



課 綱 Course Outline

材料科學與工程學系學士班

中文課程名稱 Course Name in Chinese	金屬材料				
英文課程名稱 Course Name in English	Metallic Materials				
科目代碼 Course Code	MS__30400	班 別 Degree	學士班 Bachelor' s		
修別 Type	學程 Program	學分數 Credit(s)	3.0	時 數 Hour(s)	3.0
先修課程 Prerequisite	無				
課程目標 Course Objectives					
簡介金屬材料之種類、製程及基本性質 Introduction to the types, processes and basic properties of metal materials.					
系教育目標 Dept.' s Education Objectives					
1	奠定理論基礎 Set the theoretical foundation				
2	訓練實用技能 Train the practical skill				
3	培養優質人格 Form the positive cher				
4	啟發創新思 Promote creative thinking				
5	開展國際視野 Develop global vision				
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	
A	具備材料科學所需的物理、化學及數學的知識。 Acquire required basic physical, chemical, and mathematic knowledge for materials science and engineering.			○	
B	具備材料科學的專業知識，並能應用於解決工程上之問題。 Acquire required professional knowledge for materials science and engineering, applicable in solving engineering problems.			●	

C	具備邏輯思考、實驗執行、報告撰寫與數據解釋之能力。 Equipped with capabilities of logic thinking, execution of experiment, and data interpretation.	
D	具備專業道德及責任感，與良好的溝通及團隊合作的能力。 Acquire professional morality and responsibility, and capability of quality communication and team cooperation	○
E	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	○

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

課程大綱 Course Outline	
介紹各式鐵基及非鐵合金，包含：銅鐵材料、鋁合金、鈦合金…等。簡述各式合金之機械性質、加工及熱處製程、應用範圍…等。並使修習者能夠瞭解，現今各式材料之發展概況。	
Introduction of various iron-based and non-iron alloys, including: copper, iron materials, aluminum alloys, titanium alloys...etc. Brief introduction of various alloys' mechanical. The course will introduce the mechanical properties, processing and heat treatment processes, and applications of various alloys. This course will enable the students to understand the development of various materials.	
資源需求評估（師資專長之聘任、儀器設備的配合．．．等） Resources Required (e.g. qualifications and expertise, instrument and equipment, etc.)	
專長冶金及金屬材料之師資。 Teachers specialize in metallurgy and metal materials.	
課程要求和教學方式之建議 Course Requirements and Suggested Teaching Methods	
課堂講授為主。 Classroom lectures.	
其他 Miscellaneous	