南台科技大學 98 學年度第 2 期課程資訊

課程名稱	精密機械振動學
課程編碼	10M02701
系所代碼	01
開課班級	碩研機械一甲 碩研機電一甲
開課教師	王永鵬
學分	3.0
時數	3
上課節次地點	二 2 3 4 教室 K214
必選修	選修
課程概述	This course covers theoretical part and experimental part of the modal analysis. Several lab works and a final project will be assigned in this course for practice. In this course, students will obtain the techniques of vibration measurement and analysis.
課程目標	This course introduces the basic techniques of modal testing. All the steps involved in planning, executing, interpreting and applying the results from a modal test are thoroughly covered in this course. Efforts are made to ensure that students understand the physics of the modal testing as well as the mathematics.
課程大綱	1. 模態理論：單自由度振動系統 2. 模態理論：多自由度振動系統 3. 振動量測技術 4. 頻率響應函數量測技術 5. 模態參數擷取方法 6. 模態修正技巧
英文大綱	1. Modal Theory - Single Degree of Freedom System 2. Modal Theory - Multiple Degree of Freedom System 3. Vibration Measurement Techniques 4. Response Function Measurement Techniques 5. Modal Parameter Extraction Methods 6. Modal Modifications
教學方式	課堂教授,口頭報告,實務操作,
評量方法	自行設計測驗,實作評量,口頭報告,課程參與度(出席率),
指定用書	Lecture Notes
參考書籍	1. Fertis, D. G., 1995, "Mechanical and Structural Vibrations," John Wiley & Sons, Inc. 2. McConnell, K. G., 1995, "Vibration Testing: Theory and Practice," John Wiley & Sons, Inc. 3. Ewins, D. J., 2000, "Modal Testing: Theory, Practice and Application," 2nd

	Edition, Research Studies Press LTD.
先修科目	
教學資源	In this course, the lab works will use following equipment in the Vibration Control Laboratory (K003A): 1. Dynamic frequency analyzer 2. Accelerometers 3. Impact hammer 4. Signal conditioner 5. Modal testing software-ME'Scope 6. Projector and laptop computer
注意事項	
全程外語授課	1
授課語言 **1**	英語
授課語言 **2**	
輔導考照 **1**	無
輔導考照 **2**	無