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②图 i 東華大學 教學計劃表 Syllabus

		秋 与	产可则仅 Oyll	abus					
	名稱(中文) me in Chinese	相變態	ester 113/	′1					
	名稱(英文) me in English	Phase Transformation							
	十目代碼 rse Code	MS51700	材料科學與工程學系						
	修別 Type	選修 Elective)/3.0						
	t課教師 structor	/黄士龍							
	修課程 equisite								
課程描述 Course Description									
The purpose of this course is focused in fundamentals of phase transformation in solid materials including phase diagrams, diffusion, crystal interfaces and microstructure, solidification, and diffusional phase transformation.									
		課	程目標 Course Object	ives					
讓學生在修習此一課程後,能對材料的相變態的理論、機制與原因有深入的了解 ,以利研究工作的進行。									
	課程目標與系專業能 力相關性 Correlation between Course Objectives and Dept.'s Education Objectives								
			的知識。Acquire required materials science and en		•				
B profes	具備材料科學的進階專業知識,並能應用於解決工程上之問題。Acquire required advanced professional knowledge for materials science and engineering, applicable in solving engineering problems.								
C 具備猫									
1) 1			隊合作的能力。Acquire pro quality communication and	-					
F 具備遊	and responsibility, and capability of quality communication and team cooperation. 具備適當的英文能力,應用於學習與交流。Acquire English capability used for learning and interaction.								
		● 高度相關 Hi	ghly correlated 🔾 🕈	'度相關 Moderately	correlated				
		授課進	度表 Teaching Schedul	e & Content					
週次Week		內容	Subject/Topics		備註Remarks	S			
1	Introduction								
2	Thermodynamics	and phase diag	rams (1)						
3	Thermodynamics	and phase diag							
4	Thermodynamics	and phase diag							
	D: 00 : (1)								

Diffusion (1)

5

6	Diffusion (2)						
7	Diffusion (3)						
8	Crystal interfaces and microstructure (1)						
9	期中考試週 Midterm Exam						
10	Crystal interfaces and microstructure (2)						
11	Crystal interfaces and microstructure (3)						
12	Solidification (1)						
13	Solidification (2)						
14	Solidification (3)						
15	Diffusional transformations (1)						
16	Diffusional transformations (2)						
17	Diffusional transformations (3)						
18	期末考試週 Final Exam						
教學策略 Teaching Strategies							
✓ 課堂講授 Lecture							
其他Miscellaneous:							
教 學 創 新 自 評 Teaching Self-Evaluation							
創新教學(Innovative Teaching)							
問題導向學習(PBL) ■ ■體合作學習(TBL) ■ 解決導向學習(SBL)							
■ 翻轉教室 Flipped Classroom							
社會責任(Social Responsibility)							
■ 在地實踐Community Practice ■ 産學合作 Industy-Academia Cooperation							
跨域合作(Transdisciplinary Projects)							
■ 跨界教學Transdisciplinary Teaching ■ 跨院系教學Inter-collegiate Teaching							
──業師合授 Courses Co-taught with Industry Practitioners							
其它 other:							

學期成績計算及多元評量方式 Grading & Assessments									
配分項目	配分比例 Percentage	多元評量方式 Assessments							
Items		測驗 會考	實作 觀察	口頭 發表	專題 研究	創作 展演	卷宗 評量	證照 檢定	其他
平時成績 General Performance	10%		~						
期中考成績 Midterm Exam	35%	>							
期末考成績 Final Exam	35%	~							
作業成績 Homework and/or Assignments	20%		~						
其他 Miscellaneous ()									

評量方式補充說明

Grading & Assessments Supplemental instructions

教科書與參考書目(書名、作者、書局、代理商、說明)

Textbook & Other References (Title, Author, Publisher, Agents, Remarks, etc.)

D. A. Porter, K. E. Easterling, and M. Y. Sherif, Phase Transformations in Metals and Alloys, 3rd ed., CRC Press, 2009. (高立圖書)

課程教材網址(含線上教學資訊,教師個人網址請列位於本校內之網址)

Teaching Aids & Teacher's Website(Including online teaching information.

Personal website can be listed here.)

 $http://www.\,mse.\,ndhu.\,edu.\,tw/files/11-1029-4015.\,php$

其他補充說明(Supplemental instructions)