

教學計畫書 Syllabus

課號	EM1110	學分 Credit	2	時數 Hour	2
中文課名	應用力學		Course		
授課教師 Instructor	任展勇 (Jen, Chan-Yung, D310)		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	<ol style="list-style-type: none"> 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 		<ol style="list-style-type: none"> 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	<ol style="list-style-type: none"> 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 		<ol style="list-style-type: none"> 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	建立學生工程力學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工程上的問題。		Establish the ability to understand fundamental knowledge and apply logical analysis within the engineering mechanics field, emphasizing the solution to engineering problems using proper principles and practical approaches.		
先修 科目	微積分		Calculus		
課程 大綱	Mechanics can be defined as that branch of the physical sciences concerned with the state of rest or motion of bodies that are subjected to the action of forces		Mechanics can be defined as that branch of the physical sciences concerned with the state of rest or motion of bodies that are subjected to the action of forces		
指定	R.C. Hibbeler, Engineering		R.C. Hibbeler, Engineering Mechanics		

用書	Mechanics Statics, 13 th Edition, 歐亞圖書代理, 2012.	Statics, 13 th Edition, 歐亞圖書代理, 2012.	
參考書籍	Beer, Johnston & Eisenberg, Vector Mechanics for Engineers – Statics, 7 th ed, McGraw-Hill , 2004.	Beer, Johnston & Eisenberg, Vector Mechanics for Engineers – Statics, 7 th ed, McGraw-Hill , 2004.	
教學方式	講解、研討、作業、測驗	Instruction, Discussion, Homework, Quiz	
教學進度	1	Chap. 1 Mechanics, units,	Chap. 1 Mechanics, units, numerical
	2	numerical calculations	calculations
	3	Chap 2 Force vectors, vector	Chap 2 Force vectors, vector operations
	4	operations	
	5	Chap 3 Equilibrium of a	Chap 3 Equilibrium of a particle, the
	6	particle, the free-body	free-body
	7		
	8	Chap 4 Moment of a force	Chap 4 Moment of a force scalar
		scalar formulation	formulation
	9	期中考	Midterm Exam.
	10	Chap 4 Moment of a force	Chap 4 Moment of a force scalar
		scalar formulation	formulation
	11	Chap 5 Equilibrium of a	Chap 5 Equilibrium of a rigid body &
	12	rigid body & free-body	free-body diagrams
	13	Chap 9 Center of gravity,	Chap 9 Center of gravity, center of mass
	14	center of mass and centroid	and centroid for a body
		for a body	
	15	Chap 10 Moments of inertia	Chap 10 Moments of inertia for areas,
	for areas, radius of gyration of	radius of gyration of an area	
	an area		
16	Chap 11 Virtual Work,	Chap 11 Virtual Work, Potential Energy	
17	Potential Energy		
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
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