

110/2 Bilingual Education Courses (110 學年度第 2 學期雙語授課課程表)

No. 編號	Department 開課系所	Course Code 課號	Course Title 科目名稱	Required/ Elective 必修/ 選修	Credit Points 學分 數	Instructor 授課老師	Weekly 每週上課節次					Classroom 上課教室	Course Plan 課程計 畫
							Mon	Tue	Wed	Thu	Fri		
1	Institute of Materials Science and Green Energy Engineering (材料科學與綠色 能源工程研究所碩 士班)	0205	Surface Analysis of Materials 材料表面分析	Elective 選修	3	Tsai, Chau-Yi 蔡朝伊				5-7		(AME0324) Spare classroom 3, 3F, Mechanical Engineering Building (AME0324) 機械工程館 3F 預備教室(三)	<u>Course Plan</u>
2	Graduate Institute of Aeronautical and Electronic Technology(飛機工 程系航空與電子科 技碩士班)	0292	Flight Safety 飛航安全	Elective 選修	3	Wang, Shih-Chia 王士嘉			7-9			(AAF0101) Aircraft Hangar 飛機場館 1F 飛 機教學棚廠	<u>Course Plan</u>
3	Graduate Institute of Aeronautical and Electronic Technology(飛機工 程系航空與電子科 技碩士班)	0291	Aircraft Stability and Control 飛機穩定性與 控制	Elective 選修	3	Lu, Wen-Chi 呂文祺				5-7		(ATB0204) 第二期教學大 樓 2F ATB0204 普通教室	<u>Course Plan</u>

4	Graduate Institute of Aeronautical and Electronic Technology(飛機工程系航空與電子科技碩士班)	0299	International Aviation Regulation 國際民航法規	Elective 選修	3	Lin, Chung-Yan 林中彥	5-7					(BGC0704) Aircraft Hydraulic System Lab. The 3rd Complex Building 7F 綜合工程三館 7F BGC0704 飛機液氣壓實習工場	<u>Course Plan</u>
5	Graduate Institute of Aeronautical and Electronic Technology(飛機工程系航空與電子科技碩士班)	0301	Deep Learning 深度學習	Elective 選修	3	Lee, Chao-Yang 李朝陽	5-7					(BGC1001) Electronic Circuits Lab. The 3rd Complex Building 10F 綜合工程三館 10F BGC1001 電路實驗室	<u>Course Plan</u>
6	Institute of Business and management (經營管理碩士班)	0345	Technology Management 科技管理	Elective 選修	3	Chen, Yu-Chun 陳鈺淳	5-7					(CMA0209) Management of Entrepreneurial & Technology Lab., Applied Arts, Sciences and Management Building 2F	<u>Course Plan</u>

												文理暨管理大樓 2F CMA0209 創業管理實驗室	
7	Institute of Business and management (經營管理碩士班)	0343	Behavioral Finance 行為財務	Elective 選修	3	Lu , Chi-Lin 呂麒麟			5-7			(CMA0209) Management of Entrepreneurial & Technology Lab., Applied Arts, Sciences and Management Building 2F 文理暨管理大樓 2F CMA0209 創業管理實驗室	<u>Course Plan</u>
8	Institute of Business and management (經營管理碩士班)	0344	Strategic Management 策略管理	Elective 選修	3	Yi Hsu 徐怡				5-7		(CMA0206) Market Survey Lab, Applied Arts, Sciences and Management Building 2F 文理暨管理大樓 2F CMA0206 經營模擬與數據分析實驗室	<u>Course Plan</u>
9	Institute of Business and management (經營管理碩士班)	0342	Information Management	Elective 選修	3	Liang, Chih-Chin 梁直青		5,6	2			(CMA0206) Market Survey Lab, Applied Arts, Sciences	<u>Course Plan</u>

			資訊管理									and Management Building 2F 文理暨管理大 樓 2F CMA0206 經營模擬與 數據分析實驗 室	
10	Department of Business Administration (企業管理系) (college) ※This course is taught in both English and Chinese.	1994	Economics(II) 經濟學(二)	Required 必修	3	Chang , Shu-Chen 張淑貞			3-4	2		(CMAB106) Market Survey Lab, Applied Arts, Sciences and Management Building 2F 文理及管理大 樓 B1 CMAB106 階 梯教室	<u>Course Plan</u>
11	COMPUTER SCIENCE AND INFORMATION ENGINEERING (資訊工程系) (college) ※This course is taught in both English and Chinese.	1916	Microprocessor Lab. 微處理機實習	Required 必修	1	KUO-YI CHEN 陳國益					5-7	(BGC0601) The 3rd Assembly Building 6F IC Desing Lab. 綜合工程三館 6F BGC0601 IC 設計實驗室	<u>Course Plan</u>

12	<p>COMPUTER SCIENCE AND INFORMATION ENGINEERING (資訊工程系) (college) ※This course is taught in both English and Chinese.</p>	1888	<p>Multimedia Application and Design 多媒體應用與 實習</p>	<p>Elective 選修</p>	1	<p>MING-SHEN JIAN 簡銘伸</p>					2-4	<p>(BGC0501) The 3rd Assembly Building 5F Basic electricity and professional certification Lab. 綜合工程三館 5F BGC0501 基本電學與證 照實驗室</p>	<p><u>Course Plan</u></p>
13	<p>COMPUTER SCIENCE AND INFORMATION ENGINEERING (資訊工程系) (college) ※This course is taught in both English and Chinese.</p>	1872	<p>Fundamental of Computer Networks 計算機網路概 論</p>	<p>Required 必修</p>	3	<p>SHIH-CHANG HUANG 黃世昌</p>	7	7-8				<p>(BGC0501) The 3rd Assembly Building 5F Basic electricity and professional certification Lab. 綜合工程三館 5F BGC0501 基本電學與證 照實驗室</p>	<p><u>Course Plan</u></p>

14	COMPUTER SCIENCE AND INFORMATION ENGINEERING (資訊工程系) (college) ※This course is taught in both English and Chinese.	1874	Technical Document Reading 科技文件閱讀	Elective 選修	3	PO-HSIANG TSAI 蔡柏祥			7		5-6	(BGC0614) The 3rd Assembly Building 6F e-Learning Lab. 綜合工程三館 6F BGC0614 數位學習實驗室	<u>Course Plan</u>
15	INSTITUTE OF COMPUTER SCIENCE AND INFORMATION ENGINEERING (資訊工程系碩士 班)	0114	Cloud Computing and Big Data Security 雲端大數據安全	Elective 選修	3	JI-HAN JIANG 江季翰		2-4				(BGC0501) The 3rd Assembly Building 5F Basic electricity and professional certification Lab. 綜合工程三館 5F BGC0501 基 19 本電學與 證照實驗室	<u>Course Plan</u>
16	INSTITUTE OF COMPUTER SCIENCE AND	0113	Internet of Things Security (IoT	Elective 選修	3	YUN-SHUAI YU 游允帥	5-7					(BGC0513) The 3rd Assembly	<u>Course Plan</u>

	INFORMATION ENGINEERING (資訊工程系碩士 班)		Security) 物聯網安全									Building 5F Bioinformatics Lab. 綜合工程三館 5F BGC0513 生物資訊實驗 室	
17	Department of Mechanical Design Engineering (機械設計工程系碩 士班)	0227	Mechanical Vibrations 機械振動學	Elective 選修	3	Hwang, Yunn-Lin 黃運琳		2-4				(BGA0760) Multi-Purpose Engineering Bldg., Reverse and Rapid Protoyping Lab.7F 綜合工程一館 7F BGA0760 逆向快速成型 實驗室	<u>Course Plan</u>
18	Institute of Industrial Engineering and Management(工業管 理系工業工程與管 理碩士班)	0315	Production Management and Practice 生產管理與實 務	Elective 選修	3	Chih-Hsiung Hu 胡智熊				2-4		Seminar Room III (CMA0806) Applied Arts, Sciences and Management Building 8F 文理暨管理大 樓 8F	<u>Course Plan</u>

												CMA0806 專業教室(三)	
19	Institute of Industrial Engineering and Management(工業管理系工業工程與管理碩士班)	0314	Networks and Logistics 網路與運籌	Elective 選修	3	Hsieh , Yi-Chih 謝益智			6-8			Seminar Room III (CMA0806) Applied Arts, Sciences and Management Building 8F 文理暨管理大樓 8F CMA0806 專業教室(三)	<u>Course Plan</u>
20	Institute of Industrial Engineering and Management(工業管理系工業工程與管理碩士班)	0317	Intelligent Manufacturing System 智慧製造系統	Elective 選修	3	Cheng, Tzong-Ming 鄭宗明		2-4				Seminar Room III (CMA0806) Applied Arts, Sciences and Management Building 8F 文理暨管理大樓 8F CMA0806 專業教室(三)	<u>Course Plan</u>
21	Institute of Industrial Engineering and Management(工業管	0316	Applied Statistics 應用統計學	Elective 選修	3	Huang, Jyun-Ping 黃俊平			2-4			Computer Room (CMA0210)	<u>Course Plan</u>

	理系工業工程與管理碩士班)											Applied Arts, Sciences and Management Building 2F 文理暨管理大樓 2F CMA0210 電腦教室	
22	Graduate Institute of Digital Contents and Creative Industries(多媒體設計系數位內容創意產業研究所碩士班)	0165	Creative Industries in Cultural Research 文化創意產業研究	Elective 選修	3	Wu-Haw Jue 朱文浩				5-7		(CHB0305) Multimedia Design Studio, Art and Humanity Building 3F 人文大樓三樓多媒體設計實驗	<u>Course Plan</u>
23	Graduate Institute of Digital Contents and Creative Industries(多媒體設計系數位內容創意產業研究所碩士班)	0167	Virtual reality design and research 虛擬實境設計研究	Elective 選修	3	Liang-Yin Kuo 郭良印	2-4					(CHB0415) Mixed Reality research teaching center (MRRTC) Art and Humanity Building 4F 人文大樓 4 樓	<u>Course Plan</u>

												混合實境研究 教學中心	
24	Department of Multimedia Design (多媒體設計系) (college) ※This course is taught in both English and Chinese.	2149	Motion capture practice 動作捕捉實務	Elective 選修	2	Liang-Yin Kuo 郭良印	8,9					(CHB0415) Mixed Reality research teaching center (MRRTC) Art and Humanity Building 4F 人文大樓 4 樓 混合實境研究 教學中心	<u>Course Plan</u>
25	Institute of Department of Finance(財務金融系 碩士班)	0034	Time Series Analysis 時間數列分析	Required 必修	3	Jo-Yu Wang 王若愚					2-4	(CHB0207) Certificate Center, Art and Humanity Building 2F 人文大樓 2F CHB0207 證 照中心	<u>Course Plan</u>
26	Institute of Department of Finance(財務金融系 碩士班)	0035	The Theory and Practice of Investment 投資學理論與	Required 必修	3	Lai Ya-Wen 賴雅雯	6-8					(CMA0201) Seminar Room II , Applied Arts, Sciences	<u>Course Plan</u>

			實務									and Management Building 2F 文理暨管理大 樓 2F CMA0201 財 金研討室 II	
27	Institute of Department of Automation Engineering(自動化 工程系碩士班)	0049	Big Data Analysis 巨量資料分析	Elective 選修	3	Kuang-Chyi Lee 李廣齊			7-9			(BGA0330) 電腦輔助工程 實驗室 研討室 3F Comprehensive Engineering Hall 1 綜合工程一館	<u>Course Plan</u>
28	Institute of Department of Automation Engineering(自動化 工程系碩士班)	0045	Creation and Invention 創意與發明	Elective 選修	3	Roug-Feng Tsa 蔡榮鋒		3-4,5				(BGA0340) 研討室 3F Comprehensive Engineering Hall 1 綜合工程一館	<u>Course Plan</u>
29	Institute of Department of Automation	0048	Engineering Analysis 工程分析	Elective 選修	3	Meng-Tse Lee 李孟澤			2-4			(BGA0340) 研討室 3F	<u>Course Plan</u>

	Engineering(自動化 工程系碩士班)											Comprehensive Engineering Hall 1 綜合工程一館	
30	Institute of Department of Electrical Engineering (電機工程系碩士班)	0129	Technology and Practice of 5G Core Networks 5G 核心網路 技術與實務	Elective 選修	3	Su, Hui-Kai 蘇暉凱				2-4		(BEE0402) Smart Electronic Application Laboratory 電機館 4F BEE0402 智慧 電子應用實驗 室	<u>Course Plan</u>
31	Department of Electrical Engineering (電機工程系) (college) ※This course is taught in both English and Chinese.	0990	Science and Technology English 科技英文	Elective 選修	3	Wu, Sen-Tung 吳森統				5-7		BEE0105; 1F, Lighting Laboratory 電機館 1F BEE0105 照明 實驗室	<u>Course Plan</u>
32	Institute of Department of Leisure and Recreation (休閒遊 憩系研究所)	0197	Park, Recreation Marketing and Management 公園遊憩行銷 與管理	Elective 選修	3	Yen, Hung Hsu 顏宏旭				2-4		(CMA0505) Master classroom II, Applied Arts, Sciences and Management Building 5F 文理暨管理大	<u>Course Plan</u>

												樓 5F CMA0505 碩士班教室(二)	
33	Institute of Department of Power Mechanical Engineering (動力機械工程系博士班)	2485	Dynamics of machine System 機器系統動力學	Elective 選修	3	Hwang, Yunn-Lin 黃運琳					5-7	(BGA0760) First Assembly Building 7th floor Reverse rapid prototyping laboratory 綜合工程一館 7F BGA0760 逆向快速成型 實驗室	<u>Course Plan</u>
34	Institute of Department of Power Mechanical Engineering (動力機械工程系博士班)	2483	Advanced enginring Analysis 高等工程分析	Elective 選修	3	Shou-Yin Yang 楊授印					2-4	(BGB0514) Second Assembly Building 5th floor creation Classroom. 綜合工程二館 5F BGB0514 創意教室	<u>Course Plan</u>
35	Department of Biotechnology (生物科技系) (college) ※This course is	2093	Genetics 遺傳學	Elective 選修	2	Chi-Chung Peng 彭及忠	7-8					ATB0504, General Classroom,2nd Teaching Building,4F	<u>Course Plan</u>

	taught in both English and Chinese.											第二期教學大樓 5F ATB0504	
36	Institute of Department of Biotechnology (生物科技系碩士班)	0142	The application of enzymology 酵素學應用	Elective 選修	3	Yaw-Nan Chang 張耀南			5-7			(AGR0427) Seminar Room I, Red Building 4F 紅樓四樓 專題討論室 (一) (AGR0427)	<u>Course Plan</u>
37	Institute of Information Management (資訊管理系碩士班)	0083	Database Management 資料庫管理	Electives 選修	3	Yung-Tsung Hou 侯雍聰	5-7					(CMA0614) ., Applied Arts, Sciences and Management Building 6F 文理暨管理大樓 6F CMA0614 企業電子化實驗室	<u>Course Plan</u>
38	Institute of Information Management (資訊管理系碩士班)	0086	Machine Learning and Big data 機器學習與大數據	Electives 選修	3	Nian-Ze Hu 胡念祖				5-7		(CMA0405) ., Applied Arts, Sciences and Management Building 4F 文理暨管理大樓 4F CMA0405 多媒體電腦教室	<u>Course Plan</u>
39	Department of Agricultural Technology	1543	Practice of Intelligent Electronics	Elective 選修	3	Yu-Sung Liu 劉育松			5-7			Information Building 2F AIA0201	<u>Course Plan</u>

	農業科技系 (college) ※This course is taught in both English and Chinese.		Application Design 智慧電子應用 設計實習									General Classroom 資訊大樓 2F AIA0201 普通 教室	
40	INSTITUTE OF DEPARTMENT OF MECHANICAL AND COMPUTER-AIDED ENGINEERING (機 械與電腦輔助工程 系碩士班)	0021	Modal Experiments and Analysis 模態實驗與分 析	Elective 選修	3	Chang, Jen- Yuan 張禎元	5-7					(AME0209) Seminar Room I, Mechanical engineering Building 2F 機械工程館 2F AME0209 第一專題研討 室	<u>Course</u> <u>Plan</u>

國立虎尾科技大學雙語教學課程計畫書

Bilingual Education Course Plan

課程名稱(中) 課程名稱(英) Course title in Mandarin and English	材料表面分析 Surface Analysis of Materials	授課教師 Instructor	蔡朝伊 Tsai, Chau-Yi
<p>教學簡要說明</p> <p>1.請依照授課班級英文分級程度規劃課程計畫書。 Please design the course plan by following the English using percentage of the course English level.</p> <p>2.如有聘請雙語導師，請於課程進度註明雙語導師授課之週次時數。 Please state bilingual instructor's teaching weeks and hours in course outline section.</p>			
課程教材 Material	<p>1.指定課本書名 Book：_____ (_____%英文內容 Percentage in English)</p> <p>2.自製教材 Self-made Materials：採用英文之比例(Percantage in English) <u>100</u> %</p> <p>3.其他補充說明 Others：</p>		
雙語教學方式 (可多選，或簡述) Bilingual Teaching Strategies	<p><input checked="" type="checkbox"/> 教材講述 Lecturing <input type="checkbox"/> 小組討論 Group Discussion <input type="checkbox"/> 口頭問答 Q&A</p> <p><input type="checkbox"/> 問題導向 Problem Based Learning <input type="checkbox"/> 協同教學 Collaborative Teaching</p> <p><input checked="" type="checkbox"/> 分組報告 Group Report</p> <p><input type="checkbox"/> 其他方式說明 Others：</p>		
成績評量方式 Grading	<p><input checked="" type="checkbox"/> 期中/期末考： <u>100</u> % 以上英文試題，學生以英文答題 <u>20</u> %。 The percentage of English using in designing midterm/final exam; the percentage of English using in answering the exam paper.</p> <p><input type="checkbox"/> 英文期中/期末報告： _____ % 以英文表達。 The percentage of using English in midterm or final oral presentation</p> <p><input checked="" type="checkbox"/> 全英語口頭簡報 (含 QA 問答)20 分鐘以上(一般科系專業課、碩博專業課程必須包含此評量方式) English oral presentation including Q&A session at least 20 minutes (Department cores, master's degree and doctoral degree courses so must have</p> <p><input type="checkbox"/> 其他方式(請說明中英文比例)Others(please state the proportion of Mandarin and English in grading)：</p>		

課程進度 Course Outline		
週次 Week	單元/主題 Unit/Topic	教學活動重點及教材內容 Teaching Activities
W1	Lecture 1 / Introduction	Course introduction and Introduction to surfaces and analysis concepts
W2	Lecture 2 / AES	The principles, equipment structure, applied fields and operational precautions of Auger Electron Spectroscopy, AES
W3	Lecture 3 / XPS	The principles, equipment structure, applied fields and operational precautions of X-ray Photoelectron Spectroscopy, XPS
W4	Lecture 4 / FIB	The principles, equipment structure, applied fields and operational precautions of Focused Ion Beam, FIB
W5	Lecture 5 / SIMS	The principles, equipment structure, applied fields and operational precautions of Secondary Ion Mass Spectrometry, SIMS
W6	Lecture 6 / HREELS	The principles, equipment structure, applied fields and operational precautions of High Resolution Electron Energy Loss Spectroscopy, HREELS
W7	Lecture 7 / STEM	The principles, equipment structure, applied fields and operational precautions of Scanning Transmission Electron Microscopy, STEM
W8	Lecture 8 / STM	The principles, equipment structure, applied fields and operational precautions of Scanning Tunneling Microscope, STM
W9	Mid-term exam	Mid-term exam
W10	Lecture 9 / AFM	The principles, equipment structure, applied fields and operational precautions of Atomic Force Microscopy, AFM
W11	Lecture 10 / LEED	The principles, equipment structure, applied fields and operational precautions of Low-Energy Electron Diffraction, LEED
W12	Lecture 11 / RHEED	The principles, equipment structure, applied fields and operational precautions of Reflection High-Energy Electron Diffraction, RHEED
W13	Lecture 12 / GIXRD	The principles, equipment structure, applied fields and operational precautions of Grazing incidence X-ray Diffraction, GIXRD

W14	Lecture 13 / AFM on-site training (I)	AFM equipment on-site course and operational training (I)
W15	Lecture 14 / AFM on-site training (II)	AFM equipment on-site course and operational training (II)
W16	Lecture 15 / Oral presentation (I)	Topic oral presentation (I)
W17	Lecture 16 / Oral presentation (II)	Topic oral presentation (II)
W18	Final exam	Final exam

國立虎尾科技大學雙語教學課程計畫書

Bilingual Education Course Plan

課程名稱(中) 課程名稱(英) Course title in Mandarin and English	飛航安全 Flight Safety	授課教師 Instructor	王士嘉 Wang, Shih-Chia
教學簡要說明 1.請依照授課班級英文分級程度規劃課程計畫書。 Please design the course plan by following the English using percentage of the course English level. 2.如有聘請雙語導師，請於課程進度註明雙語導師授課之週次時數。 Please state bilingual instructor's teaching weeks and hours in course outline section.			
課程教材 Material	1.指定課本書名 Book：_An Introduction to Aircraft Maintenance Engineering Human Factors for EASA (<u>100</u> % 英文內容 Percentage in English) 2.自製教材 Self-made Materials：採用英文之比例(Percentage in English)_____ % 3.其他補充說明 Others：		
雙語教學方式 (可多選，或簡述) Bilingual Teaching Strategies	<input checked="" type="checkbox"/> 教材講述 Lecturing <input checked="" type="checkbox"/> 小組討論 Group Discussion <input type="checkbox"/> 口頭問答 Q&A <input checked="" type="checkbox"/> 問題導向 Problem Based Learning <input type="checkbox"/> 協同教學 Collaborative Teaching <input type="checkbox"/> 分組報告 Group Report <input type="checkbox"/> 其他方式說明 Others：		

成績評量方式 Grading	<p>■ 期中/期末考： <u>100</u> %以上英文試題，學生以英文答題_____%。</p> <p>The percentage of English using in designing midterm/final exam; the percentage of English using in answering the exam paper.</p>
	<p>■ 英文期中/期末報告： _____%以英文表達。</p> <p>The percentage of using English in midterm or final oral presentation</p>
	<p>■ 全英語口頭簡報 (含 QA 問答)20 分鐘以上(一般科系專業課、碩博專業課程必須包含此評量方式)</p> <p>English oral presentation including Q&A session at least 20 minutes (Department cores, master's degree and doctoral degree courses so must have</p>
	<p><input type="checkbox"/> 其他方式(請說明中英文比例)Others(please state the proportion of Mandarin and English in grading)：</p>

課程進度 Course Outline

週次 Week	單元/主題 Unit/Topic	教學活動重點及教材內容 Teaching Activities
W1	Course Preparation	Let's roll
W2	Scenario Tree Techniques	Technic about fault tree analysis
W3	Presentation for tree planting	Tree planting and team contest
W4	Maintenance Perspective	Aircraft maintenance perspective
W5	Investigation Techniques	Aircraft accident investigation point of view
W6	Technology	From Technology point of view
W7	Site Safety	Site survey skill
W8	Human Factor	From Human Factor point of view lecture
W9	Mid Term Evaluation	Written test
W10	GPS/ GIS/ animation application	GIS perspective of view
W11	Flight Operation	Flight Operation perspective of view
W12	Case Study-1	Share with students and ask for feedback
W13	Swiss Chess Theory	James Reason's theory
W14	Your Mishap story by ppt	Team Presentation Contest
W15	Case Study-2	Share with students and ask for feedback
W16	Report Writing-1	Skill about report accident report writing
W17	Report Writing-2	Skill about report accident report writing
W18	Final Evaluation	Test and wrap up

國立虎尾科技大學雙語教學課程計畫書

Bilingual Education Course Plan

課程名稱(中) 課程名稱(英) Course title in Mandarin and English	飛機穩定性與控制 Aircraft Stability and Control	授課教師 Instructor	呂文祺 Lu, Wen-Chi
<p>教學簡要說明</p> <p>1.請依照授課班級英文分級程度規劃課程計畫書。 Please design the course plan by following the English using percentage of the course English level.</p> <p>2.如有聘請雙語導師，請於課程進度註明雙語導師授課之週次時數。 Please state bilingual instructor's teaching weeks and hours in course outline section.</p>			
課程教材 Material	<p>1.指定課本書名 Book：_____ (_____% 英文內容 Percentage in English)</p> <p>2.自製教材 Self-made Materials：採用英文之比例(Percentage in English) <u>100</u> %</p> <p>3.其他補充說明 Others：</p>		
雙語教學方式 (可多選，或簡述) Bilingual Teaching Strategies	<p><input checked="" type="checkbox"/> 教材講述 Lecturing <input type="checkbox"/> 小組討論 Group Discussion <input checked="" type="checkbox"/> 口頭問答 Q&A</p> <p><input checked="" type="checkbox"/> 問題導向 Problem Based Learning <input type="checkbox"/> 協同教學 Collaborative Teaching</p> <p><input type="checkbox"/> 分組報告 Group Report</p> <p><input type="checkbox"/> 其他方式說明 Others：</p>		
成績評量方式 Grading	<p><input type="checkbox"/> 期中/期末考：_____% 以上英文試題，學生以英文答題_____%。 The percentage of English using in designing midterm/final exam; the percentage of English using in answering the exam paper.</p> <p><input checked="" type="checkbox"/> 英文期中/期末報告：<u>100</u> % 以英文表達。 The percentage of using English in midterm or final oral presentation</p> <p><input checked="" type="checkbox"/> 全英語口頭簡報 (含 QA 問答)20 分鐘以上(一般科系專業課、碩博專業課程必須包含此評量方式) English oral presentation including Q&A session at least 20 minutes (Department cores, master's degree and doctoral degree courses so must have</p> <p><input type="checkbox"/> 其他方式(請說明中英文比例)Others(please state the proportion of Mandarin and English in grading)：</p>		

課程進度 Course Outline		
週次 Week	單元/主題 Unit/Topic	教學活動重點及教材內容 Teaching Activities
W1	Introduction to Flight Dynamics	Lecture
W2	Aerodynamics	Lecture
W3	Flight Environment	Lecture
W4	Static Longitudinal Stability	Lecture
W5	Static Longitudinal Stability	Lecture
W6	Static Longitudinal Control	Lecture
W7	Static Longitudinal Control	Lecture
W8	Mid-term Qualification	Mid-term Report
W9	Static Lateral Stability	Lecture
W10	Static Lateral Stability	Lecture
W11	Static Lateral Stability	Lecture
W12	Aircraft Orientation in 3 Dimensions	Lecture
W13	Flight Equations of Motion	Lecture
W14	Flight Equations of Motion	Lecture
W15	Understanding MIL-F-8785C	Lecture
W16	Understanding MIL-F-8785C	Lecture
W17	Final Report	Final Report
W18	Final Report	Final Report

國立虎尾科技大學雙語教學課程計畫書

Bilingual Education Course Plan

課程名稱(中) 課程名稱(英) Course title in Mandarin and English	國際民航法規 International Aviation Regulation	授課教師 Instructor	林中彥 Lin, Chung-Yan
<p>教學簡要說明</p> <p>1.請依照授課班級英文分級程度規劃課程計畫書。 In the class, we will focus on aviation regulations;</p> <ol style="list-style-type: none"> 1. Basic concepts of regulation 2. Civil Aviation Regulation System 3. Air rights and air traffic 4. FAR/EASA/International Civil Aviation Organization's historical origins and evolution 			

5. Evolution and current status of unmanned aircraft related regulations 6. Airport development and related regulations 2.如有聘請雙語導師，請於課程進度註明雙語導師授課之週次時數。 Please state bilingual instructor's teaching weeks and hours in course outline section.		
課程教材 Material	1.指定課本書名 Book： <u>none</u> (_____ % 英文內容 Percentage in English) 2.自製教材 Self-made Materials：採用英文之比例(Percentage in English) <u>60</u> % 3.其他補充說明 Others：	
雙語教學方式 (可多選，或簡述) Bilingual Teaching Strategies	<input checked="" type="checkbox"/> 教材講述 Lecturing <input type="checkbox"/> 小組討論 Group Discussion <input type="checkbox"/> 口頭問答 Q&A <input type="checkbox"/> 問題導向 Problem Based Learning <input checked="" type="checkbox"/> 協同教學 Collaborative Teaching <input checked="" type="checkbox"/> 分組報告 Group Report <input type="checkbox"/> 其他方式說明 Others：	
成績評量方式 Grading	<input checked="" type="checkbox"/> 期中/期末考： <u>80</u> % 以上英文試題，學生以英文答題 _____ %。 The percentage of English using in designing midterm/final exam; the percentage of English using in answering the exam paper. <input checked="" type="checkbox"/> 英文期中/期末報告： <u>80</u> % 以英文表達。(學生可選擇) The percentage of using English in midterm or final oral presentation <input type="checkbox"/> 全英語口頭簡報 (含 QA 問答)20 分鐘以上(一般科系專業課、碩博專業課程必須包含此評量方式) English oral presentation including Q&A session at least 20 minutes (Department cores, master's degree and doctoral degree courses so must have <input checked="" type="checkbox"/> 其他方式(請說明中英文比例)Others(please state the proportion of Mandarin and English in grading)：	
課程進度 Course Outline		
週次 Week	單元/主題 Unit/Topic	教學活動重點及教材內容 Teaching Activities
W1	Introduction	Preparation for the courses
W2	Basic Concepts of Regulation	Basic Concepts of Regulation、Aviation Regulation
W3	Basic Concepts of Regulation	common law、civil law
W4	Freedoms of the air	First through Ninth Freedoms of the air
W5	Freedoms of the air	Airline operation
W6	The origin and historical evolution of	History and development of FAR

	FAR/EASA	
W7	The origin and historical evolution of FAR/EASA	History and development of EASA
W8	FAR121 regulations	Regulation of Airline operation
W9	Mid-term exam	Mid-term exam
W10	FAR91/135 regulations	Regulation of General Aviation/Charter operation
W11	CAA China Regulation	Introduction to China Aviation Regulation
W12	Int'l Aviation Regulation-Public Law	Chicago Convention/ICAO and Convention for the Suppression of Unlawful Seizure of Aircraft
W13	Int'l Aviation Regulation-Private Law	WARSAW CONVENTION、Montreal Convention
W14	UAV Regulation in US	Latest development of UAV Regulation in US
W15	UAV Regulation in Taiwan	Latest development of UAV Regulation in Taiwan
W16	Airport Regulation	Regulation for Airport development
W17	Airport Regulation	Regulation for Airport development
W18	Final Report	Final Report

國立虎尾科技大學雙語教學課程計畫書

Bilingual Education Course Plan

課程名稱(中) 課程名稱(英) Course title in Mandarin and English	深度學習 Deep Learning	授課教師 Instructor	李朝陽 Lee ,Chao-Yang
<p>教學簡要說明</p> <p>1.請依照授課班級英文分級程度規劃課程計畫書。 Please design the course plan by following the English using percentage of the course English level.</p> <p>2.如有聘請雙語導師，請於課程進度註明雙語導師授課之週次時數。 Please state bilingual instructor's teaching weeks and hours in course outline section.</p>			
課程教材 Material	<p>指定課本書名 Book：__Deep Learning</p> <p>Book by Aaron Courville, Ian Goodfellow, and Yoshua Bengio</p> <p>1._____ (<u>100</u> % 英文內容 Percentage in English)</p> <p>2.製教材 Self-made Materials：採用英文之比例(Percentage in English) <u>100</u> %</p>		

	3.他補充說明 Others：
雙語教學方式 (可多選，或簡述) Bilingual Teaching Strategies	<input checked="" type="checkbox"/> 教材講述 Lecturing <input checked="" type="checkbox"/> 小組討論 Group Discussion <input type="checkbox"/> 口頭問答 Q&A <input checked="" type="checkbox"/> 問題導向 Problem Based Learning <input type="checkbox"/> 協同教學 Collaborative Teaching <input checked="" type="checkbox"/> 分組報告 Group Report <input type="checkbox"/> 其他方式說明 Others：
成績評量方式 Grading	<input type="checkbox"/> 期中/期末考：_____ % 以上英文試題，學生以英文答題_____ %。 The percentage of English using in designing midterm/final exam; the percentage of English using in answering the exam paper. <input type="checkbox"/> 英文期中/期末報告：_____ % 以英文表達。 The percentage of using English in midterm or final oral presentation <input checked="" type="checkbox"/> 全英語口頭簡報 (含 QA 問答)20 分鐘以上(一般科系專業課、碩博專業課程必須包含此評量方式) English oral presentation including Q&A session at least 20 minutes (Department cores, master's degree and doctoral degree courses so must have <input type="checkbox"/> 其他方式(請說明中英文比例)Others(please state the proportion of Mandarin and English in grading)：

課程進度 Course Outline		
週次 Week	單元/主題 Unit/Topic	教學活動重點及教材內容 Teaching Activities
W1	Course Introduction	Lecture
W2	Deep Learning	Lecture
W3	Basic Machine learning	Lecture
W4	Neural Network	Lecture
W5	Introduction to python and other tools	Lecture
W6	Convolutional Neural Network	Lecture
W7	Deepest Network-I	Lecture
W8	Deepest Network-II	Lecture
W9	Implementation of networks	Lecture
W10	Presentations mid term	Presentation/Midterm
W11	Presentations mid term	Presentation/Midterm
W12	Recurrent Neural Network	Lecture
W13	Long short term memory	Lecture
W14	Gated recurrent unit	Lecture

W15	Reinforcement Learning	Lecture
W16	Application	Lecture
W17	Final Presentations	Presentation/Final term
W18	Final Presentations	Presentation/Final term

國立虎尾科技大學雙語教學課程計畫書

Bilingual Education Course Plan

課程名稱(中) 課程名稱(英) Course title in Mandarin and English	科技管理 Technology Management	授課教師 Instructor	陳鈺淳 Yu-Chun Chen
<p>教學簡要說明</p> <p>1.請依照授課班級英文分級程度規劃課程計畫書。 Please design the course plan by following the English using percentage of the course English level.</p> <p>2.如有聘請雙語導師，請於課程進度註明雙語導師授課之週次時數。 Please state bilingual instructor's teaching weeks and hours in course outline section.</p>			
課程教材 Material	<p>1.指定課本書名 Book：</p> <p>Schilling, M. A., & Shankar, R. (2019). Strategic Management of Technological Innovation. McGraw-Hill Education (<u>100</u> % 英文內容 Percentage in English)</p> <p>2.製教材 Self-made Materials：採用英文之比例(Percentage in English) <u>100</u> %</p> <p>3.其他補充說明 Others：</p>		
雙語教學方式 (可多選，或簡述) Bilingual Teaching Strategies	<p><input checked="" type="checkbox"/>教材講述 Lecturing <input checked="" type="checkbox"/>小組討論 Group Discussion <input type="checkbox"/>口頭問答 Q&A</p> <p><input type="checkbox"/>問題導向 Problem Based Learning <input type="checkbox"/>協同教學 Collaborative Teaching</p> <p><input checked="" type="checkbox"/>分組報告 Group Report</p> <p><input type="checkbox"/>其他方式說明 Others：</p>		

<p>成績評量方式</p> <p>Grading</p>	<p>■期中/期末考： <u>100</u> % 以上英文試題，學生以英文答題 <u>100</u> %。</p> <p>The percentage of English using in designing midterm/final exam; the percentage of English using in answering the exam paper.</p> <p>■英文期中/期末報告： <u>100</u> % 以英文表達。</p> <p>The percentage of using English in midterm or final oral presentation</p> <p>■全英語口頭簡報 (含 QA 問答)20 分鐘以上(一般科系專業課、碩博專業課程必須包含此評量方式)</p> <p>English oral presentation including Q&A session at least 20 minutes (Department cores, master's degree and doctoral degree courses so must have</p> <p><input type="checkbox"/> 其他方式(請說明中英文比例)Others(please state the proportion of Mandarin and English in grading)：</p>
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課程進度 Course Outline

週次 Week	單元/主題 Unit/Topic	教學活動重點及教材內容 Teaching Activities
W1	Overview of class Chapter 1: Introduction	The purpose of this chapter is to set the stage for the course by establishing the importance of managing technological innovation strategically.
W2	Chapter 2: Sources of Innovation	This chapter focuses on the sources of innovation. The questions addressed include: Where do great ideas come from? How can firms harness the power of individual creativity? What role do customers, government organizations, universities, and alliance networks play in creating innovation?
W3	Chapter 2: Sources of Innovation	
W4	Chapter 3: Types and Patterns of InnovationI	
W5	Chapter 3: Types and Patterns of InnovationII	This chapter considers the types and patterns of innovation. The questions addressed include: Why are some innovations much harder to create and implement than others? Why do innovations often diffuse slowly even when they appear to offer a great advantage? What factors influence the rate at which a technology tends to improve over time?
W6	Chapter 4: Standards Battles and Design DominanceI	This chapter focuses on industries characterized by increasing returns. The questions addressed include: Why do some industries choose a single dominant standard rather than enabling multiple standards to coexist? What makes one technological innovation rise to dominate all others, even when other seemingly superior technologies are on offer? How can a firm avoid being locked out? Is there anything a firm can do to influence the likelihood of having its technology chosen as the dominant design?
W7	Chapter 4: Standards Battles and Design DominanceII	
W8	Chapter 4: Standards Battles and Design DominanceIII	
W9	Midterm Exam	
W10	Chapter 5: Timing of Entry	This chapter highlights the importance of entry timing. The questions addressed include: What are the advantages and disadvantages of being first to market, early-but-not-first, and late? What determines the optimal timing of entry for a new innovation?

W11	Chapter 6: Defining the Organization's Strategic DirectionI	This chapter reviews the basics of how a firm can assess its current position and define its strategic direction. The questions addressed include: What are the firm's sources of sustainable competitive advantage? Where in the firm's value chain do its strengths and weaknesses lie? What are the firm's core competencies, and how should it leverage and build upon them? What is the firm's strategic intent -- that is, where do we want to be ten years from now?
W12	Chapter 6: Defining the Organization's Strategic DirectionII	
W13	Chapter 7: Choosing Innovation Projects	This chapter examines a variety of methods for choosing among innovation projects including both quantitative and qualitative methods.
W14	IoT Workshop	
W15	Chapter 8: Collaboration StrategiesI	This chapter focuses on the important role collaboration can play in the development of new products and processes. The questions addressed include: Should the firm partner on a particular project or go solo? How does the firm decide which activities to do in house and which to access through collaborative arrangements? If the firm chooses to work with a partner, how should the partnership be structured? How does the firm choose and monitor partners?
W16	Chapter 8: Collaboration StrategiesII	
W17	Chapter 9: Protecting Innovation	This chapter provides an overview of the options a firm has for appropriating the returns to its innovation efforts. The questions addressed include: Are there ever times when it would benefit the firm to not protect its technological innovation so vigorously? How does a firm decide between a wholly proprietary, wholly open, or partially open strategy for protecting its innovation? When will "open" strategies have advantages over wholly proprietary strategies?
W18	Final Presentation	

國立虎尾科技大學雙語教學課程計畫書

Bilingual Education Course Plan

課程名稱(中) 課程名稱(英) Course title in Mandarin and English	行為財務 Behavioral Finance	授課教師 Instructor	呂麒麟 Chilin Lu
<p>教學簡要說明</p> <p>1.請依照授課班級英文分級程度規劃課程計畫書。</p> <p>Please design the course plan by following the English using percentage of the course English level.</p> <p>Behavioral finance plays a more and more important role in the development of financial</p>			

management and investment. This course focused on the behavioral factors which influence financial markets and investors. People are all prone to having psychological preconceptions or biases that make us behave in certain ways. These biases influence how we assimilate the information we come in contact with on a daily basis. This course targets the link between the peculiarities of human behavior and aspects of financial and investment management, as well as corporate and risk management. Students should understand and develop skills for taking into account behavioral factors in various aspects of financial markets and operation of corporations.

2.如有聘請雙語導師，請於課程進度註明雙語導師授課之週次時數。

Please state bilingual instructor's teaching weeks and hours in course outline section.

<p>課程教材 Material</p>	<p>1.指定課本書名 Book：<u>Investment Madness</u> (<u>100%</u> 英文內容 Percentage in English)</p> <p>2. 自製教材 Self-made Materials: 採用英文之比例 (Percentage in English)_____%</p> <p>3.其他補充說明 Others：</p> <p>Reference book: Ackert and Deaves, 2010, <i>Behavioral Finance: Psychology, Decision-Making, and Markets</i>, South-Western.</p>
<p>雙語教學方式 (可多選，或簡述) Bilingual Teaching Strategies</p>	<p><input checked="" type="checkbox"/>教材講述 Lecturing <input type="checkbox"/>小組討論 Group Discussion <input checked="" type="checkbox"/>口頭問答 Q&A</p> <p><input type="checkbox"/>問題導向 Problem Based Learning <input type="checkbox"/>協同教學 Collaborative Teaching</p> <p><input type="checkbox"/>分組報告 Group Report</p> <p><input checked="" type="checkbox"/>其他方式說明 Others：Paper Presentation</p>
<p>成績評量方式 Grading</p>	<p><input type="checkbox"/> 期中/期末考：_____ % 以上英文試題，學生以英文答題_____ %。</p> <p>The percentage of English using in designing midterm/final exam; the percentage of English using in answering the exam paper.</p> <p><input checked="" type="checkbox"/> 英文期中/期末報告：<u>100</u> % 以英文表達。</p> <p>The percentage of using English in midterm or final oral presentation</p> <p><input checked="" type="checkbox"/> 全英語口頭簡報 (含 QA 問答)20 分鐘以上(一般科系專業課、碩博專業課程必須包含此評量方式)</p> <p>English oral presentation including Q&A session at least 20 minutes (Department cores, master's degree and doctoral degree courses so must have</p> <p><input type="checkbox"/> 其他方式(請說明中英文比例)Others(please state the proportion of Mandarin and English in grading)：</p>
<p>課程進度 Course Outline</p>	

週次 Week	單元/主題 Unit/Topic	教學活動重點及教材內容 Teaching Activities
W1	Introduction	
W2	Your Behavior matter	Lecturing and discussion
W3	Overconfidence	Lecturing and discussion
W4	Overconfidence and investing	Lecturing and discussion
W5	Status quo- or what I own is better	Lecturing and discussion
W6	Seeking pride and avoiding regret	Lecturing and discussion
W7	Double or nothing	Lecturing and discussion
W8	Social aspects of investing	Lecturing and discussion
W9	Mid-term discussion	Paper presentation
W10	Mental accounting	Paper presentation
W11	Mental accounting and diversification	Paper presentation
W12	That's not the way I remember it	Paper presentation
W13	What I know is better	Paper presentation
W14	The internet investor	Paper presentation
W15	I. Exuberance on the net	Paper presentation
W16	Self-control or the lack of it	Paper presentation
W17	I. Battling your biases	Paper presentation
W18	Final report	

國立虎尾科技大學雙語教學課程計畫書

Bilingual Education Course Plan

課程名稱(中) 課程名稱(英) Course title in Mandarin and English	策略管理 Strategic Management	授課教師 Instructor	徐怡 Yi Hsu
<p>教學簡要說明</p> <p>1.請依照授課班級英文分級程度規劃課程計畫書。 Please design the course plan by following the English using percentage of the course English level.</p> <p>2.如有聘請雙語導師，請於課程進度註明雙語導師授課之週次時數。 Please state bilingual instructor's teaching weeks and hours in course outline section.</p>			

課程教材 Material	1..指定課本書名 Book：_____Strategic Management-An Integrated Approach Theory and Cases_____ (100 % 英文內容 Percentage in English) 2.自製教材 Self-made Materials：採用英文之比例(Percentage in English) 100 % 3.其他補充說明 Others：	
雙語教學方式 (可多選，或簡述) Bilingual Teaching Strategies	■教材講述 Lecturing ■小組討論 Group Discussion ■口頭問答 Q&A ■問題導向 Problem Based Learning ■協同教學 Collaborative Teaching ■分組報告 Group Report ■其他方式說明 Others：參觀見學 Field Trip	
成績評量方式 Grading	■期中/期末考：100 % 以上英文試題，學生以英文答題100 %。 The percentage of English using in designing midterm/final exam; the percentage of English using in answering the exam paper. ■英文期中/期末報告：100 % 以英文表達。 The percentage of using English in midterm or final oral presentation ■全英語口頭簡報 (含 QA 問答)20 分鐘以上(一般科系專業課、碩博專業課程必須包含此評量方式) English oral presentation including Q&A session at least 20 minutes (Department cores, master's degree and doctoral degree courses so must have ■其他方式(請說明中英文比例)Others(please state the proportion of Mandarin and English in grading)：參觀見學 Field Trip 以英文解說	
課程進度 Course Outline		
週次 Week	單元/主題 Unit/Topic	教學活動重點及教材內容 Teaching Activities
W1	Introduction to the cause Ch1 Strategic Leadership	Ch1 Lecturing; Group Discussion; Q&A; Problem Based Learning; Group Report
W2	Ch1 Strategic Leadership Case 1: GE’s Ecomagination Strategy	Ch1 Lecturing; Group Discussion; Q&A; Problem Based Learning; Group Report
W3	Ch2 External Analysis Case 2: The U.S. Airline Industry	Ch2 Lecturing; Group Discussion; Q&A; Problem Based Learning; Group Report
W4	Ch3 Internal Analysis Case 3: Competitive Advantage at Starbucks	Ch3Lecturing; Group Discussion; Q&A; Problem Based Learning; Group Report
W5	Ch4 Building Competitive Advantage Through Functional-Level	Ch4 Lecturing; Group Discussion; Q&A; Problem Based Learning; Group Report

	Strategy Case 4: Lean Production at Virginia Mason	
W6	Ch5 Building Competitive Advantage Through Business-Level Strategy Case 5: Lululemon	Ch5 Lecturing; Group Discussion; Q&A; Problem Based Learning; Group Report
W7	Ch6 Business- Level Strategy and the Industry Environment Case 6: Consolidating Dry Cleaning	Ch6 Lecturing; Group Discussion; Q&A; Problem Based Learning; Group Report
W8	Field Trip	Field Trip
W9	Mid-term Exam	
W10	Ch7 Strategy and Technology Case 7: The Rise of Cloud Computing	Ch7 Lecturing; Group Discussion; Q&A; Problem Based Learning; Group Report
W11	Ch8 Global Strategy Case 8: Avon Products	Ch8 Lecturing; Group Discussion; Q&A; Problem Based Learning; Group Report
W12	Ch9 Corporate-Level Strategy: Horizontal Integration, Vertical Integration, and Strategic Outsourcing Case 9: The Rapid Consolidation of the U.S. Airline Industry	Ch9 Lecturing; Group Discussion; Q&A; Problem Based Learning; Group Report
W13	Ch10 Corporate-Level Strategy: Formulating and Implementing Related and Unrelated Diversification Case 10: VF Corp. Acquires Timberland to Realize the Benefits from Related Diversification	Ch10 Lecturing; Group Discussion; Q&A; Problem Based Learning; Group Report
W14	Ch10 Corporate-Level Strategy: Formulating and Implementing Related and Unrelated Diversification Case 10: VF Corp. Acquires Timberland to Realize the Benefits from Related Diversification	Ch10 Lecturing; Group Discussion; Q&A; Problem Based Learning; Group Report
W15	Corporate Governance, Social Responsibility, and Ethics Case11: Starbucks: Taking a Stand on Social Issues	Ch11 Lecturing; Group Discussion; Q&A; Problem Based Learning; Group Report
W16	Implementing Strategy Through	Ch12 Lecturing; Group Discussion; Q&A; Problem

	Organization Case12: Organization Change at Google	Based Learning; Group Report
W17	Collaborative Teaching	Collaborative Teaching
W18	Final Exam	

國立虎尾科技大學雙語教學課程計畫書

Bilingual Education Course Plan

課程名稱(中) 課程名稱(英) Course title in Mandarin and English	資訊管理 Information Management	授課教師 Instructor	梁直青 Chih-Chih Liang
<p>教學簡要說明</p> <p>Due to student's English level should be higher or equal to TOEIC 550, this course contained the following target and lectured in full-English.</p> <p>a. To enable perception of why, where, and how information technology/systems should be linked with formulation of business strategy.</p> <p>b. To examine from the strategic perspective the organization, control, monitoring and evaluation of information technology/systems activities.</p> <p>c. To understand the main issues concerned with the economics aspects of information technology/systems.</p>			
課程教材 Material	1.指定課本書名 Book: Business Driven Information Systems (100 %英文內容 Percentage in English)		
雙語教學方式 (可多選，或簡述) Bilingual Teaching Strategies	<input checked="" type="checkbox"/> 教材講述 Lecturing <input type="checkbox"/> 小組討論 Group Discussion <input checked="" type="checkbox"/> 口頭問答 Q&A <input type="checkbox"/> 問題導向 Problem Based Learning <input type="checkbox"/> 協同教學 Collaborative Teaching <input type="checkbox"/> 分組報告 Group Report <input checked="" type="checkbox"/> 其他方式說明 Others : Every student must report orally for assigned topic.		
成績評量方式 Grading	<input checked="" type="checkbox"/> 期中/期末考(20%)：100%英文試題，學生以英文答題 100%。 The percentage of English using in designing midterm/final exam; the percentage of English using in answering the exam paper.		

■全英語口頭簡報 (含 QA 問答)20 分鐘以上(30%)(一般科系專業課、碩博專業課程必須包含此評量方式)

English oral presentation including Q&A session at least 20 minutes

(Department cores, master's degree and doctoral degree courses so must have

■其他方式(請說明中英文比例)Others(please state the proportion of Mandarin and English in grading)：

Schoolworks/Assignments(20%) 100% in English.

Participation, practice, and discussion(10%) 100% in English.

Final Report within 4 pages for the assigned topic(20%) 100% in English.

課程進度 Course Outline

週次 Week	單元/主題 Unit/Topic	教學活動重點及教材內容 Teaching Activities
W1	Introduction	Lecturing
W2	Business Driven MIS	Lecturing
W3	Decisions and Processes	Lecturing
W4	Value Driven Business	Lecturing
W5	E-Business/ Electronic Business Value	Lecturing
W6	Ethics and Information Security	Lecturing
W7	MIS Business Concerns	Lecturing
W8	Infrastructure	Lecturing
W9	Mid-Exam	Exam
W10	Sustainable Technologies	Lecturing
W11	Enterprise Resource Planning	Lecturing
W12	Enterprise Resource Planning I: Global ERP	Lecturing
W13	Business Intelligence	Lecturing
W14	Mobile Business	Lecturing
W15	Enterprise applications	Lecturing
W16	System Development	Lecturing
W17	Project Management	Lecturing
W18	Final Presentation	Student Presentation

國立虎尾科技大學雙語教學課程計畫書

Bilingual Education Course Plan

課程名稱(中) 課程名稱(英) Course title in Mandarin and English	經濟學(二) Economics(II)	授課教師 Instructor	張淑貞 Shu-Chen Chang
<p>教學簡要說明</p> <p>1.請依照授課班級英文分級程度規劃課程計畫書。 Please design the course plan by following the English using percentage of the course English level.</p> <p>2.如有聘請雙語導師，請於課程進度註明雙語導師授課之週次時數。 Please state bilingual instructor's teaching weeks and hours in course outline section.</p>			
課程教材 Material	<p>1.指定課本書名 Book： Essentials of Economics (<u>100</u> % 英文內容 Percentage in English)</p> <p>2.自製教材 Self-made Materials：採用英文之比例(Percentage in English)_____%</p> <p>3.其他補充說明 Others：</p>		
雙語教學方式 (可多選，或簡述) Bilingual Teaching Strategies	<p><input checked="" type="checkbox"/>教材講述 Lecturing <input type="checkbox"/>小組討論 Group Discussion <input type="checkbox"/>口頭問答 Q&A</p> <p><input checked="" type="checkbox"/>問題導向 Problem Based Learning <input type="checkbox"/>協同教學 Collaborative Teaching</p> <p><input checked="" type="checkbox"/>分組報告 Group Report</p> <p><input type="checkbox"/>其他方式說明 Others：</p>		
成績評量方式 Grading	<p><input checked="" type="checkbox"/>期中/期末考：<u>100</u> % 以上英文試題，學生以英文答題_____ %。 The percentage of English using in designing midterm/final exam; the percentage of English using in answering the exam paper.</p> <p><input type="checkbox"/>英文期中/期末報告：_____ % 以英文表達。 The percentage of using English in midterm or final oral presentation</p> <p><input type="checkbox"/>全英語口頭簡報 (含 QA 問答)20分鐘以上(一般科系專業課、碩博專業課程必須包含此評量方式) English oral presentation including Q&A session at least 20 minutes (Department cores, master's degree and doctoral degree courses so must have</p> <p><input type="checkbox"/>其他方式(請說明中英文比例)Others(please state the proportion of Mandarin and English in grading)：</p>		

課程進度 Course Outline		
週次 Week	單元/主題 Unit/Topic	教學活動重點及教材內容 Teaching Activities
W1	The Data of Macroeconomics	總體經濟數據認知 (Knowing general economic data)
W2	The Data of Macroeconomics	國內常見的總體經濟數據(General domestic economic data)
W3	National Income: Its Production, Distribution and Allocation	國民所得：往哪裡去(National Income: Where to Go)
W4	National Income: Its Production, Distribution and Allocation	國民所得：往哪裡去 National Income: Where to Go
W5	Monetary System	貨幣定義(Monetary Definition)
W6	Monetary System	M1-M3 內容(M1-M3 content)
W7	Inflation	造成通貨膨脹原因(cause of inflation)
W8	Inflation	通貨膨脹對國家經濟影響(Inflation's impact on the country's economy)
W9	期中考	Midterm exam
W10	The Open Economy	開放經濟與封閉經濟差異(The difference between an open economy and a closed economy)
W11	The Open Economy	開放經濟下，國際匯率波動對國內經濟影響(Under the open economy, the impact of exchange rate fluctuations on the domestic economy)
W12	Unemployment	失業的原因(cause of unemployment)
W13	Unemployment	失業對國家所得影響(The impact of unemployment on national income)
W14	Economic Growth	經濟成長 I：資本累積與人口成長(Economic Growth I: Capital Accumulation and Population Growth)
W15	Economic Growth	經濟成長 II：技術、實證與政策(Economic Growth II: Technology, Evidence, and Policy)
W16	議題簡報	時事探討與分析(Current affairs discussion and analysis)
W17	議題簡報	時事探討與分析(Current affairs discussion and analysis)
W18	期末考	Final exam

國立虎尾科技大學雙語教學課程計畫書

Bilingual Education Course Plan

課程名稱(中) 課程名稱(英) Course title in Mandarin and English	微處理機實習 Microprocessor Lab	授課教師 Instructor	陳國益 Kuo-Yi Chen
<p>教學簡要說明</p> <p>1.請依照授課班級英文分級程度規劃課程計畫書。 Please design the course plan by following the English using percentage of the course English level.</p> <p>2.如有聘請雙語導師，請於課程進度註明雙語導師授課之週次時數。 Please state bilingual instructor's teaching weeks and hours in course outline section.</p>			
課程教材 Material	<p>1.指定課本書名 Book：_ Embedded Systems with ARM Cortex-M Microcontrollers in Assembly Language and C _ (<u>100</u> % 英文內容 Percentage in English)</p> <p>2.自製教材 Self-made Materials：採用英文之比例(Percentage in English) <u>50</u> %</p> <p>3.其他補充說明 Others：</p>		
雙語教學方式 (可多選，或簡述) Bilingual Teaching Strategies	<p><input checked="" type="checkbox"/>教材講述 Lecturing <input type="checkbox"/>小組討論 Group Discussion <input checked="" type="checkbox"/>口頭問答 Q&A</p> <p><input checked="" type="checkbox"/>問題導向 Problem Based Learning <input type="checkbox"/>協同教學 Collaborative Teaching</p> <p><input type="checkbox"/>分組報告 Group Report</p> <p><input type="checkbox"/>其他方式說明 Others：</p>		
成績評量方式 Grading	<p><input checked="" type="checkbox"/>期中/期末考：<u>50</u> %以上英文試題，學生以英文答題<u>50</u> %。 The percentage of English using in designing midterm/final exam; the percentage of English using in answering the exam paper.</p> <p><input type="checkbox"/>英文期中/期末報告：<u> </u> %以英文表達。 The percentage of using English in midterm or final oral presentation</p> <p><input checked="" type="checkbox"/>全英語口頭簡報（含 QA 問答）20 分鐘以上（一般科系專業課、碩博專業課程必須包含此評量方式） English oral presentation including Q&A session at least 20 minutes (Department cores, master's degree and doctoral degree courses so must have</p> <p><input type="checkbox"/>其他方式(請說明中英文比例)Others(please state the proportion of Mandarin and English in grading)：</p>		

課程進度 Course Outline

週次 Week	單元/主題 Unit/Topic	教學活動重點及教材內容 Teaching Activities
W1	NUC140 Cortex-M0Introduction	ARM Cortex-M0 Introduction
W2	NUC140 development	NUC140 and Keil C and project create
W3	GPIO application	GPIO usage and PIN
W4	LCD experiments	LCD usage and LCD project
W5	UART experiments	UART protocol
W6	ADC experiments	ADC converter NuMicro ADC
W7	PWM experiments	PWM controller with motor and buzzer
W8	Timer experiments	Cortex-M0 MCU Interrupt Vector,Timer,WatchDog
W9	Midterm	
W10	I2C experiments	I2C access EEPROM
W11	SPI experiments	SPI control Flash
W12	Watchdog experiments	The timer as watchdog to protect MCU
W13	TSR experiments	TSR lab project
W14	Interrupter experiments	Interrupter lab project
W15	SRAM experiments	SRAM read/write operation
W16	Buzzer experiments	Buzzer operation
W17	File R/W experiments	Local file read/write operation
W18	Final term	

國立虎尾科技大學雙語教學課程計畫書

Bilingual Education Course Plan

課程名稱(中) 課程名稱(英) Course title in Mandarin and English	多媒體應用與實習 Multimedia Application and Design	授課教師 Instructor	簡銘伸 Ming-Shen Jian
<p style="text-align: center;">教學簡要說明</p> <p>1.請依照授課班級英文分級程度規劃課程計畫書。 Please design the course plan by following the English using percentage of the course English level.</p> <p>2.如有聘請雙語導師，請於課程進度註明雙語導師授課之週次時數。 Please state bilingual instructor's teaching weeks and hours in course outline section.</p>			

課程教材 Material	1.指定線上開源教材： <u> PhP.net </u> （100 % 英文內容 Percentage in English） 2.自製教材 Self-made Materials：採用英文之比例(Percentage in English) <u> 50 </u> % 3.其他補充說明 Others：	
雙語教學方式 (可多選，或簡述) Bilingual Teaching Strategies	<input checked="" type="checkbox"/> 教材講述 Lecturing <input type="checkbox"/> 小組討論 Group Discussion <input checked="" type="checkbox"/> 口頭問答 Q&A <input type="checkbox"/> 問題導向 Problem Based Learning <input type="checkbox"/> 協同教學 Collaborative Teaching <input type="checkbox"/> 分組報告 Group Report <input checked="" type="checkbox"/> 其他方式說明 Others：上機操作 Laboratory	
成績評量方式 Grading	<input checked="" type="checkbox"/> 期中/期末考： <u> 30 </u> % 以上英文試題，學生以英文答題 <u> 30 </u> %。 The percentage of English using in designing midterm/final exam; the percentage of English using in answering the exam paper. <input type="checkbox"/> 英文期中/期末報告： <u> </u> % 以英文表達。 The percentage of using English in midterm or final oral presentation <input checked="" type="checkbox"/> 全英語口頭簡報 (含 QA 問答) 20 分鐘以上 (一般科系專業課、碩博專業課程必須包含此評量方式) English oral presentation including Q&A session at least 20 minutes (Department cores, master's degree and doctoral degree courses somust have <input checked="" type="checkbox"/> 其他方式(請說明中英文比例) Others (please state the proportion of Mandarin and English in grading)：上機實際操作之學習內容與專題內容 Laboratory and Project content in English (80%) Mandarin (20%)	
課程進度 Course Outline		
週次 Week	單元/主題 Unit/Topic	教學活動重點及教材內容 Teaching Activities
W1	Multimedia Introduction	Powerpoint Oral Presentation
W2	HTML Introduction	Powerpoint Oral Presentation
W3	HTML Introduction	Laboratory
W4	Basic Control	Powerpoint Oral Presentation
W5	Basic Control	Laboratory
W6	Server Control	Powerpoint Oral Presentation
W7	Server Control	Laboratory
W8	Data Verification	Powerpoint Oral Presentation
W9	Midterm Exam	Midterm Exam

W10	File Access	Laboratory
W11	Database Connection	Powerpoint Oral Presentation
W12	Database Connection	Laboratory
W13	CSS Structure	Powerpoint Oral Presentation
W14	CSS Structure	Laboratory
W15	CSS Structure	Laboratory
W16	Final Project Presentation	Powerpoint Oral Presentation
W17	Final Project Presentation	Powerpoint Oral Presentation
W18	Final Exam	Final Exam

國立虎尾科技大學雙語教學課程計畫書

Bilingual Education Course Plan

課程名稱(中) 課程名稱(英) Course title in Mandarin and English	計算機網路概論 Computer Network	授課教師 Instructor	黃世昌 SHIH-CHANG HUANG
教學簡要說明 1.請依照授課班級英文分級程度規劃課程計畫書。 Please design the course plan by following the English using percentage of the course English level. 2.如有聘請雙語導師，請於課程進度註明雙語導師授課之週次時數。 Please state bilingual instructor's teaching weeks and hours in course outline section.			
課程教材 Material	1.指定課本書名 Book：_ Network Fundamentals: CCNA Exploration Companion Guide, Mark A. Dye, Rick McDonald, Antoon W. Ruff. ISBN: 978-1587133480 (<u>100</u> % 英文內容 Percentage in English) 2.自製教材 Self-made Materials：採用英文之比例(Percentage in English) <u>80</u> % 3.他補充說明 Others：NA		
雙語教學方式 (可多選，或簡述) Bilingual Teaching Strategies	<input checked="" type="checkbox"/> 教材講述 Lecturing <input checked="" type="checkbox"/> 小組討論 Group Discussion <input checked="" type="checkbox"/> 口頭問答 Q&A <input type="checkbox"/> 問題導向 Problem Based Learning <input type="checkbox"/> 協同教學 Collaborative Teaching <input type="checkbox"/> 分組報告 Group Report <input type="checkbox"/> 其他方式說明 Others：		

成績評量方式 Grading	<input checked="" type="checkbox"/> 期中/期末考： <u>90</u> % 以上英文試題，學生以英文答題 <u>30-60</u> %。 The percentage of English using in designing midterm/final exam; the percentage of English using in answering the exam paper.
	<input type="checkbox"/> 英文期中/期末報告： _____ % 以英文表達。 The percentage of using English in midterm or final oral presentation <input type="checkbox"/> 全英語口頭簡報(含 QA 問答)20 分鐘以上(一般科系專業課、碩博專業課程必須包含此評量方式) English oral presentation including Q&A session at least 20 minutes (Department cores, master's degree and doctoral degree courses so must have <input type="checkbox"/> 其他方式(請說明中英文比例)Others(please state the proportion of Mandarin and English in grading)：

課程進度 Course Outline

週次 Week	單元/主題 Unit/Topic	教學活動重點及教材內容 Teaching Activities
W1	Introduction Overview of Computer Network	Overview of Computer Network
W2	Living in a Network Centric World	Network Application in Daily Life
W3	Communicating over the Network	Communicating with Network
W4	Application layer Functionality Protocol	Application Layer Protocol and Application
W5	OSI Transport Layer	UDP, Protocol, and Application
W6	OSI Transport Layer	TDP, Protocol, and Application
W7	OSI Network Layer	ARP, RARP, ICMP
W8	OSI Network Layer	OSPF, RIP, DSRV, AODV
W9	Midterm	Midterm
W10	Addressing and Network : IPV4	IP Classification CIDR, Network Mask,
W11	Addressing and Network : IPV4	Subnet Scheduling
W12	IPV6	IPV6 Mask, Format
W13	OSI Data Link Layer	Frame Format, CS/MACD, Protocols
W14	OSI Data Link Layer	Frame Assembling, CRC, Error Correction
W15	OSI Physical Lay	OSI Physical Lay
W16	Ethernet	Ethernet, Protocol Stack
W17	Planning and Cabling Networks	Encoding, Signal, Wave
W18	Final	Final

國立虎尾科技大學雙語教學課程計畫書

Bilingual Education Course Plan

課程名稱(中) 課程名稱(英) Course title in Mandarin and English	科技文件閱讀 English Reading for Science and Technology	授課教師 Instructor	蔡柏祥 PO-HSIANG TSAI
<p>教學簡要說明</p> <p>1.請依照授課班級英文分級程度規劃課程計畫書。 Please design the course plan by following the English using percentage of the course English level.</p> <p>2.如有聘請雙語導師，請於課程進度註明雙語導師授課之週次時數。 Please state bilingual instructor's teaching weeks and hours in course outline section.</p>			
課程教材 Material	<p>1.指定課本書名 Book：科技英文導讀(5th)，李開偉，全華，2016 (<u>80</u> % 英文內容 Percentage in English)</p> <p>2.自製教材 Self-made Materials：採用英文之比例(Percentage in English)_____ %</p> <p>3.其他補充說明 Others：</p>		
雙語教學方式 (可多選，或簡述) Bilingual Teaching Strategies	<p><input checked="" type="checkbox"/>教材講述 Lecturing <input checked="" type="checkbox"/>小組討論 Group Discussion <input checked="" type="checkbox"/>口頭問答 Q&A</p> <p><input checked="" type="checkbox"/>問題導向 Problem Based Learning <input type="checkbox"/>協同教學 Collaborative Teaching</p> <p><input checked="" type="checkbox"/>分組報告 Group Report</p> <p><input type="checkbox"/>其他方式說明 Others：</p>		
成績評量方式 Grading	<p><input checked="" type="checkbox"/> 期中/期末考：<u>30</u> % 以上英文試題，學生以英文答題 <u>30</u> %。 The percentage of English using in designing midterm/final exam; the percentage of English using in answering the exam paper.</p> <p><input checked="" type="checkbox"/> 英文期中/期末報告：<u>30</u> % 以英文表達。 The percentage of using English in midterm or final oral presentation</p> <p><input type="checkbox"/>全英語口頭簡報 (含 QA 問答)20 分鐘以上(一般科系專業課、碩博專業課程必須包含此評量方式) English oral presentation including Q&A session at least 20 minutes (Department cores, master's degree and doctoral degree courses so must have</p> <p><input type="checkbox"/> 其他方式(請說明中英文比例)Others(please state the proportion of Mandarin and English in grading)：</p>		

課程進度 Course Outline		
週次 Week	單元/主題 Unit/Topic	教學活動重點及教材內容 Teaching Activities
W1	Introduction	Overview, Syllabus
W2	Tablets	Issue about Tablet
W3	Touchscreens	Issue about Touchscreens
W4	Unmanned Aerial Vehicle	Issue about Unmanned Aerial Vehicle
W5	Accelerometer and Gyroscope	Issue about Accelerometer and Gyroscope
W6	Knowledge Management	Issue about Knowledge Management
W7	What are Trademarks?	Issue about What are Trademarks?
W8	What is Copyright?	Issue about What is Copyright?
W9	Mid-Term Exam	Mid-Term Exam
W10	Patents in the USA	Issue about Patents in the USA
W11	Filing a Design Paten	Issue about Filing a Design Paten
W12	Non-Provisional Utility Paten Application	Issue about Non-Provisional Utility Paten Application
W13	Development of E-commerce in Manufacturing Operations	Issue about Development of E-commerce in Manufacturing Operations
W14	Digitization in Telecommunications	Issue about Digitization in Telecommunications
W15	Origin of Integrated Circuit	Issue about Origin of Integrated Circuit
W16	Virtual Reality	Issue about Virtual Reality
W17	Applications of Nanotechnology in Bio-Engineering	Issue about Applications of Nanotechnology in Bio-Engineering
W18	Final-Term Exam	Final-Term Exam

國立虎尾科技大學雙語教學課程計畫書

Bilingual Education Course Plan

課程名稱(中) 課程名稱(英) Course title in Mandarin and	雲端大數據安全 Big Data Security	授課教師 Instructor	江季翰 Ji-Han Jiang
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English			
<p style="text-align: center;">教學簡要說明</p> <p>1.請依照授課班級英文分級程度規劃課程計畫書。 Please design the course plan by following the English using percentage of the course English level.</p> <p>2.如有聘請雙語導師，請於課程進度註明雙語導師授課之週次時數。 Please state bilingual instructor's teaching weeks and hours in course outline section.</p>			
課程教材 Material	<p>1.指定課本書名 Book：<u>Security and Data Storage Aspect in Cloud Computing</u> (<u>100</u> % 英文內容 Percentage in English)</p> <p>2.自製教材 Self-made Materials：採用英文之比例(Percentage in English) <u>100</u>%</p> <p>3.其他補充說明 Others：Study and report technical paper in English</p>		
雙語教學方式 (可多選，或簡述) Bilingual Teaching Strategies	<p><input checked="" type="checkbox"/>教材講述 Lecturing <input type="checkbox"/>小組討論 Group Discussion <input checked="" type="checkbox"/>口頭問答 Q&A</p> <p><input checked="" type="checkbox"/>問題導向 Problem Based Learning <input type="checkbox"/>協同教學 Collaborative Teaching</p> <p><input checked="" type="checkbox"/>分組報告 Group Report</p> <p><input type="checkbox"/>其他方式說明 Others：</p>		
成績評量方式 Grading	<p><input checked="" type="checkbox"/> 期中/期末考：<u>100</u> % 以上英文試題，學生以英文答題 <u>20</u> %。 The percentage of English using in designing midterm/final exam; the percentage of English using in answering the exam paper.</p> <p><input checked="" type="checkbox"/> 英文期中/期末報告：<u>20</u> % 以英文表達。 The percentage of using English in midterm or final oral presentation</p> <p><input checked="" type="checkbox"/> 全英語口頭簡報 (含 QA 問答) 20 分鐘以上(一般科系專業課、碩博專業課程必須包含此評量方式) English oral presentation including Q&A session at least 20 minutes (Department cores, master's degree and doctoral degree courses so must have</p> <p><input type="checkbox"/> 其他方式(請說明中英文比例)Others(please state the proportion of Mandarin and English in grading)：</p>		
<p style="text-align: center;">課程進度 Course Outline</p>			
週次 Week	單元/主題 Unit/Topic	教學活動重點及教材內容 Teaching Activities	
W1	Introduction	◆ Course Introduction	
W2	Introduction to Cloud Computing	◆ NIST Cloud Computing Standards Roadmap	

W3	Importance of Big Data	♦ Introduction to Big Data
W4	Big Data in the Cloud	♦ Storage and Database Management for Big Data ♦ Big Data in the Cloud A Survey ♦ Big Data Security Industry Trends
W5	Security and Privacy Issues	♦ Cryptography Background ♦ Network Security Issues and Challenges
W6	Security in Cloud Computing	♦ A Survey of Security in Cloud Computing
W7	Big Data Security Threats	♦ Big Data Security Issues and Challenges
W8	Understanding Big Data Security	♦ Big Data Security—Challenges Recommendations and Solutions
W9	Midterm	♦ Midterm exam
W10	Cases Study: Big Data and Cloud Computing Security	♦ (Problem Based Learning) ♦ CHARON A Secure Cloud of Clouds System.pdf
W11	Analysis Tools: Introduction to ELK stack	♦ (Problem Based Learning) ♦ 15 Minute Introduction to ELK
W12	Big Data Security Application Practice	♦ (Problem Based Learning) ♦ Building an IoT Data Hub with Elasticsearch, Logstash and Kibana
W13	Big Data Security Management	♦ Big Data Security Assurance Technology ♦ Data Security Assurance Practice ♦ Big Data Security Application Technology
W14	Security and Data Storage Aspect in Cloud Computing	♦ On cloud security attacks a taxonomy and intrusion detection and prevention as a service
W15	Intrusion detection techniques	♦ Intrusion detection techniques in cloud environment A survey
W16	Intelligent Management and Efficient Operation of Big Data	♦ A deep learning approach for proactive multi-cloud cooperative intrusion detection system
W17	Final Report	♦ Group Oral Report and Discussion (in English)
W18	Final Report	♦ Group Oral Report and Discussion (in English)

國立虎尾科技大學雙語教學課程計畫書

Bilingual Education Course Plan

課程名稱 (中) 課程名稱 (英) Course title in Mandarin and English	物聯網安全 Internet-of-Things Security	授課教師 Instructor	游允帥 Yun-Shuai Yu
<p style="text-align: center;">教學簡要說明</p> <p>1.請依照授課班級英文分級程度規劃課程計畫書。</p> <p>2.如有聘請雙語導師，請於課程進度註明雙語導師授課之週次時數。</p>			
課程教材 Material	<p>1.指定課本書名 Book： <u>None</u> (_____% 英文內容 Percentage in English)</p> <p>2.自製教材 Self-made Materials：採用英文之比例(Percentage in English) <u>>90</u> %</p> <p>3.其他補充說明 Others：</p>		
雙語教學方式 (可多選，或簡述) Bilingual Teaching Strategies	<p><input checked="" type="checkbox"/> 教材講述 Lecturing <input type="checkbox"/> 小組討論 Group Discussion <input checked="" type="checkbox"/> 口頭問答 Q&A</p> <p><input type="checkbox"/> 問題導向 Problem Based Learning <input type="checkbox"/> 協同教學 Collaborative Teaching</p> <p><input checked="" type="checkbox"/> 分組報告 Group Report</p> <p><input type="checkbox"/> 其他方式說明 Others：</p>		
成績評量方式 Grading	<p><input checked="" type="checkbox"/> 期中/期末考：<u>100</u>% 以上英文試題，學生以英文答題 <u>50</u>%。 The percentage of English using in designing midterm/final exam; the percentage of English using in answering the exam paper.</p> <p><input type="checkbox"/> 英文期中/期末報告：_____% 以英文表達。 The percentage of using English in midterm or final oral presentation</p> <p><input checked="" type="checkbox"/> 全英語口頭簡報 (含 QA 問答)20 分鐘以上(一般科系專業課、碩博專業課程必須包含此評量方式) English oral presentation including Q&A session at least 20 minutes (Department cores, master's degree and doctoral degree courses so must have</p> <p><input type="checkbox"/> 其他方式(請說明中英文比例)Others(please state the proportion of Mandarin and English in grading)：</p>		
課程進度 Course Outline			

週次 Week	單元/主題 Unit/Topic	教學活動重點及教材內容 Teaching Activities
W1	Introduction	<ul style="list-style-type: none"> ➤ Brief introduction ➤ Syllabus ➤ How to grade
W2		<i>Peace Memorial day</i>
W3	HTTPS	<ul style="list-style-type: none"> ➤ HTTP ➤ Nginx ➤ Firewall ➤ HTTP over TLS
W4	SQL Injection	<ul style="list-style-type: none"> ➤ MariaDB ➤ SQL ➤ PHP ➤ SQL Injection
W5	MQTT	<ul style="list-style-type: none"> ➤ MQTT ➤ Mosquitto ➤ Sniffer MQTT packets via Wireshark ➤ Configuring MQTT Passwords
W6	MQTTS	<ul style="list-style-type: none"> ➤ Steps for set up MQTTS ➤ Python programming for MQTT/MQTTS
W7		<i>Children's day</i>
W8	MQTTS with AWS IoT Core	<ul style="list-style-type: none"> ➤ Example Mosquitto CLI pub_sub using AWS IoT MQTT endpoint ➤ Connecting to AWS IoT MQTT topic using Python and Paho MQTT client
W9	Mid-term exam	
W10	CoAP	<ul style="list-style-type: none"> ➤ Messages layer ➤ Req/Resp layer
W11	CoAP	➤ C programming for CoAP Server
W12	CoAP	➤ C++ programming for CoAP Client
W13	CoAP over DTLS	➤ libcoap
W14	OSCORE	<ul style="list-style-type: none"> ➤ RFC 8613 ➤ Implementation ➤ Replay protection
W15	Modbus	<ul style="list-style-type: none"> ➤ Introduction of Modbus ➤ Python programming for a Modbus sensor
W16	Integration	Modbus → MQTTS or OSCORE → Cloud
W17	Final-term oral report	

W18	Final-term oral report	
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國立虎尾科技大學雙語教學課程計畫書

Bilingual Education Course Plan

課程名稱(中) 課程名稱(英) Course title in Mandarin and English	機械振動學 Mechanical Vibrations	授課教師 Instructor	黃運琳/教授 Yunn-Lin Hwang / Professor
教學簡要說明			
1.請依照授課班級英文分級程度規劃課程計畫書。 Please design the course plan by following the English using percentage of the course English level.			
2.如有聘請雙語導師，請於課程進度註明雙語導師授課之週次時數。 Please state bilingual instructor's teaching weeks and hours in course outline section.			
課程教材 Material	1.指定課本書名 Book： <u>Shabana A. A., Theory of Vibration - Volume I: An Introduction, Springer-Verlag, New York.</u> (<u>100</u> % 英文內容 Percentage in English) 2.自製教材 Self-made Materials：採用英文之比例 (Percentage in English) _____ % 3.其他補充說明 Others：		
雙語教學方式 (可多選，或簡述) Bilingual Teaching Strategies	<input checked="" type="checkbox"/> 教材講述 Lecturing <input type="checkbox"/> 小組討論 Group Discussion <input checked="" type="checkbox"/> 口頭問答 Q&A <input checked="" type="checkbox"/> 問題導向 Problem Based Learning <input type="checkbox"/> 協同教學 Collaborative Teaching <input checked="" type="checkbox"/> 分組報告 Group Report <input checked="" type="checkbox"/> 其他方式說明 Others：Final Project.		
成績評量方式 Grading	<input checked="" type="checkbox"/> 期中/期末考： <u>100</u> % 以上英文試題，學生以英文答題 <u>80</u> %。 The percentage of English using in designing midterm/final exam; the percentage of English using in answering the exam paper. <input checked="" type="checkbox"/> 英文期中/期末報告： <u>100</u> % 以英文表達。 The percentage of using English in midterm or final oral presentation <input checked="" type="checkbox"/> 全英語口頭簡報 (含 QA 問答) 20 分鐘以上 (一般科系專業課、碩博專業課程必須包含此評量方式) English oral presentation including Q&A session at least 20 minutes (Department cores, master's degree and doctoral degree courses so must have <input type="checkbox"/> 其他方式(請說明中英文比例) Others (please state the proportion of Mandarin and English in grading)：		

課程進度 Course Outline		
週次 Week	單元/主題 Unit/Topic	教學活動重點及教材內容 Teaching Activities
W1	Introduce Working Model 2D	Software demonstration, Q&A
W2	Introduce RecurDyn	Software demonstration, Q&A
W3	Solutions of Vibration Ordinary Differential Equations	Lectures, Homework, Q&A
W4	1-DOF Undamped Free Vibrations	Lectures, Q&A
W5	1-DOF Undamped Forced Vibrations	Lectures, Homework, Q&A
W6	1-DOF Damped Free Vibrations	Lectures, Homework, Q&A
W7	1-DOF Damped Forced Vibrations	Lectures, Homework, Q&A
W8	Stability of Motion	Lectures, Homework, Q&A
W9	Midterm Examination	Open-Book Midterm Exam.
W10	Coulomb Damping Vibrations	Lectures, Homework, Q&A
W11	Rotating Unbalance	Lectures, Homework, Q&A
W12	Base Motion	Lectures, Q&A
W13	Experimental Methods for Damping Evaluation	Lectures, Homework, Q&A
W14	Response to Nonharmonic Forces	Lectures, Homework, Q&A
W15	Vibrations Under Periodic Forcing Functions	Lectures, Q&A
W16	More Than 1-DOF Vibration Systems	Lectures, Homework, Q&A
W17	Final project presentation	Oral presentations for final reports
W18	Final Examination	Open-Book Midterm Exam.

國立虎尾科技大學雙語教學課程計畫書

Bilingual Education Course Plan

課程名稱(中) 課程名稱(英) Course title in Mandarin and English	生產管理與實務 Production Management and Practice	授課教師 Instructor	胡智熊 Hu, Chih-Hsiung
<p style="text-align: center;">教學簡要說明</p> <p>1.請依照授課班級英文分級程度規劃課程計畫書。 Please design the course plan by following the English using percentage of the course English level.</p> <p>2.如有聘請雙語導師，請於課程進度註明雙語導師授課之週次時數。 Please state bilingual instructor's teaching weeks and hours in course outline section.</p>			
課程教材 Material	<p>1.指定課本書名 Book : Operations Management/ William J. Stevenson /14th Edition (100% 英文內容 Percentage in English)</p> <p>2.自製教材 Self-made Materials : 採用英文之比例(Percentage in English)100%</p> <p>3.其他補充說明 Others :</p>		
雙語教學方式 (可多選,或簡述) Bilingual Teaching Strategies	<p><input checked="" type="checkbox"/>教材講述 Lecturing <input checked="" type="checkbox"/>小組討論 Group Discussion <input checked="" type="checkbox"/>口頭問答 Q&A</p> <p><input type="checkbox"/>問題導向 Problem Based Learning <input type="checkbox"/>協同教學 Collaborative Teaching</p> <p><input checked="" type="checkbox"/>分組報告 Group Report</p> <p><input type="checkbox"/>其他方式說明 Others :</p>		
成績評量方式 Grading	<p><input checked="" type="checkbox"/>期中/期末考：100%以上英文試題，學生以英文答題 100%。 The percentage of English using in designing midterm/final exam; the percentage of English using in answering the exam paper.</p> <p><input checked="" type="checkbox"/>英文期中/期末報告：100%以英文表達。 The percentage of using English in midterm or final oral presentation</p> <p><input checked="" type="checkbox"/>全英語口頭簡報 (含 QA 問答)20 分鐘以上(一般科系專業課、碩博專業課程必須包含此評量方式) English oral presentation including Q&A session at least 20 minutes (Department cores, master's degree and doctoral degree courses so must have</p> <p><input type="checkbox"/>其他方式(請說明中英文比例)Others(please state the proportion of Mandarin and English in grading) :</p>		
課程進度 Course Outline			
週次 Week	單元/主題 Unit/Topic	教學活動重點及教材內容 Teaching Activities	

W1	Course Introduction	Lecturing / Q&A
W2	Chapter 1 Introduction to Operations Management	Lecturing / Q&A
W3	Chapter 2 Competitiveness, Strategy, and Productivity	Lecturing / Q&A
W4	Chapter 3 Forecasting	Lecturing / Q&A
W5	Chapter 6 Process Selection and Facility Layout	Lecturing / Q&A
W6	Chapter 11 Aggregate Planning and Master Scheduling	Lecturing / Q&A
W7	Chapter 12 Inventory Management	Lecturing / Q&A
W8	Chapter 16 Scheduling	Lecturing / Q&A
W9	Mid-term	
W10	Chapter 16 Scheduling	Lecturing / Q&A
W11	Scheduling case practice introduction	Lecturing / Q&A
W12	Scheduling case scenario 1 and 2 report and discussion	Group Discussion and Report/Q&A Scheduling Assignment 1,2
W13	Scheduling case scenario 3 report and discussion	Group Discussion and Report/Q&A Scheduling Assignment 3
W14	Scheduling case scenario 4 report and discussion	Group Discussion and Report/Q&A Scheduling Assignment 4
W15	Scheduling case scenario 5 report and discussion	Group Discussion and Report/Q&A Scheduling Assignment 5
W16	Scheduling case scenario 6 report and discussion	Group Discussion and Report/Q&A Scheduling Assignment 6
W17	Scheduling case scenario 7 report and discussion	Group Discussion and Report/Q&A Scheduling Assignment 7
W18	Conclusion	Lecturing / Comments on Performance

國立虎尾科技大學雙語教學課程計畫書

Bilingual Education Course Plan

課程名稱(中) 課程名稱(英) Course title	網路與運籌 Networks and Logistics	授課教師 Instructor	謝益智 Hsieh ,Yi-Chih
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in Mandarin and English			
<p style="text-align: center;">教學簡要說明</p> <p>1.請依照授課班級英文分級程度規劃課程計畫書。 Learn various models and approaches for networks and logistics(學習網路與運籌中不同之數學模式與方法) Lecture, Presentation (上課,論文討論)</p> <p>2.如有聘請雙語導師，請於課程進度註明雙語導師授課之週次時數。 Please state bilingual instructor's teaching weeks and hours in course outline section.</p>			
課程教材 Material	<p>1.指定課本書名 Book: _____ (_____ % 英文內容 Percentage in English)</p> <p>2.自製教材自製教材 (Free handouts of lecture): 採用英文之比例100%</p> <p>3.其他補充說明 Others:</p>		
雙語教學方式 (可多選，或簡述) Bilingual Teaching Strategies	<p><input checked="" type="checkbox"/>教材講述 Lecturing <input type="checkbox"/>小組討論 Group Discussion <input checked="" type="checkbox"/>口頭問答 Q&A</p> <p><input type="checkbox"/>問題導向 Problem Based Learning <input type="checkbox"/>協同教學 Collaborative Teaching</p> <p><input checked="" type="checkbox"/>分組報告 Group Report</p> <p><input type="checkbox"/>其他方式說明 Others:</p>		
成績評量方式 Grading	<p><input checked="" type="checkbox"/> 期中/期末考: <u>100</u> % 以上英文試題，學生以英文答題 <u>70</u> %。 The percentage of English using in designing midterm/final exam; the percentage of English using in answering the exam paper.</p> <p><input checked="" type="checkbox"/> 英文期中/期末報告: <u>60</u> % 以英文表達。 The percentage of using English in midterm or final oral presentation</p> <p><input checked="" type="checkbox"/> 全英語口頭簡報 (含 QA 問答)20 分鐘以上(一般科系專業課、碩博專業課程必須包含此評量方式) English oral presentation including Q&A session at least 20 minutes (Department cores, master's degree and doctoral degree courses so must have</p> <p><input type="checkbox"/> 其他方式(請說明中英文比例)Others(please state the proportion of Mandarin and English in grading):</p>		
課程進度 Course Outline			
週次 Week	單元/主題 Unit/Topic	教學活動重點及教材內容 Teaching Activities	
W1	1.Introduction of Graphs &	Lecturing	

	Networks	
W2	1.Introduction of Graphs & Networks	Lecturing
W3	2.Assignment problem	Lecturing
W4	2.Assignment problem	Lecturing
W5	3.Transportation problem	Lecturing, Presentation
W6	3.Transportation problem	Lecturing, Presentation
W7	4.Complexity	Lecturing, Presentation
W8	4.Complexity	Lecturing, Presentation
W9	Midterm exam	Midterm exam
W10	5.Location Problem	Lecturing, Presentation
W11	5.Location Problem	Lecturing, Presentation
W12	6.Center Problem	Lecturing, Presentation
W13	6.Center Problem	Lecturing, Presentation
W14	7.Set Covering Problem	Lecturing, Presentation
W15	7.Set Covering Problem	Lecturing, Presentation
W16	8.Assembly Line Balancing	Lecturing, Presentation
W17	8.Assembly Line Balancing	Lecturing, Presentation
W18	Final exam	Final exam

國立虎尾科技大學雙語教學課程計畫書

Bilingual Education Course Plan

課程名稱(中) 課程名稱(英) Course title in Mandarin and English	智慧製造系統 Intelligent Manufacturing System	授課教師 Instructor	鄭宗明 Cheng,Tzong-Ming
<p>教學簡要說明</p> <p>1.請依照授課班級英文分級程度規劃課程計畫書。 Please design the course plan by following the English using percentage of the course English level.</p> <p>2.如有聘請雙語導師，請於課程進度註明雙語導師授課之週次時數。 Please state bilingual instructor's teaching weeks and hours in course outline section.</p>			

課程教材 Material	1.指定課本書名 Book： <u>Manufacturing Execution Systems: Optimal Design, Planning, and Deployment</u> (100% 英文內容 Percentage in English) 2.自製教材 Course Handouts：採用英文之比例(Percantage in English) <u>80%</u> 3.其他補充說明 Others：Journal Papers	
雙語教學方式 (可多選，或簡述) Bilingual Teaching Strategies	<input checked="" type="checkbox"/> 教材講述 Lecturing <input checked="" type="checkbox"/> 小組討論 Group Discussion <input checked="" type="checkbox"/> 口頭問答 Q&A <input type="checkbox"/> 問題導向 Problem Based Learning <input type="checkbox"/> 協同教學 Collaborative Teaching <input checked="" type="checkbox"/> 分組報告 Group Report <input type="checkbox"/> 其他方式說明 Others：	
成績評量方式 Grading	<input type="checkbox"/> 期中/期末考：_____ % 以上英文試題，學生以英文答題_____ %。 The percentage of English using in designing midterm/final exam; the percentage of English using in answering the exam paper. <input checked="" type="checkbox"/> 英文期中/期末報告： <u>100</u> % 以英文表達。 The percentage of using English in midterm or final oral presentation <input checked="" type="checkbox"/> 全英語口頭簡報 (含 QA 問答)20 分鐘以上(一般科系專業課、碩博專業課程必須包含此評量方式) English oral presentation including Q&A session at least 20 minutes (Department cores, master's degree and doctoral degree courses so must have <input checked="" type="checkbox"/> 其他方式(請說明中英文比例)Others(please state the proportion of Mandarin and English in grading)：僅非報告式之小組討論允許含中文 50%發問	
課程進度 Course Outline		
週次 Week	單元/主題 Unit/Topic	教學活動重點及教材內容 Teaching Activities
W1	Course Introduction	Lecturing 70% and Video Watching 30%
W2	Factory of Future	Lecturing 70% and Video Watching 30%
W3	Concepts and Technologies	Lecturing 80% and Group Discussion 20%
W4	Production Flow-Oriented Design	Lecturing 80% and Group Discussion 20%
W5	Production Flow-Oriented Planning	Lecturing 80% and Group Discussion 20%
W6	Order Processing	Lecturing 80% and Group Discussion 20%
W7	Technical Aspects	Lecturing 80% and Group Discussion 20%
W8	Evaluation of the Cost-Effectiveness	Lecturing 80% and Group Discussion 20%
W9	Journal Paper Presentations	Individual Paper Presentations
W10	Journal Paper Presentations	Individual Paper Presentations

W11	Examples for Application	Lecturing 80% and Group Discussion 20%
W12	Design of Intelligent System	Lecturing 80% and Group Discussion 20%
W13	On-line Simulations	Lecturing 80% and Group Discussion 20%
W14	Knowledge Management	Lecturing 80% and Group Discussion 20%
W15	Smart Interface	Lecturing 70% and Video Watching 30%
W16	Man-machine Collaborations	Lecturing 70% and Video Watching 30%
W17	Team Project Presentations	Team Presentations
W18	Team Project Presentations	Team Presentations

國立虎尾科技大學雙語教學課程計畫書

Bilingual Education Course Plan

課程名稱(中) 課程名稱(英) Course title in Mandarin and English	應用統計學 Applied Statistics	授課教師 Instructor	黃俊平 Huang, Jyun-Ping
<p style="text-align: center;">教學簡要說明</p> <p>1.請依照授課班級英文分級程度規劃課程計畫書。 Please design the course plan by following the English using percentage of the course English level.</p> <p>2.如有聘請雙語導師，請於課程進度註明雙語導師授課之週次時數。 Please state bilingual instructor's teaching weeks and hours in course outline section.</p>			
課程教材 Material	<p>1.指定課本書名 Book：Probability and Statistics with Integrated Software Routines (<u>100</u> % 英文內容 Percentage in English)</p> <p>2.自製教材 Self-made Materials：採用英文之比例(Percentage in English) <u>100</u> %</p> <p>3.其他補充說明 Others：</p>		
雙語教學方式 (可多選，或簡述) Bilingual Teaching Strategies	<p><input checked="" type="checkbox"/>教材講述 Lecturing <input type="checkbox"/>小組討論 Group Discussion <input type="checkbox"/>口頭問答 Q&A</p> <p><input type="checkbox"/>問題導向 Problem Based Learning <input type="checkbox"/>協同教學 Collaborative Teaching</p> <p><input type="checkbox"/>分組報告 Group Report</p> <p><input type="checkbox"/>其他方式說明 Others：</p>		

成績評量方式 Grading	<p>■期中/期末考：100%以上英文試題，學生以英文答題_____%。</p> <p>The percentage of English using in designing midterm/final exam; the percentage of English using in answering the exam paper.</p>
	<p>□英文期中/期末報告：_____%以英文表達。</p> <p>The percentage of using English in midterm or final oral presentation</p>
	<p>□全英語口頭簡報 (含 QA 問答)20分鐘以上(一般科系專業課、碩博專業課程必須包含此評量方式)</p> <p>English oral presentation including Q&A session at least 20 minutes (Department cores, master's degree and doctoral degree courses so must have</p>
	<p>■其他方式(請說明中英文比例)Others(please state the proportion of Mandarin and English in grading)：programming, 100% English</p>

課程進度 Course Outline

週次 Week	單元/主題 Unit/Topic	教學活動重點及教材內容 Teaching Activities
W1	Introduction	VBA and Statistical theory
W2	Interval Estimation	Basic theory of Interval Estimation
W3	Interval Estimation	VBA Programming in Interval Estimation
W4	Statistical Test of Mean Value	Population Mean Value test theory
W5	Statistical Test of Proportion	Population Proportion test theory
W6	Statistical Test of Variation	Population Variation test theory
W7	Statistical Test of two Population	Test of two population mean and proportion
W8	Statistical Test of two Population	Programming for two population tests
W9	Chi-square Test	Chi-square test of several proportion values
W10	Chi-square Test	Programming for Chi-square test
W11	Analysis of Variance	Theory of ANOVA
W12	One-way Analysis of Variance	Theory of one and two way ANOVA
W13	Two-way Analysis of Variance	Programming for ANOVA
W14	Regression Analysis	Theory of Regression Analysis
W15	Regression Analysis	Programming for Regression Analysis
W16	Chart	Programming of Chart
W17	Cluster Analysis	Cluster analysis theory
W18	Cluster Analysis	Programming of Cluster analysis

Bilingual Education Course Plan

課程名稱(中) 課程名稱(英) Course title in Mandarin and English	文化創意產業研究 Creative Industries in Cultural Research	授課教師 Instructor	朱文浩 Wu-Haw Jue
<p>教學簡要說明</p> <p>Introduction painting, sculpture, other art creation, art auction and retail, galleries, art exhibitions, and other industries. Spanning a wide range of different fields – from architecture and music to advertising, visual or performing arts, architects, designers or developers of computer games</p>			
課程教材 Material	1.指定課本書名 Book : _____ (_____ % 英文內容 Percentage in English) 2.自製教材 Self-made Materials : 採用英文之比例 <u>100</u> % 3.其他補充說明 Others : design performance, technology and innovative product design		
雙語教學方式 (可多選，或簡述) Bilingual Teaching Strategies	<input checked="" type="checkbox"/> 材講述 Lecturing <input checked="" type="checkbox"/> 小組討論 Group Discussion <input checked="" type="checkbox"/> 口頭問答 Q&A <input checked="" type="checkbox"/> 問題導向 Problem Based Learning <input checked="" type="checkbox"/> 協同教學 Collaborative Teaching <input checked="" type="checkbox"/> 分組報告 Group Report <input type="checkbox"/> 其他方式說明 Others :		
成績評量方式 Grading	<input type="checkbox"/> 期中/期末考： _____ % 以上英文試題，學生以英文答題 _____ % 。 The percentage of English using in designing midterm/final exam; the percentage of English using in answering the exam paper. <input type="checkbox"/> 英文期中/期末報告： _____ % 以英文表達。 The percentage of using English in midterm or final oral presentation <input checked="" type="checkbox"/> 全英語口頭簡報 (含 QA 問答)20 分鐘以上 (一般科系專業課、碩博專業課程必須包含此評量方式) English oral presentation including Q&A session at least 20 minutes (Department cores, master's degree and doctoral degree courses so must have <input type="checkbox"/> 其他方式(請說明中英文比例)Others(please state the proportion of Mandarin and English in grading) :		
課程進度 Course Outline			
週次	單元/主題	教學活動重點及教材內容	

Week	Unit/Topic	Teaching Activities
W1	文化創意產業概況 Overview of Cultural and Creative Industries	介紹文化創意產業定義 Introduce the definition of cultural and creative industries
W2	視覺藝術產業 Visual arts industry	介紹視覺藝術產業 Introducing the visual arts industry
W3	音樂及表演藝術產業 Music and performing arts industry	各國音樂及表演藝術產業 Music and performing arts industries of various countries
W4	文化資產應用及展演設施產業 Cultural asset application and exhibition facility industry	各國展演分享 International performance sharing
W5	工藝產業 Craft industry	各國工藝產業分享 Sharing of craft industries from various countries
W6	電影產業 Film Industry	各國電影產業 National Film Industry
W7	廣播電視產業 Broadcasting industry	各國電視產業分享 TV industry sharing from various countries
W8	視覺傳達設計產業 Visual Communication Design Industry	各國視覺傳達設計產業分享 Sharing of visual communication design industry from various countries
W9	廣告產業 Advertising industry	商業包裝設計包括食品、民生用品、伴手禮產品等包裝 Commercial packaging design includes packaging for food, people's livelihood products, souvenir products, etc.
W10	產品設計產業 Product design industry	各國產品設計分享 Product design sharing from various countries
W11	設計品牌時尚產業 Design brand fashion industry	設計品牌時尚產業分析 Design brand fashion industry analysis
W12	數位內容產業 Digital Content Industry	將圖像、文字、影像或語音等資料，運用資訊科技加以數位化 Use information technology to digitize data such as images, text, video or voice
W13	創意生活產業 Creative life industry	創意生活實踐分享 Creative life practice sharing
W14	流行音樂及文化內容產業 Pop music and cultural content	各國特色之音樂及文化之分享 Sharing of music and culture with national

	industry	characteristics
W15	各國美食文化 Food culture of various countries	各國美食文化交流分享 International food and cultural exchange and sharing
W16	各國特色文化 Unique cultures of various countries	各國特色文化分享 Sharing of cultural characteristics of different countries
W17	文創產業分組討論 Cultural and creative industry group discussion	文創產業分組討論 Cultural and creative industry group discussion
W18	期末報告 Final report	各組期末報告 Final report

國立虎尾科技大學雙語教學課程計畫書

Bilingual Education Course Plan

課程名稱(中) 課程名稱(英) Course title in Mandarin and English	虛擬實境設計研究 Virtual reality design and reserch	授課教師 Instructor	郭良印 Liang-Yin,Kuo
<p style="text-align: center;">教學簡要說明</p> <p>1.請依照授課班級英文分級程度規劃課程計畫書。 Please design the course plan by following the English using percentage of the course English level.</p> <p>2.如有聘請雙語導師，請於課程進度註明雙語導師授課之週次時數。 Please state bilingual instructor's teaching weeks and hours in course outline section.</p>			
課程教材 Material	<p>1.指定課本書名 Book：The Metaverse: And How it Will Revolutionize Everything Hardcover ISBN-10 ：<u>1324092033</u> (<u>100</u>% 英文內容 Percentage in English)</p> <p>2.自製教材 Self-made Materials：採用英文之比例(Percentage in English)_____%</p> <p>3.其他補充說明 Others：</p>		

雙語教學方式 (可多選,或簡述) Bilingual Teaching Strategies	<input checked="" type="checkbox"/> 教材講述 Lecturing <input checked="" type="checkbox"/> 小組討論 Group Discussion <input checked="" type="checkbox"/> 口頭問答 Q&A <input type="checkbox"/> 問題導向 Problem Based Learning <input type="checkbox"/> 協同教學 Collaborative Teaching <input type="checkbox"/> 分組報告 Group Report <input type="checkbox"/> 其他方式說明 Others :	
成績評量方式 Grading	<input type="checkbox"/> 期中/期末考：_____ % 以上英文試題，學生以英文答題_____ %。 The percentage of English using in designing midterm/final exam; the percentage of English using in answering the exam paper. <input type="checkbox"/> 英文期中/期末報告：_____ % 以英文表達。 The percentage of using English in midterm or final oral presentation <input checked="" type="checkbox"/> 全英語口頭簡報 (含 QA 問答)20 分鐘以上(一般科系專業課、碩博專業課程必須包含此評量方式) English oral presentation including Q&A session at least 20 minutes (Department cores, master's degree and doctoral degree courses so must have <input type="checkbox"/> 其他方式(請說明中英文比例)Others(please state the proportion of Mandarin and English in grading) :	
課程進度 Course Outline		
週次 Week	單元/主題 Unit/Topic	教學活動重點及教材內容 Teaching Activities
W1	Analysis of VR	Familiarize yourself with VR technology, its uses, and how a user needs to interact with it.
W2	Analysis of audience	Analyze the audience.
W3	Analysis VR environments	Identify the people who are content experts that can translate material to VR environments.
W4	Affordance of VR technology	Choose content so that the material is appropriate to take advantage of affordances of VR technology.
W5	Evaluate	Is the content time-based?
W6	Learn about spatially	Spatially and size dependent?
W7	Object reify	Can you reify objects?
W8	Discuss about instruction	Is the content too expensive or unsafe for other methods of instruction?
W9	Repeatability of factor	Is repeatability a factor?
W10	Midterm Exam	Midterm Exam
W11	Midterm Exam	Midterm Exam

W12	Conceptualize of VR	Conceptualize the components of the VR lesson, and those components that are companions to the lessons.
W13	Characterize non-computer basic	Characterize non-computer based resources needed for completion of the instructional lesson.
W14	Building a course with VR.	Develop outline of procedural steps for building a course with VR.
W15	Recognize constraints of the VR system	Recognize constraints of the VR system. How will these affect the instructional objectives?
W16	Designed for piloting	Design a test of the VR lesson designed for piloting the learner experience
W17	Final Exam	Final Exam
W18	Final Exam	Final Exam

國立虎尾科技大學雙語教學課程計畫書

Bilingual Education Course Plan

課程名稱(中) 課程名稱(英) Course title in Mandarin and English	動作捕捉實務 Motion capture practice	授課教師 Instructor	郭良印 Liang-Yin, Kuo
<p style="text-align: center;">教學簡要說明</p> <p>1.請依照授課班級英文分級程度規劃課程計畫書。 Please design the course plan by following the English using percentage of the course English level.</p> <p>2.如有聘請雙語導師，請於課程進度註明雙語導師授課之週次時數。 Please state bilingual instructor's teaching weeks and hours in course outline section.</p>			
課程教材 Material	<p>1.指定課本書名 Book：The Metaverse: And How it Will Revolutionize Everything Hardcover ISBN-10：1324092033（100%英文內容 Percentage in English）</p> <p>2.自製教材 Self-made Materials：採用英文之比例(Percentage in English)_____%</p> <p>3.其他補充說明 Others：</p>		

雙語教學方式 (可多選，或簡述) Bilingual Teaching Strategies	<input checked="" type="checkbox"/> 教材講述 Lecturing <input checked="" type="checkbox"/> 小組討論 Group Discussion <input checked="" type="checkbox"/> 口頭問答 Q&A <input type="checkbox"/> 問題導向 Problem Based Learning <input type="checkbox"/> 協同教學 Collaborative Teaching <input type="checkbox"/> 分組報告 Group Report <input type="checkbox"/> 其他方式說明 Others：
成績評量方式 Grading	<input type="checkbox"/> 期中/期末考：_____ % 以上英文試題，學生以英文答題_____ %。 The percentage of English using in designing midterm/final exam; the percentage of English using in answering the exam paper. <input type="checkbox"/> 英文期中/期末報告：_____ % 以英文表達。 The percentage of using English in midterm or final oral presentation <input checked="" type="checkbox"/> 全英語口頭簡報 (含 QA 問答)20 分鐘以上(一般科系專業課、碩博專業課程必須包含此評量方式) English oral presentation including Q&A session at least 20 minutes (Department cores, master's degree and doctoral degree courses so must have <input type="checkbox"/> 其他方式(請說明中英文比例)Others(please state the proportion of Mandarin and English in grading)：

課程進度 Course Outline

週次 Week	單元/主題 Unit/Topic	教學活動重點及教材內容 Teaching Activities
W1	Analysis of VR	Familiarize yourself with VR technology, its uses, and how a user needs to interact with it.
W2	Analysis of audience	Analyze the audience.
W3	Analysis VR environments	Identify the people who are content experts that can translate material to VR environments.
W4	Affordance of VR technology	Choose content so that the material is appropriate to take advantage of affordances of VR technology.
W5	Evaluate	Is the content time-based?
W6	Learn about spatially	Spatially and size dependent?
W7	Object reify	Can you reify objects?
W8	Discuss about instruction	Is the content too expensive or unsafe for other methods of instruction?
W9	Repeatability of factor	• Is repeatability a factor?
W10	Midterm Exam	Midterm Exam
W11	Midterm Exam	Midterm Exam
W12	Conceptualize of VR	Conceptualize the components of the VR lesson, and

		those components that are companions to the lessons.
W13	Characterize non-computer basic	Characterize non-computer based resources needed for completion of the instructional lesson.
W14	Building a course with VR	Develop outline of procedural steps for building a course with VR.
W15	Recognize constraints of the VR system	Recognize constraints of the VR system. How will these affect the instructional objectives?
W16	Designed for piloting	Design a test of the VR lesson designed for piloting the learner experience
W17	Midterm Exam	Final Exam
W18	Midterm Exam	Final Exam

國立虎尾科技大學雙語教學課程計畫書

Bilingual Education Course Plan

課程名稱(中) 課程名稱(英) Course title in Mandarin and English	時間數列分析 Time Series Analysis	授課教師 Instructor	王若愚 Jo-Yu Wang
<p style="text-align: center;">教學簡要說明</p> <p>1.請依照授課班級英文分級程度規劃課程計畫書。 Please design the course plan by following the English using percentage of the course English level.</p> <p>2.如有聘請雙語導師，請於課程進度註明雙語導師授課之週次時數。 Please state bilingual instructor's teaching weeks and hours in course outline section.</p>			
課程教材 Material	<p>1.指定課本書名 Book：_ <i>Time Series Analysis and Its Applications: With R Examples</i> ____ (<u>100</u> % 英文內容 Percentage in English)</p> <p>2.自製教材 Self-made Materials：採用英文之比例(Percentage in English) <u>100</u> %</p> <p>3.其他補充說明 Others：</p>		

雙語教學方式 (可多選，或簡述) Bilingual Teaching Strategies	<input checked="" type="checkbox"/> 教材講述 Lecturing <input checked="" type="checkbox"/> 小組討論 Group Discussion <input checked="" type="checkbox"/> 口頭問答 Q&A <input type="checkbox"/> 問題導向 Problem Based Learning <input type="checkbox"/> 協同教學 Collaborative Teaching <input type="checkbox"/> 分組報告 Group Report <input checked="" type="checkbox"/> 其他方式說明 Others：	
成績評量方式 Grading	<input checked="" type="checkbox"/> 期中/期末考： <u>100</u> % 以上英文試題，學生以英文答題 _____ %。 The percentage of English using in designing midterm/final exam; the percentage of English using in answering the exam paper. <input checked="" type="checkbox"/> 英文期中/期末報告： <u>100</u> % 以英文表達。 The percentage of using English in midterm or final oral presentation <input checked="" type="checkbox"/> 全英語口頭簡報 (含 QA 問答)20 分鐘以上(一般科系專業課、碩博專業課程必須包含此評量方式) English oral presentation including Q&A session at least 20 minutes (Department cores, master's degree and doctoral degree courses so must have <input type="checkbox"/> 其他方式(請說明中英文比例)Others(please state the proportion of Mandarin and English in grading)：	
課程進度 Course Outline		
週次 Week	單元/主題 Unit/Topic	教學活動重點及教材內容 Teaching Activities
W1	Introduction of the course, and the assessment method of the learning performance. Characteristic of Time Series Data, including the basic models and how we use them.	Introduction of the course
W2	Introduction of R packages and reproducibility, and why we use R package in this course. Introductions of time series analysis with R, and Taiwan Economic Journal (TEJ) database.	Assignment: R installation and activate in personal laptop
W3	Time Series Regression and Exploratory Data Analysis. 3.1 Classical Regression in the Time Series Context.	Assignment: download data from TEJ and read the data into R environment.

	<p>3.2 Akaike's Information Criterion (AIC) and Bayesian Information Criterion (BIC) applications.</p> <p>3.3 Exploratory Data Analysis and the codes in R packages.</p>	
W4	<p>Autoregressive moving average (ARMA) models and the function of autoregressive integrated moving average (ARIMA) model.</p> <p>4.1 The insights of AR and MA models, and their applications in Taiwanese Stock market or world equity indices.</p> <p>4.2 Box-Jenkins methods.</p> <p>4.3 How to apply ARMA and ARIMA model in R package.</p>	Assignment: download data from TEJ and read the data into R environment.
W5	In class practical exercises (I) with R language and TEJ database.	Assignment: download data from TEJ and read the data into R environment.
W6	<p>Stationary and Non-stationary Data</p> <p>5.1 Why the issue (Stationary or not) is important, and unit root testing.</p> <p>5.2 How to test and identify it.</p>	Introduction of stationary and Non-stationary Data.
W7	<p>5.3 How to cure the issue of non-stationary.</p> <p>5.4 Building ARIMA Models with R: models, diagnosis, drawing diagrams, and explanations.</p>	How to cure the problem from non-stationary.
W8	In class practical exercises (II) with R language and TEJ database.	R and TEJ in-class practice with real data.
W9	midterm	Midterm presentation: 10 minutes for each student
W10	<p>In class practical exercises (III) with R language and TEJ database.</p> <p>One case study demonstrated by the lecturer.</p>	In class assignment and practice.
W11	Volatility models of time series	Introduction of the volatility and the important in

	<p>data</p> <p>6.1 Why we need to consider volatility of time series data?</p> <p>6.2 The features of time series data, particularly to financial or economic data.</p> <p>6.3 Generalized autoregressive conditionally heteroscedastic (GARCH) model, and its applications.</p>	finance area.
W12	<p>6.4 Example: analysis of G7 GNP.</p> <p>6.5 Threshold Models</p> <p>6.5.1 Why and how to use threshold model.</p> <p>6.5.2 How to build a threshold model with GARCH model.</p>	Case study: how to explain the results from volatility modelling and analysis.
W13	<p>State-Space Models</p> <p>7.1 Filtering, Smoothing, and Forecasting.</p> <p>7.2 The Kalman Filter and its applications.</p>	New model to deal with financial data.
W14	<p>7.3 Maximum Likelihood Estimation (MLE) application to Kalman filter.</p> <p>7.4 Missing Data Modifications.</p>	The method of estimation: MLE, and the numerical analysis.
W15	<p>Other topics of analysis of time series data.</p> <p>8.1 Bootstrapping State-Space Models</p> <p>8.2 Dynamic Linear Models with Switching.</p> <p>8.3 Nonlinear and Non-normal State-Space Models Using Monte Carlo Methods</p>	New method to analyze the financial data.
W16	Term paper--personal presentation I	20 minutes for each students
W17	Term paper--personal presentation II	20 minutes for each students

W18	Term paper--personal presentation III	20 minutes for each students
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國立虎尾科技大學雙語教學課程計畫書

Bilingual Education Course Plan

課程名稱(中) 課程名稱(英) Course title in Mandarin and English	投資學理論與實務 The Theory and Practice of Investment	授課教師 Instructor	賴雅雯 Ya-Wen Lai
<p style="text-align: center;">教學簡要說明</p> <p>1.請依照授課班級英文分級程度規劃課程計畫書。 Please design the course plan by following the English using percentage of the course English level. This course is a graduate-level investment course that focuses on practical applications as well as analytical analyses of investment theories. The major topics include portfolio theory, factor pricing models and investment evaluation.</p>			
課程教材 Material	<p>1.指定課本書名 Book:Essentials of Investments (100 % 英文內容 Percentage in English)</p> <p>2.自製教材 Self-made Materials：採用英文之比例(Percentage in English)_____%</p> <p>3.其他補充說明 Others：</p>		
雙語教學方式 (可多選，或簡述) Bilingual Teaching Strategies	<p><input checked="" type="checkbox"/>教材講述 Lecturing <input type="checkbox"/>小組討論 Group Discussion <input type="checkbox"/>口頭問答 Q&A</p> <p><input type="checkbox"/>問題導向 Problem Based Learning <input type="checkbox"/>協同教學 Collaborative Teaching</p> <p><input checked="" type="checkbox"/>分組報告 Group Report</p> <p><input type="checkbox"/>其他方式說明 Others：</p>		

成績評量方式 Grading	<input checked="" type="checkbox"/> 期中/期末考： <u>100</u> % 以上英文試題，學生以英文答題 <u>5</u> %。 The percentage of English using in designing midterm/final exam; the percentage of English using in answering the exam paper.
	<input type="checkbox"/> 英文期中/期末報告： _____ % 以英文表達。 The percentage of using English in midterm or final oral presentation
	<input checked="" type="checkbox"/> 全英語口頭簡報 (含 QA 問答) 20 分鐘以上 (一般科系專業課、碩博專業課程必須包含此評量方式) English oral presentation including Q&A session at least 20 minutes (Department cores, master's degree and doctoral degree courses so must have
	<input type="checkbox"/> 其他方式(請說明中英文比例) Others (please state the proportion of Mandarin and English in grading) :

課程進度 Course Outline

週次 Week	單元/主題 Unit/Topic	教學活動重點及教材內容 Teaching Activities
W1	Course Introduction	Syllabus & Quantitative methods
W2	Risk and Return	Chapter 5
W3	Risk and Return	Chapter 5
W4	Diversification	Chapter 6
W5	Diversification	Chapter 6
W6	Diversification	Chapter 6
W7	CAPM and APT	Chapter 7
W8	CAPM and APT	Chapter 7
W9	Mid-term Exam	
W10	Implementation: Build efficient frontier using Excel	Homework Assignment
W11	Efficient Market Hypothesis	Chapter 8
W12	Efficient Market Hypothesis	Chapter 8
W13	Presentation	Research articles
W14	Presentation	Research articles
W15	Equity Valuation	Chapter 13
W16	Equity Valuation	Chapter 13
W17	Equity Valuation	Chapter 13
W18	Final Exam	

國立虎尾科技大學雙語教學課程計畫書

Bilingual Education Course Plan

課程名稱(中) 課程名稱(英) Course title in Mandarin and English	巨量資料分析 Big Data Analysis	授課教師 Instructor	李廣齊 Kuang-Chyi Lee
<p>教學簡要說明</p> <p>1.請依照授課班級英文分級程度規劃課程計畫書。 Please design the course plan by following the English using percentage of the course English level.</p> <p>2.如有聘請雙語導師，請於課程進度註明雙語導師授課之週次時數。 Please state bilingual instructor's teaching weeks and hours in course outline section.</p>			
課程教材 Material	<p>1.指定課本書名 Book : <u>J. Han, M. Kamber & J. Pei, Data Mining: Concepts and Techniques, Morgan Kaufmann Publishers(Elsevier) (100% 英文內容 Percentage in English)</u></p> <p>2.自製教材 Self-made Materials : 採用英文之比例(Percentage in English) <u>≥70%</u></p> <p>3.其他補充說明 Others :</p>		
雙語教學方式 (可多選，或簡述) Bilingual Teaching Strategies	<p><input checked="" type="checkbox"/>教材講述 Lecturing <input type="checkbox"/>小組討論 Group Discussion <input type="checkbox"/>口頭問答 Q&A</p> <p><input type="checkbox"/>問題導向 Problem Based Learning <input type="checkbox"/>協同教學 Collaborative Teaching</p> <p><input checked="" type="checkbox"/>分組報告 Group Report</p> <p><input type="checkbox"/>其他方式說明 Others :</p>		
成績評量方式 Grading	<p><input checked="" type="checkbox"/> 期中/期末考： <u>70</u> % 以上英文試題，學生以英文答題 <u>50</u> %。 The percentage of English using in designing midterm/final exam; the percentage of English using in answering the exam paper.</p> <p><input type="checkbox"/> 英文期中/期末報告： _____ % 以英文表達。 The percentage of using English in midterm or final oral presentation</p> <p><input checked="" type="checkbox"/> 全英語口頭簡報 (含 QA 問答)20分鐘以上(一般科系專業課、碩博專業課程必須包含此評量方式) English oral presentation including Q&A session at least 20 minutes (Department cores, master's degree and doctoral degree courses so must have</p> <p><input type="checkbox"/> 其他方式(請說明中英文比例)Others(please state the proportion of Mandarin and English in grading) :</p>		

課程進度 Course Outline

週次 Week	單元/主題 Unit/Topic	教學活動重點及教材內容 Teaching Activities
W1	Introduction to Data Mining.	Oral
W2	Data Preprocessing	Oral
W3	Algorithm of Perception	Oral
W4	Introduction to Linux System	Oral & Practice
W5	Introduction to Anaconda	Oral & Practice
W6	Python Programming	Oral & Practice
W7	Introduction to Neural Network	Oral
W8	Midterm Project Presentation	Oral
W9	Midterm Exam	
W10	Association Analysis	Oral
W11	Introduction to Deep Learning	Oral
W12	Classification and Prediction	Oral
W13	MNIST dataset.	Oral & Practice
W14	Case Study(I): Get Data	Oral & Practice
W15	Case Study(II): Training	Oral & Practice
W16	Case Study(III): Inference	Oral & Practice
W17	Final Project Presentation	Oral
W18	Final Exam	

國立虎尾科技大學雙語教學課程計畫書

Bilingual Education Course Plan

課程名稱(中) 課程名稱(英) Course title in Mandarin and English	創意與發明 Creation and Innovation	授課教師 Instructor	蔡榮鋒 教授 Prof. Roug-Feng Tsai
<p style="text-align: center;">教學簡要說明</p> <p>1.請依照授課班級英文分級程度規劃課程計畫書。 Please design the course plan by following the English using percentage of the course English level.</p> <p>2.如有聘請雙語導師，請於課程進度註明雙語導師授課之週次時數。 Please state bilingual instructor's teaching weeks and hours in course outline section.</p>			

課程教材 Material	1.指定課本書名 Book：_____ (_____% 英文內容 Percentage in English) 2.自製教材 Self-made Materials：採用英文之比例(Percentage in English) <u>90</u> % 3.其他補充說明 Others：YouTube, PodCast 免費提供 英語教學社群、頻道 跟影片： 例如 FUNDAY 英語教育、看影片學英文；只要切實 練習，就會進步。	
雙語教學方式 (可多選，或簡述) Bilingual Teaching Strategies	<input type="checkbox"/> 教材講述 Lecturing <input checked="" type="checkbox"/> 小組討論 Group Discussion <input checked="" type="checkbox"/> 口頭問答 Q&A <input checked="" type="checkbox"/> 問題導向 Problem Based Learning <input type="checkbox"/> 協同教學 Collaborative Teaching <input checked="" type="checkbox"/> 分組報告 Group Report <input type="checkbox"/> 其他方式說明 Others：	
成績評量方式 Grading	<input type="checkbox"/> 期中/期末考：_____%以上英文試題，學生以英文答題_____%。 The percentage of English using in designing midterm/final exam; the percentage of English using in answering the exam paper. <input checked="" type="checkbox"/> 英文期中/期末報告：_____%以英文表達。 The percentage of using English in midterm or final oral presentation <input checked="" type="checkbox"/> 全英語口頭簡報 (含 QA 問答)20 分鐘以上(一般科系專業課、碩博專業課程必須包含此評量方式) English oral presentation including Q&A session at least 20 minutes (Department cores, master's degree and doctoral degree courses so must have <input type="checkbox"/> 其他方式(請說明中英文比例)Others(please state the proportion of Mandarin and English in grading)：	
課程進度 Course Outline		
週次 Week	單元/主題 Unit/Topic	教學活動重點及教材內容 Teaching Activities
W1	Introduction	
W2	Problem description:1	Teaching
W3	Problem description:2a	Interactive Practice
W4	Problem description:2b	Interactive Practice
W5	Topics Suggestion I	Meeting SOP :Interactive discussion
W6	Topic Suggestion II	Meeting SOP :Interactive discussion
W7	Topic Suggestion III	Meeting SOP :Interactive discussion
W8	Mid Term Brief I	Internal group discussion
W9	Mid Term Brief II	Internal group discussion
W10	Information Integration I	Video, jpg collection practice
W11	Information Integration II	Video, jpg collection practice
W12	Outline Arrangement I	Group coordination:members and materials

W13	Outline Arrangement II	Group coordination:members and materials
W14	Outline Arrangement III	Group coordination:members and materials
W15	Rehersal I	Practice Q&A
W16	Rehersal II	Practice Q&A
W17	Final Presentation I	Q&A
W18	Final Presentation II	Q&A

國立虎尾科技大學雙語教學課程計畫書

Bilingual Education Course Plan

課程名稱(中) 課程名稱(英) Course title in Mandarin and English	工程分析 Engineering Analysis	授課教師 Instructor	李孟澤 Meng-Tse Lee
<p style="text-align: center;">教學簡要說明</p> <p>1.請依照授課班級英文分級程度規劃課程計畫書。 Please design the course plan by following the English using percentage of the course English level.</p> <p>2.如有聘請雙語導師，請於課程進度註明雙語導師授課之週次時數。 Please state bilingual instructor's teaching weeks and hours in course outline section.</p>			
課程教材 Material	<p>1.指定課本書名 Book: _____ (% 英文內容 Percentage in English)</p> <p>2.自製教材 Self-made Materials: 採用英文之比例(Percentage in English) <u>100</u> %</p> <p>3.參考書目 Others: Advanced Engineering Mathematics, Erwin Kreyszig, Wiley</p>		
雙語教學方式 (可多選，或簡述) Bilingual Teaching Strategies	<p><input checked="" type="checkbox"/>教材講述 Lecturing <input type="checkbox"/>小組討論 Group Discussion <input checked="" type="checkbox"/>口頭問答 Q&A</p> <p><input checked="" type="checkbox"/>問題導向 Problem Based Learning <input type="checkbox"/>協同教學 Collaborative Teaching</p> <p><input type="checkbox"/>分組報告 Group Report</p> <p><input type="checkbox"/>其他方式說明 Others:</p>		

成績評量方式 Grading	<p>■ 期中/期末考： <u>100</u> %以上英文試題，學生以英文答題 <u>70</u> %。 The percentage of English using in designing midterm/final exam; the percentage of English using in answering the exam paper.</p> <p><input type="checkbox"/> 英文期中/期末報告： _____ %以英文表達。 The percentage of using English in midterm or final oral presentation</p> <p><input type="checkbox"/> 全英語口頭簡報 (含 QA 問答)20分鐘以上(一般科系專業課、碩博專業課程必須包含此評量方式) English oral presentation including Q&A session at least 20 minutes (Department cores, master's degree and doctoral degree courses so must have</p> <p><input type="checkbox"/> 其他方式(請說明中英文比例)Others(please state the proportion of Mandarin and English in grading)：</p>
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課程進度 Course Outline

週次 Week	單元/主題 Unit/Topic	教學活動重點及教材內容 Teaching Activities
W1	Part-1: Introduction	The Introduction to “Modeling”
W2	Part-2: 1 st Order ODE Model	1 st Order ODE- Phenomenon Observe
W3		1 st Order ODE Modeling & Solutions
W4		1 st Order ODE Problems
W5	Part-3: 2 nd Order Homogeneous ODE	2 nd Order Homogeneous ODE- Phenomenon Observe
W6		2 nd Order Homogeneous ODE Modeling & Solutions
W7		2 nd Order Homogeneous ODE – Free Oscillation
W8	Part-4: Non-homogeneous ODE	Non-homogeneous ODE- Phenomenon Observe
W9	Mid-term Exam	
W10	Part-4: Non-homogeneous ODE	Non-homogeneous ODE Modeling & Solutions
W11		Non-homogeneous ODE Model – Forced Oscillation
W12	Part-5: Linear System of ODE	Introduction to ODE system
W13		Review of the Matrix
W14		Solution methods of System ODE
W15	Part-8: Linear System of ODE Models – Multi-Systems Interaction	Phenomenon Observe
W16		Modeling & Solving (1)
W17		Modeling & Solving (2)
W18	Final Exam	

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Bilingual Education Course Plan

課程名稱(中) 課程名稱(英) Course title in Mandarin and English	5G 核心網路技術與實務 Technology and Practice of 5G Core Networks	授課教師 Instructor	蘇暉凱 Su, Hui-Kai
<p>教學簡要說明</p> <p>1.請依照授課班級英文分級程度規劃課程計畫書。 Please design the course plan by following the English using percentage of the course English level.</p> <p>2.如有聘請雙語導師，請於課程進度註明雙語導師授課之週次時數。 Please state bilingual instructor's teaching weeks and hours in course outline section.</p>			
課程教材 Material	<p>1.指定課本書名 Book：_____ (_____%英文內容 Percentage in English)</p> <p>2.自製教材 Self-made Materials：採用英文之比例(Percentage in English)_____%</p> <p>3.其他補充說明 Others：教育部課程推廣計畫教材 The materials of MOE course promotion plan (90%英文內容 Percentage in English)</p>		
雙語教學方式 (可多選，或簡述) Bilingual Teaching Strategies	<p><input checked="" type="checkbox"/>教材講述 Lecturing <input type="checkbox"/>小組討論 Group Discussion <input type="checkbox"/>口頭問答 Q&A</p> <p><input checked="" type="checkbox"/>問題導向 Problem Based Learning <input checked="" type="checkbox"/>協同教學 Collaborative Teaching</p> <p><input checked="" type="checkbox"/>分組報告 Group Report</p> <p><input type="checkbox"/>其他方式說明 Others：</p>		
成績評量方式 Grading	<p><input checked="" type="checkbox"/> 期中/期末考：100%以上英文試題，學生以英文答題50%。 The percentage of English using in designing midterm/final exam; the percentage of English using in answering the exam paper.</p> <p><input checked="" type="checkbox"/> 英文期中/期末報告：100%以英文表達。 The percentage of using English in midterm or final oral presentation</p> <p><input checked="" type="checkbox"/> 全英語口頭簡報 (含 QA 問答)20分鐘以上(一般科系專業課、碩博專業課程必須包含此評量方式) English oral presentation including Q&A session at least 20 minutes (Department cores, master's degree and doctoral degree courses so must have</p> <p><input type="checkbox"/> 其他方式(請說明中英文比例)Others(please state the proportion of Mandarin and English in grading)：</p>		

課程進度 Course Outline

週次 Week	單元/主題 Unit/Topic	教學活動重點及教材內容 Teaching Activities
W1	Introduction to Telecom Networks: The Evolution of 1G-to-5G Core Networks	Lecturing The Evolution of 1G-to-5G Core networks
W2	Introduction to Telecom Networks: The Evolution of 1G-to-5G Core Networks	Lecturing The Evolution of 1G-to-5G Core networks
W3	Introduction to 5G Core Network	Lecturing 5G Core Network
W4	Introduction to 5G Core Network	Lecturing 5G Core Network
W5	Virtualization technology	Lecturing Virtualization technology
W6	Lab 1: Linux operating system installation and Docker virtualization experiment	Experiment 1. Linux operating system installation 2. Docker virtualization experiment
W7	5G open-source core network - Free5GC	Lecturing Free5GC
W8	Lab 2: Free5GC installation and telecom network setup	Experiment 1. Free5GC installation 2. Telecom network setup
W9	Midterm	
W10	Lab 2: Free5GC installation and telecom network setup	Experiment 1. Free5GC installation 2. Telecom network setup
W11	Lab 3: Virtualize Free5GC core network with Docker	Experiment Virtualize Free5GC core network with Docker
W12	Lab 3: Virtualize Free5GC core network with Docker	Experiment Virtualize Free5GC core network with Docker
W13	Lab 4: Network Function SBI Deployment & Simple Network Function Implementation	Experiment 1. Network Function SBI Deployment 2. Simple Network Function Implementation
W14	Lab 4: Network Function SBI Deployment & Simple Network Function Implementation	Experiment 1. Network Function SBI Deployment 2. Simple Network Function Implementation
W15	Final Project	Practice and discussion

W16	Final Project	Practice and discussion
W17	Final Project	Practice and discussion
W18	Final Project	Project Presentation

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Bilingual Education Course Plan

課程名稱(中) 課程名稱(英) Course title in Mandarin and English	科技英文 Science and Technology English	授課教師 Instructor	吳森統 Wu, Sen-Tung
<p style="text-align: center;">教學簡要說明</p> <p>1. 請依照授課班級英文分級程度規劃課程計畫書。 Please design the course plan by following the English using percentage of the course English level.</p> <p>2. 如有聘請雙語導師，請於課程進度註明雙語導師授課之週次時數。 Please state bilingual instructor's teaching weeks and hours in course outline section.</p>			
課程教材 Material	<p>1. 指定課本書名 Book：_____英語簡報演說技巧__ (75% 英文內容 Percentage in English)</p> <p>2. 自製教材 Self-made Materials：採用英文之比例(Percentage in English) 90%</p> <p>3. 其他補充說明 Others：</p>		
雙語教學方式 (可多選，或簡述) Bilingual Teaching Strategies	<p><input checked="" type="checkbox"/>教材講述 Lecturing <input checked="" type="checkbox"/>小組討論 Group Discussion <input checked="" type="checkbox"/>口頭問答 Q&A</p> <p><input checked="" type="checkbox"/>問題導向 Problem Based Learning <input type="checkbox"/>協同教學 Collaborative Teaching</p> <p><input checked="" type="checkbox"/>分組報告 Group Report</p> <p><input type="checkbox"/>其他方式說明 Others：</p>		

<p>成績評量方式 Grading</p>	<p><input type="checkbox"/> 期中/期末考：_____ %以上英文試題，學生以英文答題_____ %。 The percentage of English using in designing midterm/final exam; the percentage of English using in answering the exam paper.</p> <p><input checked="" type="checkbox"/> 英文期中/期末報告： <u>100</u> %以英文表達。 The percentage of using English in midterm or final oral presentation</p> <p><input checked="" type="checkbox"/> 全英語口頭簡報 (含 QA 問答)20 分鐘以上(一般科系專業課、碩博專業課程必須包含此評量方式) English oral presentation including Q&A session at least 20 minutes (Department cores, master's degree and doctoral degree courses so must have</p> <p><input type="checkbox"/> 其他方式(請說明中英文比例)Others(please state the proportion of Mandarin and English in grading)：</p>
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課程進度 Course Outline		
週次 Week	單元/主題 Unit/Topic	教學活動重點及教材內容 Teaching Activities
W1	Outline and grading rules/Skills of self-introduction	Guidelines and key points for self-introduction
W2	Reading skills of international journals	Methods and reading skills for science papers. Including the browsing skills for abstract
W3	Searching and browsing skills of international journal websites	To direct students for using IEEE Xplore tool. How to filter the paper for journals or conferences
W4	Idea generator-Implementation of mind map	To explain the expanding concept of mind map. After determining the topic, the supporting ideas can be derived.
W5	Editing skills for English presentation slides	To deliver the basic structure of presentation. Time distribution for outline(introduction), main points(body), and conclusion.
W6	Simulation and implementation of English poster presentation of conferences	Free topic related to science and technology. Make a presentation by poster formation.
W7	Simulation and implementation of English poster presentation of conferences	Follow the oral presentation standards for conference regular rules. For examples, time

		arrangement, Q and A parts.
W8	Listening practice of English native speakers' speeches	To practice listening skills by English native speakers with public presentation videos.
W9	Listening practice of English non-native speakers' speeches	To focus on non-native English foreigners, due to the accent from different countries, it will be helpful to catch the key point from the talks.
W10	English oral presentation for free topics (midterm)	To combine with the English presentation skills, ppt editing guide line, and the flow of conference oral rules. Each student should reveal the learning performance.
W11	English resume writing practices	To editing the resume is an important self-introduction with paper format. The teacher will explain the methods and schemes of a good resume format.
W12	Simulation and practice for foreign company interview 模擬外商面試場合	Students are divided into groups and pretended as interviewee and interviewer individually. Teachers will give some guidelines and directions for interviewing practices
W13	Simulation and practice for foreign companies group discussions	When we start to work for a job, team work is a basic principle to work together from different departments. Therefore, team meeting is a necessary scenario for mass production of a project in foreign companies.
W14	Simulation and communication skills for foreign companies con-calls	The content of the lesson is the extension of last week. During the meeting for the customers, conference-call (Con-call) is popular for distanced meeting. Hence, con-call practice will be the

		topic of this week.
W15	English Images and characters communications prtactices	Each student has to determine a vocabulary or image, try to explain the answer on card. This practice helps to describe the object in English.
W16	To tell a story with random pictures-Free talks	The purpose of this lesson is to inspire students' imaginations. It will be started from some interesting pictures. The team have to connect all the selected pictures for creating a logical story. This helps to increase the ability of free talk and oral skills.
W17	Listening and lyrics practice with English songs	The students are divided into groups. The teacher will play some English POP songs slowly. They can discuss the lyrics from the played songs for practicing listening ability. Try to organize the complete lyrics of the entire song for fun.
W18	Electrical engineering theory lecturing with foreign students in English	All the interviewing procedure needs to be recorded. The teaching interaction with foreign students is the final-term of this course. Q and A part is necessary for the end of the recorded video. All the visual aids are welcome to make the conversation successful.

國立虎尾科技大學雙語教學課程計畫書

Bilingual Education Course Plan

課程名稱(中) 課程名稱(英) Course title in Mandarin and English	公園遊憩行銷與管理 Park, Recreation Marketing and Management	授課教師 Instructor	顏宏旭 Yen, Hug Hsu
<p>教學簡要說明</p> <p>1.請依照授課班級英文分級程度規劃課程計畫書。 Please design the course plan by following the English using percentage of the course English level.</p> <p>2.如有聘請雙語導師，請於課程進度註明雙語導師授課之週次時數。 Please state bilingual instructor's teaching weeks and hours in course outline section.</p>			
課程教材 Material	<p>1.指定課本書名 Book: _____ (% 英文內容 Percentage in English)</p> <p>2.自製教材 Self-made Materials: 採用英文之比例(Percentage in English) <u>100</u> %</p> <p>3.其他補充說明 Others:</p>		
雙語教學方式 (可多選，或簡述) Bilingual Teaching Strategies	<p><input checked="" type="checkbox"/>教材講述 Lecturing <input checked="" type="checkbox"/>小組討論 Group Discussion <input checked="" type="checkbox"/>口頭問答 Q&A</p> <p><input checked="" type="checkbox"/>問題導向 Problem Based Learning <input type="checkbox"/>協同教學 Collaborative Teaching</p> <p><input type="checkbox"/>分組報告 Group Report</p> <p><input type="checkbox"/>其他方式說明 Others:</p>		
成績評量方式 Grading	<p><input type="checkbox"/> 期中/期末考: _____ % 以上英文試題，學生以英文答題 _____ %。 The percentage of English using in designing midterm/final exam; the percentage of English using in answering the exam paper.</p> <p><input type="checkbox"/> 英文期中/期末報告: _____ % 以英文表達。 The percentage of using English in midterm or final oral presentation</p> <p><input checked="" type="checkbox"/> 全英語口頭簡報 (含 QA 問答)20 分鐘以上(一般科系專業課、碩博專業課程必須包含此評量方式) English oral presentation including Q&A session at least 20 minutes (Department cores, master's degree and doctoral degree courses so must have</p> <p><input type="checkbox"/> 其他方式(請說明中英文比例)Others(please state the proportion of Mandarin and English in grading):</p>		

課程進度 Course Outline

週次 Week	單元/主題 Unit/Topic	教學活動重點及教材內容 Teaching Activities
W1	Course description	Course description
W2	What are park and recreation, leisure, tourism, sports?	What are park and recreation, leisure, tourism, sports?
W3	The concept of Marketing	The meaning of marketing
W4	The concept of Marketing	(i) Marketing environment analysis
W5	The concept of Marketing	(i) Consumer behavior
W6	The concept of Marketing	(i) Satisfaction
W7	The concept of Marketing	Segmentation, Targeting, Positioning
W8	The concept of Marketing	(i) Marketing Strategy
W9	Mid-term report	Mid-term report
W10	The issues in management:	Carrying Capacity
W11	The issues in management:	ROS and LAC
W12	The issues in management:	Carrying capacity and crowding issues
W13	The issues in management:	Conflicts and impacts in park, recreation and tourism
W14	The issues in management:	Management strategy
W15	he research design for marketing or management in the field of park and recreation	he research design for marketing or management in the field of park and recreation
W16	he research design for marketing or management in the field of park and recreation	he research design for marketing or management in the field of park and recreation
W17	he research design for marketing or management in the field of park and recreation	he research design for marketing or management in the field of park and recreation
W18	Research project report	Research project report

國立虎尾科技大學雙語教學課程計畫書

Bilingual Education Course Plan

課程名稱(中) 課程名稱(英) Course title in Mandarin and English	機器系統動力學 Dynamics of Machine System	授課教師 Instructor	黃運琳 / 教授 Yunn-Lin Hwang / Professor
教學簡要說明 1.請依照授課班級英文分級程度規劃課程計畫書。 Please design the course plan by following the English using percentage of the course English level. 2.如有聘請雙語導師，請於課程進度註明雙語導師授課之週次時數。 Please state bilingual instructor's teaching weeks and hours in course outline section.			
課程教材 Material	1.指定課本書名 Book : <u>Hamilton H. Mabie, Charles F. Reinholtz, 1987, Mechanisms and Dynamics of Machinery, 4th Edition, ISBN: 978-0-471-80237-2, 656 Pages.</u> (100% 英文內容 Percentage in English) 2.自製教材 Self-made Materials : 採用英文之比例 (Percentage in English) _____ % 3.其他補充說明 Others :		
雙語教學方式 (可多選，或簡述) Bilingual Teaching Strategies	<input checked="" type="checkbox"/> 教材講述 Lecturing <input type="checkbox"/> 小組討論 Group Discussion <input checked="" type="checkbox"/> 口頭問答 Q&A <input checked="" type="checkbox"/> 問題導向 Problem Based Learning <input type="checkbox"/> 協同教學 Collaborative Teaching <input checked="" type="checkbox"/> 分組報告 Group Report <input checked="" type="checkbox"/> 其他方式說明 Others : Final Project.		
成績評量方式 Grading	<input checked="" type="checkbox"/> 期中/期末考 : <u>100%</u> 以上英文試題，學生以英文答題 <u>80%</u> 。 The percentage of English using in designing midterm/final exam; the percentage of English using in answering the exam paper. <input checked="" type="checkbox"/> 英文期中/期末報告 : <u>100%</u> 以英文表達。 The percentage of using English in midterm or final oral presentation <input checked="" type="checkbox"/> 全英語口頭簡報 (含 QA 問答)20 分鐘以上(一般科系專業課、碩博專業課程必須包含此評量方式) English oral presentation including Q&A session at least 20 minutes (Department cores, master's degree and doctoral degree courses so must have <input type="checkbox"/> 其他方式(請說明中英文比例)Others(please state the proportion of Mandarin and English in grading) :		
課程進度 Course Outline			
週次 Week	單元/主題 Unit/Topic	教學活動重點及教材內容 Teaching Activities	
W1	Introduce Working Model 2D	Software demonstration, Q&A	
W2	Introduce RecurDyn	Software demonstration, Q&A	

W3	Degrees Of Freedom	Lectures, Homework, Q&A
W4	Pendulum Dynamics	Lectures, Q&A
W5	Position Analysis of Machine System	Lectures, Homework, Q&A
W6	Velocity Analysis of Machine System	Lectures, Homework, Q&A
W7	Acceleration Analysis of Machine System	Lectures, Homework, Q&A
W8	Impact problems of Machine System	Lectures, Homework, Q&A
W9	Midterm Examination	Open-Book Midterm Exam.
W10	Spurgear Machine System	Lectures, Homework, Q&A
W11	Bevelgear Machine System	Lectures, Homework, Q&A
W12	Wormgear Machine System	Lectures, Q&A
W13	Belt Machine System	Lectures, Homework, Q&A
W14	Chain Machine System	Lectures, Homework, Q&A
W15	High/Low Mobility Track Machine System	Lectures, Q&A
W16	Other Types of Machine System	Lectures, Homework, Q&A
W17	Final project presentation	Oral presentations for final reports
W18	Final Examination	Open-Book Midterm Exam.

國立虎尾科技大學雙語教學課程計畫書

Bilingual Education Course Plan

課程名稱(中) 課程名稱(英) Course title in Mandarin and English	高等工程分析 Advanced Engineering Analysis	授課教師 Instructor	楊授印 Shouyin Yang
<p>教學簡要說明</p> <p>1.請依照授課班級英文分級程度規劃課程計畫書。 Please design the course plan by following the English using percentage of the course English level.</p> <p>2.如有聘請雙語導師，請於課程進度註明雙語導師授課之週次時數。</p>			

Please state bilingual instructor's teaching weeks and hours in course outline section.		
課程教材 Material	1.指定課本書名 Book： Advanced Engineering Analysis (100% 英文內容 Percentage in English) 2.自製教材 Self-made Materials：採用英文之比例(Percentage in English)_____ % 3.其他補充說明 Others：	
雙語教學方式 (可多選，或簡述) Bilingual Teaching Strategies	<input checked="" type="checkbox"/> 教材講述 Lecturing <input type="checkbox"/> 小組討論 Group Discussion <input type="checkbox"/> 口頭問答 Q&A <input checked="" type="checkbox"/> 問題導向 Problem Based Learning <input type="checkbox"/> 協同教學 Collaborative Teaching <input type="checkbox"/> 分組報告 Group Report <input type="checkbox"/> 其他方式說明 Others：	
成績評量方式 Grading	<input checked="" type="checkbox"/> 期中/期末考：100% 以上英文試題，學生以英文答題_80%。 The percentage of English using in designing midterm/final exam; the percentage of English using in answering the exam paper. <input checked="" type="checkbox"/> 英文期中/期末報告：100 % 以英文表達。 The percentage of using English in midterm or final oral presentation <input checked="" type="checkbox"/> 全英語口頭簡報 (含 QA 問答)20分鐘以上(一般科系專業課、碩博專業課程必須包含此評量方式) English oral presentation including Q&A session at least 20 minutes (Department cores, master's degree and doctoral degree courses so must have <input type="checkbox"/> 其他方式(請說明中英文比例)Others(please state the proportion of Mandarin and English in grading)：	
課程進度 Course Outline		
週次 Week	單元/主題 Unit/Topic	教學活動重點及教材內容 Teaching Activities
W1	Introduction	Introduction of Comsol Multiphysics and finite elements, Structure mechanics module Nonlinear structure materials moduls Chemical Engineering moduls Heat transfer moduls MEMS Module Subsurface flow module Acoustic module Batteries and fuel cells module

		Plasma module CFD module
W2	Finite elements method	Mesh Mesh interval, elements, vertices, Boundary elements Mesh faces Nodes Discrete
W3	Comsol Interface	Model builder Equation section Equation view Override and contribution Physics Interface
W4	Functional examples	Thermally induced microresistance beam simulation Two-dimensional heat transfer Transient heat transfer
W5	Structural, Acoustic Module Examples	Shear type piezoelectric actuated beam Micro-resistance beam Compression Elastoplastic Tube Open speaker design and simulation
W6	Flow Dynamics Module Examples	Stirrer Back-order flow field analysis for turbulent flow Two-phase flow field analysis of inkjet droplets Mold Cooling Pipeline Design Non-isothermal flow field stirrer
W7	Heat Transfer Module Examples	Heat sink power transistor
W8	ACDC Module Examples	Comparison of Electrical Shielding Effects Permanent Magnet Analysis
W9	Mid exam/ project proposal	
W10	RF, Plasma Module Examples	Attenuated Mode Cylindrical Cavity Filter Inductively Coupled Plasma Reactor(ICP) Analysis
W11	Chemical Reaction Modules	Tube flow reactor temperature optimization Crack Corrosion and Electrode Deformation in Nickel Rods PEMFC Fuel cell mass transfer

W12	PDE, Matlab and SpaceClaim link	PDE module examples and kdV function Matlab realtime link example
W13	Computer Aided Design and Manufacturing case share	Share Research case in computer aided design and manufacture
W14	Modelling Complex Systems case share	Share Research case in complex system
W15	Biomaterials case	Share Research case in Biomaterials
W16	Communication Systems case	Share Research case in communication
W17	Applied Fluids and Thermodynamics case	Share Research case in applied fluids and thermodynamics
W18	Final presentation	final oral presentation of each team

國立虎尾科技大學雙語教學課程計畫書

Bilingual Education Course Plan

課程名稱(中) 課程名稱(英) Course title in Mandarin and English	遺傳學 Genetics	授課教師 Instructor	彭及忠 Chi-Chung Peng
<p style="text-align: center;">教學簡要說明</p> <p>1.請依照授課班級英文分級程度規劃課程計畫書。 Please design the course plan by following the English using percentage of the course English level.</p> <p>2.如有聘請雙語導師，請於課程進度註明雙語導師授課之週次時數。 Please state bilingual instructor's teaching weeks and hours in course outline section.</p>			
課程教材 Material	<p>1.指定課本書名 Book： Principles of Genetics (<u>100</u> %英文內容 Percentage in English)</p> <p>2.自製教材 Self-made Materials：採用英文之比例(Percentage in English) <u>70</u> %</p> <p>3.其他補充說明 Others：</p>		
雙語教學方式 (可多選，或簡述) Bilingual Teaching Strategies	<p><input checked="" type="checkbox"/>教材講述 Lecturing <input type="checkbox"/>小組討論 Group Discussion <input checked="" type="checkbox"/>口頭問答 Q&A</p> <p><input type="checkbox"/>問題導向 Problem Based Learning <input checked="" type="checkbox"/>協同教學 Collaborative Teaching</p> <p><input type="checkbox"/>分組報告 Group Report</p> <p><input type="checkbox"/>其他方式說明 Others：</p>		

<p>成績評量方式 Grading</p>	<p><input checked="" type="checkbox"/> 中/期末考： <u>70</u> %以上英文試題，學生以英文答題 <u>25</u> %。 The percentage of English using in designing midterm/final exam; the percentage of English using in answering the exam paper.</p> <p><input type="checkbox"/> 英文期中/期末報告： _____ %以英文表達。 The percentage of using English in midterm or final oral presentation</p> <p><input checked="" type="checkbox"/> 全英語口頭簡報 (含 QA 問答)20 分鐘以上(一般科系專業課、碩博專業課程必須包含此評量方式) English oral presentation including Q&A session at least 20 minutes (Department cores, master's degree and doctoral degree courses so must have</p> <p><input type="checkbox"/> 其他方式(請說明中英文比例)Others(please state the proportion of Mandarin and English in grading)：</p>
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課程進度 Course Outline

週次 Week	單元/主題 Unit/Topic	教學活動重點及教材內容 Teaching Activities
W1	Introduction of Genetics	Giving students opportunities to think and talk about Genetics
W2	The Science of Genetics	Giving students opportunities to think and talk about Genetics
W3	Cellular Reproduction	Giving students opportunities to think and talk about Cellular Reproduction
W4	Mendelism: The Basic Principles of Inheritance	Giving students opportunities to think and talk about The Basic Principles of Inheritance
W5	Extensions of Mendelism	Giving students opportunities to think and talk about Mendelism Rule
W6	The Chromosomal Basis of Mendelism	Giving students opportunities to think and talk about Chromosomal Basis of Mendelism
W7	Variation in Chromosome Number and Structure	Giving students opportunities to think and talk about Genetics
W8	Linkage, Crossing Over, and Chromosome Mapping in Eukaryotes	Giving students opportunities to think and talk about Chromosome Number and Structure
W9	Midterm exam	
W10	The Genetics of Bacteria and Their Viruses	Giving students opportunities to think and talk about Genetics
W11	DNA and the Molecular Structure of Chromosomes	Giving students opportunities to think and talk about Genetics of Bacteria and Their Viruses

W12	Replication of DNA and Chromosomes	Giving students opportunities to think and talk about Replication of DNA and Chromosomes
W13	Transcription and RNA Processing	Giving students opportunities to think and talk about Transcription and RNA Processing
W14	Mutation, DNA Repair, and Recombination	Giving students opportunities to think and talk about Mutation, DNA Repair, and Recombination
W15	Genomics	Giving students opportunities to think and talk about Genomics
W16	Regulation of Gene Expression in Prokaryotes	Giving students opportunities to think and talk about Regulation of Gene Expression in Prokaryotes
W17	Regulation of Gene Expression	Giving students opportunities to think and talk about Regulation of Gene Expression
W18	Final Exam	

國立虎尾科技大學雙語教學課程計畫書

Bilingual Education Course Plan

課程名稱(中) 課程名稱(英) Course title in Mandarin and English	酵素學應用 The application of enzymology	授課教師 Instructor	張耀南 教授 Professor Chang, Yaw-Nan
<p>教學簡要說明</p> <p>1.請依照授課班級英文分級程度規劃課程計畫書。 Please design the course plan by following the English using percentage of the course English level.</p> <p>2.如有聘請雙語導師，請於課程進度註明雙語導師授課之週次時數。 Please state bilingual instructor's teaching weeks and hours in course outline section.</p>			
課程教材 Material	<p>1.指定課本書名 Book: <u>UNDERSTANDING ENZYMES</u> (100% 英文內容 Percentage in English)</p> <p>2.自製教材 Self-made Materials：採用英文之比例(Percentage in English)_____%</p> <p>3.其他補充說明 Others：採用英文之比例 <u>100%</u></p>		

雙語教學方式 (可多選，或簡述) Bilingual Teaching Strategies	<input checked="" type="checkbox"/> 教材講述 Lecturing <input type="checkbox"/> 小組討論 Group Discussion <input checked="" type="checkbox"/> 口頭問答 Q&A <input checked="" type="checkbox"/> 問題導向 Problem Based Learning <input type="checkbox"/> 協同教學 Collaborative Teaching <input checked="" type="checkbox"/> 分組報告 Group Report <input type="checkbox"/> 其他方式說明 Others：	
成績評量方式 Grading	<input checked="" type="checkbox"/> 期中考： <u>100%</u> 英文試題，學生以英文答題 <u>75%</u> 。 The percentage of English using in designing midterm/final exam; the percentage of English using in answering the exam paper. <input checked="" type="checkbox"/> 英文期末報告： <u>100%</u> 以英文表達。 The percentage of using English in midterm or final oral presentation <input checked="" type="checkbox"/> 全英語口頭簡報 (含 QA 問答)20 分鐘以上(一般科系專業課、碩博專業課程必須包含此評量方式) English oral presentation including Q&A session at least 20 minutes (Department cores, master's degree and doctoral degree courses so must have <input type="checkbox"/> 其他方式(請說明中英文比例)Others(please state the proportion of Mandarin and English in grading)：	
課程進度 Course Outline		
週次 Week	單元/主題 Unit/Topic	教學活動重點及教材內容 Teaching Activities
W1	Introduction to enzymes	What are enzymes and enzymology? The naming and classification of enzymes
W2	Specificity of enzyme action	Types of specificity and active site The Fisher “lock-and -key” and Koshland “induced-fit” hypotheses
W3	Introduction to enzyme-kinetics	Introductory to kinetics of enzyme-catalyzed reactions Methods used for investigating the enzyme-kinetics
W4	Kinetics of enzyme-catalyzed reactions	The Michaelis-Menten equation (M-M eq'n) for single-substrate enzyme-kinetics The Briggs-Haldane modification of the M-M eq'n
W5	Kinetics of enzyme-catalyzed reactions	The significance of the M-M eq'n The Lineweaver-Burk plot The Eadie-Hofstee and Hanes plots
W6	Enzyme inhibition	Introductory to enzyme inhibition Competitive, uncompetitive, non-competitive inhibitions

W7	Enzyme inhibition	Substrate and product inhibitions Mixed inhibition Allosteric inhibition Irreversible inhibition
W8	80% Midterm exam	Take-home Exam
W9	20% Midterm exam	Open-book Exam
W10	Review and discuss midterm exam	Review and discuss midterm exam
W11	Enzymes as analytical reagents	The value of enzymes as analytical reagents Principles of enzymatic analysis Handling enzymes and coenzymes
W12	Applications in medicine and industry	Applications in medicine including assay of plasma enzymes, enzymes and inborn errors of metabolism, enzymes as reagents in clinical chemistry Applications in industry
W13	Biotechnological applications of enzymes	Large-scale production of enzymes Immobilized enzymes
W14	Biotechnological applications of enzymes	Preparation of immobilized enzymes Properties of immobilized enzymes General principles for applications of immobilized enzyme
W15	Biotechnological applications of enzymes	Enzyme utilization and applications in food and drink industries Enzyme utilization and applications in other industries
W16	Biotechnological applications of enzymes	Enzymes and recombination DNA technology
W17	Oral report for biotechnological applications of enzymes	English oral presentation including Q&A session at least 20 minutes and final reports in term-working
W18	Oral report for biotechnological applications of enzymes	English oral presentation including Q&A session at least 20 minutes and final reports in term-working

國立虎尾科技大學雙語教學課程計畫書

Bilingual Education Course Plan

課程名稱(中) 課程名稱(英) Course title in Mandarin and English	資料庫管理 Database Management	授課教師 Instructor	侯雍聰 Yung-Tsung Hou
<p>教學簡要說明</p> <p>This course aims at giving students an understanding of basic database concepts, terminologies and technologies. The student will learn the theoretical and practical knowledge from both the technical and organization perspectives.</p>			
課程教材 Material	<p>1.指定課本書名 Book: <u>Fundamentals of Database Systems</u> (<u>100</u> % 英文內容 Percentage in English)</p> <p>2.自製教材 Self-made Materials: 補充講義 Lecture Notes, 採用英文之比例(Percentage in English) <u>100</u> %</p>		
雙語教學方式 (可多選, 或簡述) Bilingual Teaching Strategies	<p><input checked="" type="checkbox"/> 教材講述 Lecturing <input type="checkbox"/> 小組討論 Group Discussion <input checked="" type="checkbox"/> 口頭問答 Q&A</p> <p><input type="checkbox"/> 問題導向 Problem Based Learning <input type="checkbox"/> 協同教學 Collaborative Teaching</p> <p><input checked="" type="checkbox"/> 分組報告 Group Report</p> <p><input type="checkbox"/> 其他方式說明 Others:</p>		
成績評量方式 Grading	<p><input type="checkbox"/> 期中/期末考: _____% 以上英文試題, 學生以英文答題 _____%。 The percentage of English using in designing midterm/final exam; the percentage of English using in answering the exam paper.</p> <p><input checked="" type="checkbox"/> 英文期中/期末報告: <u>100</u> % 以英文表達。 The percentage of using English in midterm or final oral presentation</p> <p><input checked="" type="checkbox"/> 全英語口頭簡報 (含 QA 問答) 20 分鐘以上 (一般科系專業課、碩博專業課程必須包含此評量方式) English oral presentation including Q&A session at least 20 minutes (Department cores, master's degree and doctoral degree courses so must have</p> <p><input type="checkbox"/> 其他方式(請說明中英文比例) Others (please state the proportion of Mandarin and English in grading):</p>		

課程進度 Course Outline		
週次 Week	單元/主題 Unit/Topic	教學活動重點及教材內容 Teaching Activities
W1	Database System Introduction	An overview of database systems
W2	Architecture of Database Systems	Learning data, schemas and instances
W3	Relational Model of Data	Introduction of conceptual data modeling
W4	Algebraic Query Language	Mathematics behind databases
W5	Design Theory of Relational Database	The design issues of databases
W6	Database Schema	Learning entity, attribute and key
W7	High-Level Database Model	Using high-level conceptual model to design DBs.
W8	ER Model	ER diagrams, naming and design
W9	Midterm	Midterm
W10	Logical Query Language	Introduction of query languages
W11	SQL I	Basic SQL
W12	SQL II	Complex SQL
W13	SQL III	Advanced SQL
W14	Normalization I	First and second Normal Forms
W15	Normalization II	BCN form
W16	Views and Indexes	DB file structures and indexing
W17	Advanced Topics in Relational Databases	Query processing and Optimization
W18	Final Exam	Final Exam

國立虎尾科技大學雙語教學課程計畫書

Bilingual Education Course Plan

課程名稱(中) 課程名稱(英) Course title in Mandarin and English	機器學習與大數據 Machine Learning and Big data	授課教師 Instructor	胡念祖 Nian -Ze Hu
<p>教學簡要說明</p> <p>1.請依照授課班級英文分級程度規劃課程計畫書。</p> <p>The course will discuss recent applications of machine learning, such as to robotic control, data mining, autonomous navigation, speech</p>			

recognition, and text and web data processing.

Help students obtain the skills of:

1. Processing of Big Data

2. Ability to adopt algorithms, such as linear regression, decision trees, neural network, etc

Knowledge of basic computer science principles and skills, at a level sufficient to write a reasonably non-trivial computer program.

Instructor introduces the concepts and provides some workshop for students.

2.如有聘請雙語導師，請於課程進度註明雙語導師授課之週次時數。

Please state bilingual instructor's teaching weeks and hours in course outline section.

<p>課程教材 Material</p>	<p>1.指定課本書名 Book : Data Science from Scratch, Joel Grus, O'Reilly (<u>100</u> % 英文內容 Percentage in English)</p> <p>2.自製教材 Self-made Materials : 採用英文之比例(Percentage in English)_____ %</p> <p>3.其他補充說明 Others :</p>	
<p>雙語教學方式 (可多選，或簡述) Bilingual Teaching Strategies</p>	<p><input checked="" type="checkbox"/>教材講述 Lecturing <input checked="" type="checkbox"/>小組討論 Group Discussion <input type="checkbox"/>口頭問答 Q&A</p> <p><input type="checkbox"/>問題導向 Problem Based Learning <input type="checkbox"/>協同教學 Collaborative Teaching</p> <p><input checked="" type="checkbox"/>分組報告 Group Report</p> <p><input type="checkbox"/>其他方式說明 Others :</p>	
<p>成績評量方式 Grading</p>	<p><input checked="" type="checkbox"/>期中/期末考： <u>30</u> %以上英文試題，學生以英文答題_____ %。</p> <p>The percentage of English using in designing midterm/final exam; the percentage of English using in answering the exam paper.</p> <p><input checked="" type="checkbox"/>英文期中/期末報告： <u>30</u> %以英文表達。</p> <p>The percentage of using English in midterm or final oral presentation</p> <p><input type="checkbox"/>全英語口頭簡報 (含 QA 問答)20 分鐘以上(一般科系專業課、碩博專業課程必須包含此評量方式)</p> <p>English oral presentation including Q&A session at least 20 minutes (Department cores, master's degree and doctoral degree courses so must have</p> <p><input checked="" type="checkbox"/>其他方式(請說明中英文比例)Others(please state the proportion of Mandarin and English in grading) : Attendance 20%, Workshop 20%</p>	
<p style="text-align: center;">課程進度 Course Outline</p>		
<p>週次 Week</p>	<p>單元/主題 Unit/Topic</p>	<p>教學活動重點及教材內容 Teaching Activities</p>
<p>W1</p>	<p>•Big Data</p>	<p>Introduction to Big Data</p>
<p>W2</p>	<p>• Python fundamental</p>	<p>Tutorial of Python concepts</p>

W3	• Python advanced	Practice of Python statements
W4	• Data Manipulation	Workshop of SQL Statements
W5	• Data Quality	Process to maintain data quality
W6	• Data Integration	Integration of Heterogeneous data sources#1
W7	• Data Integration	Integration of Heterogeneous data sources#2
W8	• Visualizing Data	Describe the relationships among variables
W9	Midterm	Midterm
W10	• Data Modeling	Introduction of data modeling
W11	• Data Modeling	Star schema, Data warehouse
W12	• Linear Regression	Discover the linear relationship from data set.
W13	• Clustering	Grouping the dataset
W14	• Decision Trees	Generate the rule set for specified topic
W15	• Neural Networks	Perform forecasting from dataset
W16	• XGBoost	Perform forecasting from dataset
W17	• SOM	Unsupervised data analyzing
W18	Finalterm	Finalterm

國立虎尾科技大學雙語教學課程計畫書

Bilingual Education Course Plan

課程名稱(中) 課程名稱(英) Course title in Mandarin and English	智慧電子應用設計實習 Practice of Intelligent Electronics Application Design	授課教師 Instructor	劉育松 Yu-Sung Liu
<p style="text-align: center;">教學簡要說明</p> <p>1.請依照授課班級英文分級程度規劃課程計畫書。 Please design the course plan by following the English using percentage of the course English level.</p> <p>2.如有聘請雙語導師，請於課程進度註明雙語導師授課之週次時數。 Please state bilingual instructor's teaching weeks and hours in course outline section.</p>			
課程教材 Material	<p>1.指定課本書名 Book：_____ (_____% 英文內容 Percentage in English)</p> <p>2.自製教材 Self-made Materials：採用英文之比例(Percentage in English) <u>60</u> %</p> <p>3.其他補充說明 Others：</p>		

雙語教學方式 (可多選，或簡述) Bilingual Teaching Strategies	<input checked="" type="checkbox"/> 教材講述 Lecturing <input checked="" type="checkbox"/> 小組討論 Group Discussion <input checked="" type="checkbox"/> 口頭問答 Q&A <input checked="" type="checkbox"/> 問題導向 Problem Based Learning <input type="checkbox"/> 協同教學 Collaborative Teaching <input checked="" type="checkbox"/> 分組報告 Group Report <input type="checkbox"/> 其他方式說明 Others：
成績評量方式 Grading	<input type="checkbox"/> 期中/期末考：_____%以上英文試題，學生以英文答題_____%。 The percentage of English using in designing midterm/final exam; the percentage of English using in answering the exam paper. <input checked="" type="checkbox"/> 英文期中/期末報告：__50__%以英文表達。 The percentage of using English in midterm or final oral presentation <input checked="" type="checkbox"/> 全英語口頭簡報 (含 QA 問答)20分鐘以上(一般科系專業課、碩博專業課程必須包含此評量方式) English oral presentation including Q&A session at least 20 minutes (Department cores, master's degree and doctoral degree courses so must have <input type="checkbox"/> 其他方式(請說明中英文比例)Others(please state the proportion of Mandarin and English in grading)：

課程進度 Course Outline

週次 Week	單元/主題 Unit/Topic	教學活動重點及教材內容 Teaching Activities
W1	preparation week	Setup Integrated Development Environment (IDE)
W2	Introduction to Microcontroller	Basic Electronic Elements
W3	Basic Microcontroller Programming	Structures of Programming, Variables and Constants
W4	Switch Circuits and LED electronic marquee	if statement, digitalWrite, while, do while, for, array
W5	Serial Port Communication	UART, SPI, I2C, string, hardware (and software) serial read and write, switch..case
W6	Analog Signal Processing	analogRead, OP amplifier
W7	LED Seven-Segment Display	74HC595, logic gate
W8	LED Matrix and SPI Interface	Built-in and user-defined functions, MAX7219
W9	midterm	Oral report of project proposal
W10	LCD Display + Humidity Sensor + Ultrasonic Sensor	HD44780, LiquidCrystal class, DHT11, pulseIn function
W11	PWM controlled LED and Motors	analogWrite, NPN transistor, L298N, DC motor, servo motor, stepping motor
W12	I2C Interface	AT24C256 EEPROM

W13	Bluetooth Wireless Communication	Bluetooth module and AT command
W14	LoRa Wireless Communication	IOT: LoRa, SIGFOX, NB-IoT
W15	Basic Network and HTML + Embedded WWW Server	Basic introduction to network communication
W16	Home Appliance Controlled by Network	Implementation of network hardware control
W17	RFID	Introduction to RFID program and control
W18	final exam	Oral report of project design

國立虎尾科技大學雙語教學課程計畫書

Bilingual Education Course Plan

課程名稱(中) 課程名稱(英) Course title in Mandarin and English	模態實驗與分析 Modal Experiments and Analysis	授課教師 Instructor	張禎元 Chang, Jen- Yuan
<p style="text-align: center;">教學簡要說明</p> <p>1.請依照授課班級英文分級程度規劃課程計畫書。 Please design the course plan by following the English using percentage of the course English level.</p> <p>2.如有聘請雙語導師，請於課程進度註明雙語導師授課之週次時數。 Please state bilingual instructor's teaching weeks and hours in course outline section.</p>			
課程教材 Material	<p>1.指定課本書名 Book:L. Meirovitch, <u>Analytical Methods in Vibrations, Macmillan</u> (100% 英文內容 Percentage in English)</p> <p>2.自製教材 Self-made Materials：採用英文之比例(Percentage in English) <u>100</u> %</p> <p>3.其他補充說明 Others：</p>		
雙語教學方式 (可多選，或簡述) Bilingual Teaching Strategies	<p><input checked="" type="checkbox"/>教材講述 Lecturing <input type="checkbox"/>小組討論 Group Discussion <input checked="" type="checkbox"/>口頭問答 Q&A</p> <p><input type="checkbox"/>問題導向 Problem Based Learning <input type="checkbox"/>協同教學 Collaborative Teaching</p> <p><input type="checkbox"/>分組報告 Group Report</p> <p><input type="checkbox"/>其他方式說明 Others：</p>		

成績評量方式 Grading	■期中/期末考： <u>100</u> %以上英文試題，學生以英文答題 <u>50</u> %。 The percentage of English using in designing midterm/final exam; the percentage of English using in answering the exam paper.	
	■英文期中/期末報告： <u>70</u> %以英文表達。 The percentage of using English in midterm or final oral presentation	
	■全英語口頭簡報 (含 QA 問答)20 分鐘以上(一般科系專業課、碩博專業課程必須包含此評量方式) English oral presentation including Q&A session at least 20 minutes (Department cores, master's degree and doctoral degree courses so must have	
	■其他方式(請說明中英文比例)Others(please state the proportion of Mandarin and English in grading)： Problem sets will be assigned regularly and will usually be due one week later. Usually combination of analytical, computational, and graphical approaches will be expected in homework. Copy of homework is not allowed. However, you are allowed to discuss homework problems with one another in order to teach each other how to solve problems. You are NOT allowed to copy work from someone else OR to work step-by-step through a problem with someone else. The work you hand in with your name on it must be your attempt to work through the problem. As a general guideline, oral communication regarding the homework is allowed, whereas written communication is not allowed. Because of the fast pace of the class, please avoid handing in late homework. If homework is submitted after solution set is distributed, 50% of the grade will be taken off.	
課程進度 Course Outline		
週次 Week	單元/主題 Unit/Topic	教學活動重點及教材內容 Teaching Activities
W1	Review of Single Degree of Freedom Systems a. Free vibrations b. Response through transform methods c. Frequency response function	Chapter 1
W2	Review of Single Degree of Freedom Systems a. Free vibrations b. Response through transform methods c. Frequency response function	Chapter 1

W3	Equations of Motion for Multi-Degree of Freedom Systems a. Definitions and concepts b. Derivation of Lagrange's equation c. Small oscillations around equilibrium	Chapter 2, 3
W4	Equations of Motion for Multi-Degree of Freedom Systems a. Definitions and concepts b. Derivation of Lagrange's equation c. Small oscillations around equilibrium	Chapter 2, 3
W5	Free Vibration a. Matrix eigenvalue problems b. Properties of the eigenvalue problem c. Solution methods d. Expansion techniques e. Rayleigh's quotient	Chapter 4
W6	Free Vibration a. Matrix eigenvalue problems b. Properties of the eigenvalue problem c. Solution methods d. Expansion techniques e. Rayleigh's quotient	Chapter 4
W7	Modal Analysis a. Response problems b. General solutions c. Steady State Harmonic Response d. Damped system response Mechanism of dissipation; Viscous damping; Rayleigh proportional damping; Modal damping	Chapter 7.1-7.6 and 9.1-9.5
W8	Modal Analysis a. Response problems b. General solutions c. Steady State Harmonic Response d. Damped system response Mechanism of dissipation; Viscous damping; Rayleigh proportional damping; Modal damping	Chapter 7.1-7.6 and 9.1-9.5
W9	Midterm Exams	Midterm Exams
W10	Equations of Motion for Continuous Systems a. Transition from discrete	Course notes and Chapters 5, and 10.1-10.5

	<p>system to continuous system b.</p> <p>Infinitesimal element approach</p> <p>Torsional Rod, longitudinal rod, and string models; Euler-Bernoulli, Rayleigh, and Timoshenko Models; Membranes</p> <p>c. Variational approach</p> <p>Hamilton's principle for a conservative discrete system;</p> <p>Extended Hamilton's principle;</p> <p>Extension to continuous systems;</p> <p>Applications</p>	
W11	<p>Equations of Motion for Continuous Systems</p> <p>a. Transition from discrete system to continuous system b.</p> <p>Infinitesimal element approach</p> <p>Torsional Rod, longitudinal rod, and string models; Euler-Bernoulli, Rayleigh, and Timoshenko Models; Membranes</p> <p>c. Variational approach</p> <p>Hamilton's principle for a conservative discrete system;</p> <p>Extended Hamilton's principle;</p> <p>Extension to continuous systems;</p> <p>Applications</p>	Course notes and Chapters 5, and 10.1-10.5
W12	<p>Eigenvalue Problems of Continuous Systems</p> <p>a. Formulation and solution of eigenvalue problems</p> <p>One-dimensional, 2nd -order problems; One-dimensional, 4th order problems; Twodimensional, 2nd -order problems; Two-dimensional, 4th -order problems.</p> <p>b. Structure of the eigenvalue problem</p> <p>Essentials of functional analysis; Properties of linear operators, symmetric, and positive definiteness.</p>	Course notes and Chapter 5
W13	<p>Eigenvalue Problems of Continuous Systems</p> <p>a. Formulation and solution of eigenvalue problems</p>	Course notes and Chapter 5

	One-dimensional, 2nd -order problems; One-dimensional, 4th order problems; Twodimensional, 2nd -order problems; Two-dimensional, 4th -order problems. b. Structure of the eigenvalue problem Essentials of functional analysis; Properties of linear operators, symmetric, and positivedefiniteness.	
W14	Modal Analysis a. General development b. Steady state harmonic response c. Static response d. Transformations for inhomogeneous boundary conditions	Course notes and Chapter 7.7-7.17
W15	Modal Analysis a. General development b. Steady state harmonic response c. Static response d. Transformations for inhomogeneous boundary conditions	Course notes and Chapter 7.7-7.17
W16	Special topics a. Introduction to global discretization b. Introduction to constrained systems c. Introduction to elastic wave propagation d. Vibrations of rotors	a. Course notes and Chapter 6.1-6.6 b. Course notes c. Course notes and Chapter 8.1-8.8 d. Course notes
W17	Special topics a. Introduction to global discretization b. Introduction to constrained systems c. Introduction to elastic wave propagation d. Vibrations of rotors	a. Course notes and Chapter 6.1-6.6 b. Course notes c. Course notes and Chapter 8.1-8.8 d. Course notes
W18	Final Exam	Final Exam