

國立台灣科技大學 114學年 第2學期 課程大綱

Spring 2026 NTUST Course Outline

授課教師：陳瑞華

Instructor:Cherng,Rwey-Hua

課程名稱：隨機振動學

Course Title : Random Vibrations

2026/6/22

<p>課程代號： CT6302701 Course Code</p> <p>學分數： 3 Credits</p>	<p>必選修：選修/半學年 Required/Elective:Elective/Half Yr.</p> <p>先修課程： Prerequisites</p>
<p>節次教室： R6(IB-609) R7(IB-609) R8(IB-609) Time/Location</p>	
<p>專業核心能力： Core Professional Competencies</p>	
<p>課程網址： Course Website</p>	
<p>課程宗旨： This course gives an introduction to the evaluation of responses and performances (Safety and Serviceability) of Single-Degree-of-Freedom systems and Multiple-Degree-of-Freedom systems under "random loadings" as well as the relevant applications on wind engineering and earthquake engineering. Course Objectives</p>	
<p>課程大綱： (1)Application Fields of Random Vibrations Outline of Lectures (2)Review of Basic Probability Theory (3)Introduction to Random Processes (4)Models for Random Excitations or Loadings (5)Random Vibration of Single-Degree-of-Freedom Systems (6)Evaluation of System Performance (Safety and Serviceability) (7)Random Vibration of Multiple-Degree-of-Freedom Systems (8)Applications on Wind Engineering and Earthquake Engineering</p>	
<p>授課方式： 講授 Lecture：100% Method of Instruction 分組討論 Group discussion：0% 案例研討 Case study：0% 操做練習 Practical exercises：0% 講授 Lecture：%</p>	
<p>教科書： Classnotes Textbooks</p>	
<p>參考書目： (1)Yang, C. Y., Random Vibration of Structures, 1985 References (2)Clough R. W. and Penzien, J, Dynamics of Structures, Third Edition, 2003 (3)Newland, D. E., An Introduction to Random Vibrations, Spectral and Wavelet Analysis, 1993 (4)Lutes and Sarkani, Random Vibrations: Analysis of Structural and Mechanical Systems, 2005</p>	
<p>修課須知： Notice</p>	
<p>評量方式： Homework 20% Grading Midterm Exam. 40% Final Exam. 40%</p>	

備註說明： For students having Knowledge on "Structural Dynamics"  
Notes