

國立高雄科技大學 土木工程系

複合材料力學(Mechanics of Composite Materials)

任課教師：潘煌鏗 (H. H. Pan)

學分 Credits: 3

1. 參考資料 (References)

- (1) Gibson, R. F., Principles of Composite Materials Mechanics, 3rd ed., CRC Press, Taylor & Francis Group, 2012.
- (2) Jones, R. M., Mechanics of Composite Materials, 2/E, Taylor & Francis, Inc., 1999.
- (3) Christensen, R.M., Mechanics of Composite Materials, John Wiley & Sons, 1979.
- (4) Tsai, S. W., Introduction to Composite Materials, Technomic Publishing Co. Inc., 1980.
- (5) Fung, Y. C., Continuum Mechanics.
- (6) Meyers, M. A. and Chawla, K. K., Mechanical Behavior of Materials, Prentice-Hall, Inc., 1999.
- (7) Taichi Fujii, & Masaru Zako, Fracture and Mechanics of Composite Materials, Jikkyo Shuppan Co., Ltd., 1978, 劉松柏 譯, 五南圖書(2006)。
- (8) 聞荻江, 複合材料原理, 武漢工業大學, 1998。
- (9) 沈觀林/胡更開, 複合材料力學, 清華大學出版社, 2006。
- (10) 蘇品書/賴耿陽, 複合材料科學, 復漢出版社, 2001。
- (11) 潘煌鏗, 複合材料力學, 太普公關, 2006。

2. 上課內容 (Syllabus)

- (1). Introduction of Composite Materials
- (2). Stress-Strain Relations and Elasticity
- (3). Stress-Strain Relations for Elastic Materials
- (4). Laminate Theory
- (5). Strength-of-Materials Approach
- (6). Eshelby's Solution of an Ellipsoidal Inclusion
- (7). Particle-Reinforced Composites and Some Basic Principles
- (8). Fiber- and Disk-reinforced Composite
- (9). Upper and Lower Bounds of Material Properties
- (10). Plasticity and Creep Behavior of Composite Materials

3. 成績考核 (Grades)

Final Examination: (50%) Homework: (20%) Reading Reports: (30%)

Homepage: <http://www2.nkust.edu.tw/~pam>