教學計畫書 Syllabus

課號	NE373	學分 Credit	2	時數 Hour	2
中文課名	自動控制		Course	Automatic Control	
授課教師 Instructor	黃文堂 (Huang, Wen-Tang, D205)		選/必修 Selection	必修 Required Course	

類別	中文	英文
學校教育使命與本課目的關係	1. 科技知識：熱力學理論 2. 明晰的思維邏輯：分析情境、解題 3. 思考創造能力：分析情境、解題	1. Sci-Tech knowledge：Thermodynamics content 2. Clear reasoning logics：context analysis & problem solving 3. Creative thinking：context analysis & problem solving
本課程可培養學生之核心能力	1. 具備艦船工程及動力系統基礎學理 2. 理解艦船工程及動力系統相關數學、基礎科學及工程知識的能力 3. 運用艦船工程及動力系統相關知識，發掘、分析與解決問題的能力	1. Acquiring an understanding of the disciplines on naval architecture and power system 2. Understanding naval architecture and power system on a foundation of math, science and engineering knowledge 3. Applying knowledge of naval architecture and power system to identify, formulate and solve problems
課程目標	建立學生自動控制工程方面的基本知識與邏輯分析能力，使能夠運用相關的原理原則來處理或解決自動控制工程上的問題。	Establish the ability to understand fundamental knowledge and apply logical analysis within the automatic control field, emphasizing the solution to engineering automatic control problems using proper principles and practical approaches.
先修科目	拉氏轉換 微分方程式	Laplace Transform Differential Equation
課程大綱	This course will go through Laplace Transforms and transfer functions; root locus design; Routh-Hurwitz stability analysis; frequency response method.	This course will go through Laplace Transforms and transfer functions; root locus design; Routh-Hurwitz stability analysis; frequency response method.
指定	B. C. Kuo and F. Golnaraghi,	B. C. Kuo and F. Golnaraghi, Automatic

用書	Automatic Control Systems, 8th ed, 東華書局, 2004.		Control Systems, 8th ed, 東華書局, 2004. Franklin
參考書籍	R. C. Dorf, Modern Control System, , 10th ed, Prentice-Hall, 2004.		R. C. Dorf, Modern Control System, , 10th ed, Prentice-Hall, 2004.Modern Control System, Richard C. Dorf
教學方式	講解、研討、作業、測驗		Instruction, Discussion, Homework, Quiz
教學進度	1	Chap. 1 Introduction of Control System	Chap. 1 Introduction of Control System
	2		
	3	Chap 2 Mathematical Foundation	Chap 2 Mathematical Foundation
	4		
	5	Chap 3 Mathematical Modeling of Classical Control	Chap 3 Mathematical Modeling of Classical Control
	6		
	7		
	8	Chap 4 Modeling of Physical Systems	Chap 4 Modeling of Physical Systems
	9	期中考	Midterm Exam.
	10	Chap 4 Modeling of Physical Systems	Chap 4 Modeling of Physical Systems
	11	Chap 6 Stability of Linear Control Systems	Chap 6 Stability of Linear Control Systems
	12		
	13	Chap 7 Time-domain Analysis of Control Systems	Chap 7 Time-domain Analysis of Control Systems
	14		
	15	Chap 8 The Root-Locus Design Method	Chap 8 The Root-Locus Design Method
	16	Chap 9 The Frequency-Reponse Design Method	Chap 9 The Frequency-Reponse Design Method
	17		
	18	期末考	Final Exam.
成績評核方式	小考一……20% 小考二……20% 期中考……30% 期末考……30%		Quiz#1……..…….20% Quiz#2……..…….20% Midterm…….30% Final……..…….30%
教學評量工具	評量工具說明： 由授課教師訂定。		Assessment tools description: To be determined by professor
諮詢時間	教師們在課堂上自行宣佈之		Declared by professor