



課 綱 Course Outline

材料科學與工程學系國際組

中文課程名稱 Course Name in Chinese	材料機械性質				
英文課程名稱 Course Name in English	Mechanical Behaviors of Materials				
科目代碼 Course Code	MS__D1150	班 別 Degree	博士班 Ph. D.		
修別 Type	選修 Elective	學分數 Credit(s)	3.0	時 數 Hour(s)	3.0
先修課程 Prerequisite					
課程目標 Course Objectives					
This course equips students with a comprehensive understanding of the mechanical properties of materials, preparing them for future careers and research.					
系教育目標 Dept.'s Education Objectives					
1	建立專業知識基礎 Set the professional knowledge foundation				
2	培養專業實驗技能 Train the professional experimental skill				
3	養成獨立研究能力 Insure capability of independent research				
4	養成優質社會人格 Form the positive social character				
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進階物理、化學及數學的知識。 Acquire required advanced physical, chemical, and mathematic knowledge for materials science and engineering.				
B	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	具備獨立研究之能力。 Equipped with capabilities of independent research.	
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

Courses in the mechanical behavior of materials are standard in both mechanical engineering and materials science/engineering curricula. These courses are taught, usually, at the junior or senior level. This course provides an introductory treatment of the mechanical behavior of materials with a balanced mechanics--materials approach, which makes it suitable for both mechanical and materials engineering students. It covers metals, polymers, ceramics, and composites and contains more than sufficient information for a one-semester course. It therefore enables the instructor to choose the path most appropriate to the class level (junior- or senior-level undergraduate) and background (mechanical or materials engineering).

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.)

Teachers with expertise in the courses offered; computers for data organization, copy machines, projectors.

課程要求和教學方式之建議 Course Requirements and Suggested Teaching Methods

Lecture/Group Discussion

其他
Miscellaneous