paula, including</p> <ol style="list-style-type: none"> 1. Crystal lattices 2. Crystal structure 3. The properties of solids 4. The growth and structure of solid surfaces 5. The extent of adsorption 6. Heterogeneous catalysis 7. Processes at electrodes <p>New materials such as “surface spectroscopy” will also be added in the course for advanced studies of the subject.</p>
Grading	<p>Exam: 70%</p> <p>Homework: 30%</p>
Textbook	Peter Atkins and Julio de Paula, Physical Chemistry, 8 th Ed. (2006)

Speaker	<p>Part 4 (Week 12-week16)</p> <p>Prof. Ta-Chau Chang</p> <p>張大釗教授</p>
Class Outline	Group theory and Spectroscopy
Introduction	
Grading	
Textbook	