

課程名稱 (英)	Advanced Chemical Engineering Thermodynamics		
授課教師資訊	姓名: 康敦彥 所屬單位: 工學院 化學工程學系 E-mail: dnyen@ntu.edu.tw 電話: 33661767		
開課時間	109學年 <input type="checkbox"/> 一學年 <input checked="" type="checkbox"/> 第二學期	必/選修	<input checked="" type="checkbox"/> 必修 <input type="checkbox"/> 選修
課程識別碼	524 M1110	班次	01
預計修課人數	32	學分數	3
課程屬性	<input type="checkbox"/> 新開課程 (未曾開授之英語授課課程) <input type="checkbox"/> 續開課程		
檢附資料	<input type="checkbox"/> 續開課程請檢附上次開課期末教學意見調查結果		
<b>Course Syllabus in English</b>			
Course Description	The course covers mainly the statistical thermodynamics. EXCEL and MATLAB will be used for solving problems in the final exams.		
Course Requirements	EXCEL and MATLAB will be used in the midterm exams		
Course Objectives	1. Understanding basic concepts of statistical thermodynamics 2. Obtaining thermodynamic properties of ideal and real gas from various ensembles. 3. Understanding the physical meaning of entropy. 4. Calculating second virial coefficient from interparticle potential 5. Understanding crystal theories in statistical thermodynamics 6. Use EXCEL and MATLAB for solving problems of classical and statistical thermodynamics.		
Learning Outcomes			
Required Readings	An Introduction to Applied Statistical Thermodynamics, Stanley I. Sandler, Wiley, 2010.		

Grading	Midterm 01 (04/14)	42.5%
	Midterm 02 (06/02)	42.5%
	Midterm 03 (06/16)	15.0%

**Course Schedule in English**

Week	Date	Topic	Lecturer
Week 1		Ch 01	
Week 2		Ch 02	
Week 3		Ch 03	
Week 4		Ch 03	
Week 5		Ch 04	
Week 6		Ch 05	
Week 7		Midterm 01	
Week 8		Ch 06	
Week 9		Ch 06	
Week 10		Ch 09	
Week 11		Ch 10	
Week 12		Ch 07	
Week 13		computer-aided thermodynamic (MATLAB): monte carlo method	
Week 14		Midterm 02	
Week 15		computer-aided thermodynamic (MATLAB): monte carlo method	
Week 16		computer-aided thermodynamic (MATLAB): monte carlo method	
Week 17		computer-aided thermodynamic (MATLAB): monte carlo method	
Week 18		Midterm 03	