南臺科技大學 107 學年度第 1 學期課程資訊

課程代碼	10M02701
課程中文名稱	精密機械振動學
課程英文名稱	Vibration Analysis of Precision Machinery
學分數	3.0
必選修	選修
開課班級	博研機電一甲 碩研機械一甲碩研機電一甲
任課教師	王永鵬
上課教室(時間)	週三第 1 節(W0509) 週三第 2 節(W0509) 週三第 3 節(W0509)
課程時數	3
實習時數	0
授課語言 1	英語
授課語言 2	
輔導考照 1	無
輔導考照 2	無
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.
先修科目或預備能力	
課程學習目標與核心能力之對應	
中文課程大綱	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/日文課程大綱	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
課程進度表	Week 1: Introduction

	Week 2-3: Modal Theory of Single Degree of Freedom System Week 4: Modal Theory of Multiple Degree of Freedom System Week 5: Frequence Response Function Development Week 6-7: General Damped Systems Week 8: Frequence Response Synthesis and Modal Scaling Week 9: Midterm Exam Week 10-11: Vibration Measurement Week 12: Basics of Modal Testing Week 13-14: Modal Testing Week 15-16: Modal Analysis Week 17: Modal Modifications Week 18: Final Project
教學方式與評量方法	
指定用書	書名：Lecture Notes 作者： 書局： 年份： ISBN： 版本：
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.
教學軟體	1. ME'Scope 2. Pulse
課程規範	None