

南臺科技大學 104 學年度第 1 學期課程資訊

課程名稱	奈米材料特論
課程編碼	40M12901
系所代碼	04
開課班級	碩研化材一甲
開課教師	黃常寧
學分	3.0
時數	3
上課節次地點	三 2 3 4 教室 G310
必選修	選修
課程概述	Six special topics on nanomaterials, including polymer nanocomposites, carbon nanotubes and their applications, polymer nanoparticles, nanostructured polymers, applications of self-assembly block copolymers, and nanostructures of polyelectrolytes, are discussed in this course.
課程目標	The goal of this course is to discuss several advanced topics on nanomaterials, mainly related to the applications in polymer science. The students should have a basic understanding of the principles of nanotechnology and polymer science.
課程大綱	<ol style="list-style-type: none"> 1. 奈米複合材料 2. 奈米碳管及應用 3. 聚合物奈米粒子 4. 聚合物之奈米結構 5. 塊狀共聚合物自組裝之應用 6. 聚電解質(DNA)奈米結構
英文大綱	<ol style="list-style-type: none"> 1. Nanocomposite 2. Carbon nanotube and its applications 3. Polymer nanoparticles 4. Nanostructured polymers 5. Applications of the self-assembly of block copolymers 6. Nanostructures of electrolytes: DNA
教學方式	
評量方法	
指定用書	Carbon Nanotubes and Related Structures New Materials for the Twenty-first Century
參考書籍	<p>(一)Gross, M. "Travels to the Nanoworld – Miniature Machinery in Nature and Technology," Perseus Publishing, Cambridge, Massachusetts, 1999, p. 254.</p> <p>(二)Harris, P.J.F. "Carbon Nanotubes and Related Structures – New Materials</p>

	<p>for the Twenty-first Century," Cambridge University Press, Cambridge, 1999, p. 279.</p> <p>(三)Edelstein A.S. and Cammarata R.C. "Nanomaterials: Synthesis, Properties and Applications," Institute of Physics Publishing, Bristol and Philadelphia, 1996, p. 596.</p> <p>(四)Iler, R. K., The Chemistry of Silica Solubility, Polymerization, Colloid and Surface Properties, and Biochemistry, John Wiley & Sons: New York, 1979; p. 866.</p> <p>(五)Sposito, G., The Chemistry of Soils, Oxford Univ. 1989, p. 277</p> <p>(六)孫超, "窯火中的創造," 藝術家出版社, 2001, p. 144.</p> <p>(七)Nesse, W.D. "Introduction to Optical Mineralogy," 2nd edition, Oxford University Press, Oxford, 1991, p. 335.</p> <p>(八)Putnis, A. "Introduction to Mineral Science," 1st edition, Cambridge University Press, Cambridge, 1992, p. 121-184.</p>
先修科目	
教學資源	
注意事項	<ol style="list-style-type: none"> 1. 期中考成績 30%，期末考成績 40%，平時成績 30% 2. 期中考與期末考成績以筆試成績為主 3. 分組報告分成書面報告與上台報告兩種，報告題目與細節會在 My 數位學習平台公告 4. 平時成績為分組報告成績與出席率之總和 5. 出席率以上課點名為準，若有病假、事假或公假請出示證明 6. 上課嬉鬧說話嚴重干擾其他同學之上課權益者扣學期總分 1 分
全程外語授課	0
授課語言 1	華語
授課語言 2	
輔導考照 1	
輔導考照 2	