②图玄東華大學

教學計劃表 Syllabus

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課程名稱(中文) Course Name in Chinese					學年/學期 Academic Year/Se	113/1		
課程名稱(英文) Course Name in English	Steel metallum	Steel metallurgy						
科目代碼 Course Code	N\$56090	系級 Department & Year			開課單位 Course-Offering Department			
修別 Type	El ecti ve	學分數/時間 Credit(s)/Hour(s)			3.0/3.0			
授課教師 Instructor	/							
先修課程 Prerequisite								
課程描述 Course Description								
This course offers a foundational understanding of key metallurgical concepts essential for the								

This course offers a foundational understanding of key metallurgical concepts essential for the ferrous foundry industry. It is designed for students studying ferrous metallurgy and foundry operations, as well as foundry personnel looking to review fundamental metallurgical principles. The course includes topics such as crystallography, solidification and crystallization, phase equilibrium, and metallurgical tools.

課程目標 Course Objectives

	系專業能力 Basic Learning Outcomes	課程目標與系專業能 力相關性 Correlation between Course Objectives and Dept.'s Education Objectives
А	Acquire required advanced physical, chemical, and mathematic knowledge for materials science and engineering.	
В	Acquire required advanced professional knowledge for materials science and engineering, applicable in solving engineering problems.	
С	Equipped with capabilities of independent research.	
D	Acquire professional morality and responsibility, and capability of quality communication and team cooperation.	
Е	Acquire English capability used for learning and interaction.	

圖示說明Illustration : ● 高度相關 Highly correlated ○中度相關 Moderately correlated

授課進度表 Teaching Schedule & Content

週次Week	內容 Subject/Topics	備註Remarks
1	Introduction	
2	History of Steel Netallurgy	
3	Structure of Iron & Steel Industry	
4	Raw Materials of Iron and Steel Industry	

5	Ironmaking (I)						
6	Ironmaking (II)						
7	Steel making (I)						
8	Steel making (II)						
9	Midterm Exam						
10	Solidification of Steels (I)						
11	Solidification of Steels (II)						
12	Deformation of Steels						
13	Deformation of Steels						
14	Anneal i ng of Steels						
15	Anneal i ng of Steels						
16	Foresight of Iron and Steel Industry						
17	The Hardening of Steels						
18	Fi nal Exam						
	教 學 策 略 Teaching Strategies						
\checkmark	Lecture Group Discussion Field Trip						
M1:	scel I aneous:						
	教 學 創 新 自 評 Teaching Self-Evaluation						
(I nnovati ve Teachi ng)						
	(PBL) (TBL) (SBL)						
	Flipped Classroom Moocs						
	Social Responsibility)						
	Community Practice Industy-Academia Cooperation						
(Transdi sci pl i nary Proj ects)						
	Transdi sci pl i nary Teachi ng						
	Courses Co-taught with Industry Practitioners						
ot he	r:						

學期成績計算及多元評量方式 Grading & Assessments									
配分項目	配分比例	比例 多元評量方式 Assessments							
Items	Percentage	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
() General Performance (Attendance Record)	15%		~						
Midterm Exam	30%			~					
Fi nal Exam	30%	>							
Homework and/or Assignments	25%		~						
Miscel I aneous									

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.)

Basic Concepts of Ferrous Metallurgy

Softcover

Product code: 74430G I SBN: 978-0-87433-334-3

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.)

https://meet.google.com/pcz-wgzy-pnr

其他補充說明(Supplemental instructions)