112/2 Bilingual Education Courses (112 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	Master's Program in Aeronautical and Electronic Engineering, Department of Aeronautical Engineering 飛機工程系 碩士班	0326	Drone principle of communication 無人機通訊原理	Elective 選修	3	Disksha Chauhan 迪克莎喬娜					2-4	First Assembly Building 6F Seminar Room (3) (18 students only) BGA0611 綜一館 6F 研討室(三)(限 18 人)	Course Plan
2	Department of Vehicle Engineering 車輛工程系	1339	Vehicular Telematics and Experiment 車載資通訊與實驗	Elective 選修	3	Disksha Chauhan 迪克莎喬娜	2-4					General classroom, 4F, Academic Building II ATB0504 第二期教學大樓 4F 普通教室	Course Plan
3	Master's Program, Department of Electronic Engineering 電子工程系	0085	High Speed Semiconductor Devices 高速半導體元件	Elective 選修	3	Disksha Chauhan 迪克莎喬娜					5-7	First Assembly Building 6F Seminar Room (3) (18 students only).	Course Plan

	碩士班										BGA0611 綜一館 6F 研討室(三)(限 18 人)	
4	Doctoral Degree Program in Intelligent Industry Technology Research and Development 智慧產業科技研發博士學位學程	2636	Scientific English 科技英文	Elective 選修	3	Ranjit Anandaro Patil 藍吉特			2-4		First Assembly Building 6F Seminar Room (3) (18 students only) BGA0611 綜一館 6F 研討室(三)(限 18 人)	Course Plan
5	Master's Program, Department of Materials Science and Engineering 材料科學與工程碩士班	0235	Electronic Packaging 電子構裝	Elective 選修	3	Ranjit Anandaro Patil 藍吉特				5-7	Mechanical Engineering Building 2F Preparatory Classroom AME0223 機械工程館 2F 預備教室	Course Plan
6	Master's Program, Department of Electronic Engineering 電子工程系碩士班	0086	Surface Analysis 表面分析	Elective 選修	3	Ranjit Anandaro Patil 藍吉特	2-4				First Assembly Building 6F Seminar Room (3) (18 students only) BGA0611 綜一館 6F 研討室(三)(限 18 人)	Course Plan

7	Master's Program, Department of Mechanical Design Engineering 機械設計工程系碩士班	0250	Advanced Engineering Analysis 高等工程分析	Elective 選修	3	Abhishek Kumar 庫秉弦				2-4		Reverse Rapid Prototyping Laboratory (48 students only) 逆向快速成型實驗室 BGA0760(限 48 人)	Course Plan
8	Master's Program, Department of Mechanical and Computer Aided Engineering 機械與電腦輔助工程系碩士班	0012	Heat Tranter 數值熱傳	Elective 選修	3	Abhishek Kumar 庫秉弦	2-4					Mechanical Engineering Building 2F Seminar Room (1) AME0209 機械工程館 2F 第一專題研討室	Course Plan
9	Master's Program, Department of Power Mechanical Engineering 動力機械工程系碩士班	0260	Computational Methods for Fluid Dynamics 計算流體力學	Elective 選修	3	Abhishek Kumar 庫秉弦				5-7		Second Assembly Building 3F Thermal Laboratory BGB0305 綜二館 3F 熱工實驗室	Course Plan
10	Doctoral Degree Program in Intelligent Industry Technology	0022	模態實驗與分析 Modal Experiments	Elective 選修	3	Chang, Jen-Yuan 張禎元	5-7					AME0209 機械工程館 2F 第一專題研討室	

	Research and Development 智慧產業科技研發博士學位學程		and Analysis									Mechanical Engineering Hall 2F AME0209 First Thematic Seminar Room	
11	Master's Program in Materials Science and Green Energy Engineering, Department of Materials Science and Engineering 材料科學與綠色能源工程研究所碩士班	0231	Surface Analysis of Materials 材料表面分析	Elective 選修	3	Tsai, Chau-Yi 蔡朝伊		5-7				(AME0201) Nondestructive Testing Lab., Mechanical engineering Building 2F 機械工程館 2F AME0201 非破壞實驗室	Course Plan
12	Doctoral Program in Mechanical and Electro-Mechanical Engineering, Department of Power Mechanical Engineering 動力機械工程系 機械與機電工程博士班	2620	Nonlinear System Analysis 非線性系統分析	Elective 選修	3	Yunn-Lin Hwang 黃運琳			2-4			(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	Course Plan
13	Doctoral Program in Mechanical and Electro-Mechanical Engineering,	2618	Dynamics of Machine System 機器系統動力	Elective 選修	3	Yunn-Lin Hwang 黃運琳		5-7				(BGA0760) First Assembly Building 7th floor Reverse rapid	Course Plan

	Department of Power Mechanical Engineering 動力機械工程系 機械與機電工程 博士班		學								prototyping laboratory 綜合工程一館 7F BGA0760 逆 向快速成型實驗 室	
14	Master's Program, Department of Automation Engineering 自動化系 碩士班	0051	Engineering Analysis 工程分析	Elective 選修	3	Meng-Tse Lee 李孟澤				5-7	(BGA0340) Seminar Room First Assembly Building 3F 綜合工程一館 3F BGA0340 研 討室	Course Plan
15	Master's Program, Department of Automation Engineering 自動化系 碩士班	0055	Big Data Analysis 巨量資料分析	Elective 選修	3	Kuang-Chyi Lee 李廣齊			7-9		(BGA0330) Computer-aided Engineering Lab First Assembly Building 3F 綜合工程一館 3F 電腦輔助工 程實驗室	Course Plan
16	Department of Automation Engineering 自動化系 學士班	1241	Design of Embedded System 嵌入式系統	Elective 選修	3	Kuang-Chyi Lee 李廣齊		8-10			(BGA0330) Computer-aided Engineering Lab First Assembly Building 3F	Course Plan

										綜合工程一館 3F 電腦輔助工程實驗室	
17	Department of Aeronautical Engineering 飛機工程系	1423	Aircraft Maintenance Practice 飛機維修實務	Elective 選修	3	Wang, Shih-Chia 王士嘉			2-4	(AAF0101) Aircraft Hangar 1F 飛機場館 1F AAF0101 飛機教學棚廠	Course Plan
18	Master's Program, Department of Electrical Engineering 電機工程系 碩士班	0139	Electronic Circuit Design Practice 電子電路設計實務	Elective 選修	3	Wu, Sen-Tung 吳森統	10-12			BEE0105; 1F, Lighting Laboratory 電機館 1F BEE0105 照明實驗室	Course Plan
19	Department of Electrical Engineering 電機工程系	1076	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	Course Plan
20	Master's Program, Department of Electrical Engineering 電機工程系 碩士班	0143	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; 4F, Smart Electronic Application Laboratory 電機館 4F BEE0402 智慧電子應用實驗室	Course Plan
21	Master's Program in Electro-Optical and Materials Science,	0302	Special Topics in Nanophotonics 奈米光學特論	Elective 選修	3	郭文凱			2-4	(BGA0933) First Assembly Building 9F, System Chip Design	Course Plan

	Department of Electro-Optical Engineering 光電工程系 碩士班										Laboratory 綜合工程一館 9F 系統晶片設計實驗室	
22	Department of Electro-Optical Engineering 光電工程系	1123	Special research topics 特殊研究問題討論	Elective 選修	2	Huang, Hung Ji 黃鴻基			3-4		(ATA0302) General classroom 3F, Academic Building I 第一期教學大樓 3F 普通教室	Course Plan
23	Master's Program, Department of Computer Science and Information Engineering 資訊工程系 碩士班	0122	Cloud Operation System 雲端作業系統	Elective 選修	3	JIAN, MING-SHEN 簡銘伸	5-7				(BGC0305) Embedded System Software Design Lab. 綜合工程三館 3F BGC0305 嵌入式系統軟體實驗室	Course Plan
24	Master's Program, Department of Computer Science and Information Engineering 資訊工程系 碩士班	0123	Cloud Computing and Big Data Security 雲端大數據安全	Elective 選修	3	JIANG, JI-HAN 江季翰			5-7		(BGC0513) The 3rd Assembly Building 5F Bioinformatics Lab. 綜合工程三館 5F BGC0513 生	Course Plan

											物資訊實驗室	
25	Department of Computer Science and Information Engineering 資訊工程系	2027	Microprocessor practice 微處理機實習	Required 必修	1	CHEN, KUO-YI 陳國益					1-3	(BGC0601) The 3rd Assembly Building 6F IC Desing Lab. 綜合工程三館 6F BGC0601 IC 設計實驗室	Course Plan
26	Department of Computer Science and Information Engineering 資訊工程系	1984	Computer Networks 計算機網路概論	Required 必修	3	HUANG, SHIH-CHANG 黃世昌			7			(BGC0513) The 3rd Assembly Building 5F Bioinformatics Lab. 綜合工程三館 5F BGC0513 生物資訊實驗室	Course Plan
											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	
27	Department of	1986	English	Elective	3	TSAI,				4	1-2	(BGC0614)	Course

	Department		Course			Instructor						Classroom	
	Computer Science and Information Engineering 資訊工程系		Reading for Science and Technology 科技文件閱讀	選修		PO-HSIANG 蔡柏祥						The 3rd Assembly Building 6F e-Learning Lab. 綜合工程三館 6F BGC0614 數位學習實驗室	Plan
28	Department of Computer Science and Information Engineering 資訊工程系	2033	English for Science and Technology 科技英文	Elective 選修	3	TSAI, PO-HSIANG 蔡柏祥					1-2	(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	Course Plan
											4	(BGC0614) The 3rd Assembly Building 6F e-Learning Lab. 綜合工程三館 6F BGC0614 數位學習實驗室	
29	Department of Computer	2005	科學計算 Scientific	Required 必修	1	Yu,Yun-Shuai 游允帥	3-4					(AIA0205) Information	Course Plan

	Science and Information Engineering 資訊工程系		Computing									Building 2F Computer Room 資訊大樓 2F AIA0205 電腦教室	
											5	(BGC0513) The 3rd Assembly Building 5F Bioinformatics Lab. 綜合工程三館 5F BGC0513 生物資訊實驗室	
30	Department of Electronic Engineering 電子工程系	0454	Python Programming Python 程式設計	Elective 選修	3	Yu-Sung Liu 劉育松	2-4					(ATC0404) 3rd Teaching Building 4F 第三期教學大樓 4F ATC0404 嵌入式系統實驗室	Course Plan
31	Department of Electronic Engineering 電子工程系	1801	Python Programming Python 程式設計	Elective 選修	3	Yu-Sung Liu 劉育松					2-4	(AME0406) Lab 3, Building of Mechanical Engineering 4F 機械工程館 4F AME0406 物理	Course Plan

No.	Department	Code	Course	Type	Credits	Instructor						Classroom	
												實驗室(三)	
32	Master's Program, Department of Information Management 資訊管理系碩士班	0099	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	Course Plan
33	Master's Program, Department of Information Management 資訊管理系碩士班	0096	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	Course Plan
34	Master's Program, Department of Information Management 資訊管理系碩士班	0097	Production and Operations Management 生產與作業管理	Electives 選修	3	Wen-Hung Kuo 郭文宏	2-4					(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	Course Plan
35	Master's Program in Industrial Engineering and Management, Department of Engineering and Management 工業管理系工業工程與管理	0340	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 CMA0806 專業教室(三)	Course Plan

	碩士班												
36	Master's Program in Industrial Engineering and Management, Department of Engineering and Management 工業管理系工業工程與管理碩士班	0338	Networks and Logistics 網路與運籌	Elective 選修	3	Hsieh , Yi-Chih 謝益智			5-7			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)	Course Plan
37	Master's Program in Industrial Engineering and Management, Department of Engineering and Management 工業管理系工業工程與管理碩士班	0342	Intelligent Manufacturing System 智慧製造系統	Elective 選修	3	Cheng, Tzong-Ming 鄭宗明					5-7	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)	Course Plan
38	Master's Program in Industrial Engineering and Management, Department of Engineering and	0343	Green and Sustainable Manufacturing and Enterprise Systems 綠色及永續製	Elective 選修	3	Li, Meng-Hua 李孟樺	5-7					Seminar Room III (CMA0806) Applied Arts, Sciences and Management	Course Plan

	Management 工業管理系工業 工程與管理 碩士班		造企業系統								Building 8F 文理暨管理大樓 8F CMA0806 專業教室(三)	
39	Master's Program in Business Management, Department of Business Administration 經營管理碩士班	0362	Information Management 資訊管理	Elective 選修	3	Liang, Chih-Chin 梁直青			2-4		(CMA0207) Applied Arts, Sciences and Management Building 2F 文理暨管理大樓 2F CMA0207 電腦教室	Course Plan
40	Master's Program in Business Management, Department of Business Administration 經營管理碩士班	0363	Behavioral Finance 行為財務	Elective 選修	3	Chi-Lin Lu 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	Course Plan
41	Master's Program in Business Management, Department of Business Administration	0364	Strategic Management 策略管理	Elective 選修	3	Yi Hsu 徐怡	7-9				(CMA0206) Market Survey Lab, Applied Arts, Sciences and Management	Course Plan

	經營管理碩士班										Building 2F 文理暨管理大樓 2F CMA0206 經營模擬與數據分析實驗室	
42	Master's Program in Business Management, Department of Business Administration 經營管理碩士班	0365	Technology Management 科技管理	Elective 選修	3	Yu-Chun Chen 陳鈺淳	2-4				(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	Course Plan
43	Master's Program, Department of Finance 財務金融系 碩士班	0036	Time Series Analysis 時間數列分析	Required 必修	3	Jo-Yu Wang 王若愚			5-7		(CHB0107) Professional Computer Room II, Applied Arts, Sciences and Management Building 1F 人文大樓 1F CHB0107 專業電腦教室二	Course Plan
44	Master's Program, Department of Finance 財務金融系 碩士班	0037	The Theory and Practice of Investment 投資學理論與實務	Required 必修	3	Lai , Ya-Wen 賴雅雯		2-4			(CMA0201) Seminar Room II, Applied Arts, Sciences and Management	Course Plan

										Building 2F 文理暨管理大樓 2F CMA0201 財金研討室 II	
45	Master's Program, Department of Finance 財務金融系 碩士班	0045	Topics on Bank Management 銀行管理專題	Elective 選修	3	Jo-Yu Wang 王若愚		5-7			(CMA0201) Seminar Room II, Applied Arts, Sciences and Management Building 2F 文理暨管理大樓 2F CMA0201 財金研討室 II	Course Plan
46	Master's Program, Department of Leisure and Recreation 休閒遊憩系 碩士班	0218	Park Recreation Marketing and Management 公園遊憩行銷 與管理	Elective 選修	3	Yen, Hung-Hsu 顏宏旭		5-7			CMA0505 Applied Arts, Sciences and Management Building 5F 文理暨管理大樓 5F CMA0505	Course Plan
47	Applied Foreign Languages 應用外語系	1864	Multinational Management 國際企業管理	Elective 選修	2	Chiu, Hui -Yun 邱慧昀				5-6	(AGR0302) Multimedia Language Lab., Red Building 3F 紅樓 3F AGR0302 多媒 體語言實驗室	Course Plan
48	Applied Foreign Languages 應用外語系	1918	International Marketing 國際行銷	Elective 選修	2	Chiu, Hui -Yun 邱慧昀			7-8		(AGR0302) Multimedia Language Lab.,	Course Plan

													Red Building 3F 紅樓 3F AGR0302 多媒體語言實驗室	
49	Master's Program in Digital Contents and Creative Industries, Department of Multimedia Design 多媒體設計系數位內容創意產業研究所碩士班	0190	Social Media Interaction 社交媒體互動研究	Elective 選修	3	Shen Siu-Tsen 沈思岑			5-7				(CHB0305) Multimedia Design Studio, Art and Humanity Building 3F 人文大樓三樓多媒體設計實驗室	Course Plan
50	Master's Program in Digital Contents and Creative Industries, Department of Multimedia Design 多媒體設計系數位內容創意產業研究所碩士班	0182	Multimedia Presentation and Topic Oriented Research 多媒體創作與表現專題研究	Elective 選修	3	Shen Siu-Tsen 沈思岑		5-7					(CHB0305) Multimedia Design Studio, Art and Humanity Building 3F 人文大樓三樓多媒體設計實驗室	Course Plan

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	無人機通訊原理 Drone principle of communication	授課教師 Instructor	迪克莎喬娜 (Diksha Chauhan)

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： 　i) UAV networks and communication by Kamlesh Namuduri, Serge Chaumette, J.H.Kim, James P.G. Sterbenz 　ii) Wireless Communications and Networking for Unmanned Aerial Vehicles, By Walid Saad, Mehdi Bennis, Mohammad Mozaffari, Xingqin Lin 2. (100%英文內容 Percentage in English) 3.自製教材 Self-made Materials：採用英文之比例(Percentage in English)_100 % 4.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：

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)：Assignment, quiz/surprise test. All will be in 100% 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 to drones/UAVs	Lecturing, QA, Discussion
W2	Types of Drones and mission, UAV	Lecturing, QA, Discussion

	regulations	
W3	Basics of Communication Systems: Introduction to Communication System of drones	Lecturing, QA, Discussion
W4	Aerial channel modeling: Fundamentals of radio wave propagation and modeling, Wireless communication with drones	Lecturing, QA, Discussion, Quiz
W5	UAV networks and their advantages	Lecturing, QA, Discussion
W6	Wireless Communication Principles, drone communication technologies	Lecturing, QA, Discussion, Assignment
W7	Air to ground and air to air data link communications, Drone Communication Protocols	Lecturing, QA, Discussion
W8	Introduction to FANETS	Lecturing, QA, Discussion
W9	Mid term	
W10	Sensors in drones	Lecturing, QA, Discussion
W11	Telemetry in Drones, Telemetry Basics	Lecturing, QA, Discussion
W12	Global Positioning System (GPS) in Drones, GPS Basics, GPS Applications in UAVs	Lecturing, QA, Discussion
W13	Drone Communication System Architecture	Lecturing, QA, Discussion
W14	Emerging Technologies in Drone Communication	Lecturing, QA, Discussion, Assignment
W15	Challenges and solutions	Lecturing, QA, Discussion, Quiz
W16	Applications of Drone Communication	Lecturing, QA, Discussion
W17	Enabling emergency communications, Future trends in drones	Lecturing ,QA, Discussion
W18	Syllabus revision	QA, Discussion

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	車載資通訊與實驗 Vehicular Telematics and Experiment	授課教師 Instructor	迪克莎喬娜 (Diksha Chauhan)

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：1. Telematics Communication Technologies and Vehicular Networks: Wireless Architectures and Applications　by Chung-Ming Huang, Yuh-Shyan Chen 2. Intelligent Vehicular Networks and Communications: Fundamentals, architectures and solutions. By Anand Paul, Naveen Chilamkurti, Alfred Daniel, Seungmin Rho　(100%英文內容 Percentage in English) 3.自製教材 Self-made Materials：採用英文之比例(Percentage in English)100% 4.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：
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)：Assignments, quiz and surprise test, all will be in 100% 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 to Vehicular Telematics	Lecturing, QA, Discussion
W2	Basics of Communication Systems: Introduction to Communication System, Wireless Communication Principles	Lecturing, QA, Discussion
W3	Introduction to Vehicle Network Architectures: in vehicle and out vehicle Network Architecture	Lecturing, QA, Discussion
W4	Vehicular communication technologies: visible light communication cellular system ,WLAN/wifi	Lecturing, QA, Discussion, quiz
W5	Vehicular communication technologies:4G/LTE, WiMAX,5G-milimeter wave technology	Lecturing, QA, Discussion
W6	Introduction to Vehicular Ad Hoc Networks (VANETs)	Lecturing, QA, Discussion, Assignment
W7	Sensors and Actuators in Vehicles	Lecturing, QA, Discussion

W8	Vehicle-to-Everything (V2X) Communication	Lecturing, QA, Discussion
W9	Midterm	
W10	V2X Protocols	Lecturing, QA, Discussion
W11	Location based service: Global Positioning System (GPS) in Telematics	Lecturing, QA, Discussion
W12	Automatic Vehicle Location and Security System	Lecturing, QA, Discussion
W13	Fleet Telematics	Lecturing, QA, Discussion,quiz
W14	Emerging Technologies in Vehicular Telematics	Lecturing, QA, Discussion, Assignment
W15	Future Trends	Lecturing, QA, Discussion
W16	Challenges	Lecturing, QA, Discussion
W17	Syllabus revision	QA, Discussion
W18	Syllabus revision	QA, Discussion

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	高速半導體元件 High speed semiconductor devices	授課教師 Instructor	迪克莎喬娜 (Diksha Chauhan)

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：1.High speed semiconductor devices by SM Sze 2.Semiconductor devices,2nd edition, by J.J.Sparks 3.(__100___%英文內容 Percentage in English) 4.自製教材 Self-made Materials：採用英文之比例(Percentage in English)100% 5.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：

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)：Assignments and quiz/surprise test. 100% 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 to Semiconductors, Overview of Modern Semiconductor Devices	Lecturing, QA, Discussion
W2	Elements of carrier transport in semiconductor devices, PN Junction	Lecturing, QA, Discussion
W3	The submicron MOSFET	Lecturing, QA, Discussion
W4	Homogeneous FET; MESFET	Lecturing, QA, Discussion, quiz
W5	JFET	Lecturing, QA, Discussion
W6	Heterostructure FET	Lecturing, QA, Discussion, Assignment
W7	Bipolar transistors	Lecturing, QA, Discussion
W8	Microwave diodes: introduction	Lecturing, QA, Discussion
W9	Midterm exams	
W10	Tunnel devices	Lecturing, QA, Discussion
W11	IMPATT	Lecturing, QA, Discussion
W12	Transferred electron devices :Gunn diode	Lecturing, QA, Discussion
W13	High-speed photonic devices: Introduction , LED	Lecturing, QA, Discussion
W14	Semiconductor lasers	Lecturing, QA, Discussion, Assignment
W15	PIN photodetector	Lecturing, QA, Discussion,quiz
W16	Avalanche photodiodes	Lecturing, QA, Discussion
W17	Syllabus revision	QA, Discussion
W18	Syllabus revision	QA, Discussion

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	科技英文 Scientific English	授課教師 Instructor	藍吉特 Dr. Ranjit A. Patil

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： (100 % 英文內容 Percentage in English) *Scientific English* - R. A. Day, N. Sakaduski, 3rd Ed, Greenwood Publications, Oxford, 2011 2.自製教材 Self-made Materials： Summarized presentation materials for the topics. 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：
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)：100 % English Grading system: 10 % (Daily Performance and Participation) + 20 % (Homework/Reports) + 30 % (Mid-term exam) + 40 % (Final exam)

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 and outline of the class	Lecturing
W2	Principles of Scientific Writing	Lecturing, Group Discussion, Q&A
W3	Kinds of Writing and Writing Style	Lecturing, Group Discussion, Q&A

W4	The English Language and Grammar	Lecturing, Group Discussion, Q&A
W5	Words and Name Words (Nouns and Pronouns)	Lecturing, Group Discussion, Q&A
W6	Action Words (Verbs)	Lecturing, Group Discussion, Q&A
W7	Descriptive Words (Adjectives, Adverbs, and Articles)	Lecturing, Group Discussion, Q&A
W8	Function Words (Conjunctions, Prepositions, and Interjections)	Lecturing, Group Discussion, Q&A
W9	Mid-term Examination	Mid-term Examination
W10	Prefixes and Suffixes	Lecturing, Group Discussion, Q&A
W11	Redundancies and Jargon	Lecturing, Group Discussion, Q&A
W12	Abbreviations, Acronyms, and Initialisms	Lecturing, Group Discussion, Q&A
W13	Phrases and Clauses	Lecturing, Group Discussion, Q&A
W14	Sentences and Paragraphs	Lecturing, Group Discussion, Q&A
W15	Voice, Person, and Tense	Lecturing, Group Discussion, Q&A
W16	Punctuation	Lecturing, Group Discussion, Q&A
W17	Summary of the Course	Lecturing, Group Discussion
W18	Final Examination	Final Examination

Teachers can make appropriate adjustments to the above weekly schedule as the course progresses, and the schedule may be subject to change.

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	電子構裝 Electronic Packaging	授課教師 Instructor	藍吉特 Dr. Ranjit A. Patil

	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：(100 % 英文內容 Percentage in English)
	    [1] *Advanced Electronic Packaging* – R. K. Ulrich, W. D. Brown, 2nd Ed., John Wiley and Sons, New Jersey, 2006
	    [2] *Fundamentals of Microsystem Packaging* – R. R. Tummala, McGraw-Hill, New York, 2001
	2.自製教材 Self-made Materials： Summarized presentation materials for the topics.
	    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：

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)：100 % English
	  Grading system: 10 % (Daily Performance and Participation) + 20 % (Homework/Reports) + 30 % (Mid-term exam) + 40 % (Final exam)

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 and outline of the course	Lecturing
W2	Introduction and Overview of the Electronic Packaging	Lecturing, Group Discussion, Q & A
W3	Packaging Materials and Ceramic Packaging	Lecturing, Group Discussion, Q & A
W4	Polymer and Metal Packaging	Lecturing, Group Discussion, Q & A
W5	Processing Technologies (Thin films)	Lecturing, Group Discussion, Q & A
W6	Processing Technologies (Patterning, Metal-Metal joining)	Lecturing, Group Discussion, Q & A
W7	Electronic Package Assembly	Lecturing, Group Discussion, Q & A
W8	Surface-Mount Technology and Wafer Preparation	Lecturing, Group Discussion, Q & A
W9	Mid-term Examination	Mid-term examination
W10	Die attachment and Wire bonding	Lecturing, Group Discussion, Q & A
W11	Flip-chip and Package Sealing/Encapsulation/Coating	Lecturing, Group Discussion, Q & A
W12	Package-level Processes and RF, MEMS, MOEMS systems	Lecturing, Group Discussion, Q & A
W13	Multichip Packaging	Lecturing, Group Discussion, Q & A
W14	3D systems (MCM stacks)	Lecturing, Group Discussion, Q & A
W15	Options in Multichip Packaging and Emerging Trends	Lecturing, Group Discussion, Q & A
W16	Reliability Meteorology	Lecturing, Group Discussion, Q & A
W17	Revision of the course	Group Discussion, Q & A

W18	Final Examination	Final Examination

Teachers can make appropriate adjustments to the above weekly schedule as the course progresses, and the schedule may be subject to change.

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	表面分析 Surface Analysis	授課教師 Instructor	藍吉特 Dr. Ranjit A. Patil

<div align="center">教學簡要說明</div>

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 Books：(100 % 英文內容 Percentage in English) 　[1] *Surface and Thin Film Analysis* - H. Bubert, H. Jenett, Wiley-VCH, Weinheim, Germany. 2002 　[2] *Surface Analysis - The principal Techniques*- J. C. Vickerman, 2nd Ed., John Wiley & Sons, New York, USA, *2009* 　[3] *Surface Analysis Methods in Materials Science* - D. J. O'Connor, B. A. Sexton, R. St. C. Smart, Springer-Verlag, Berlin, Germany, 1991 2.自製教材 Self-made Materials： Summarized presentation materials for the topics. 　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：
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

週次 Week	單元/主題 Unit/Topic	教學活動重點及教材內容 Teaching Activities
	grading）：100 % English Grading system: 10 % (Daily Performance and Participation) + 20 % (Homework/Reports) + 30 % (Mid-term exam) + 40 % (Final exam)	

<table>
<tr><td colspan="3" align="center">課程進度 Course Outline</td></tr>
<tr><td align="center">週次
Week</td><td align="center">單元/主題
Unit/Topic</td><td align="center">教學活動重點及教材內容
Teaching Activities</td></tr>
<tr><td>W1</td><td>Introduction and Outline of the Course</td><td>Lecturing</td></tr>
<tr><td>W2</td><td>Introduction to Surface Science</td><td>Lecturing, Group Discussion, Q & A</td></tr>
<tr><td>W3</td><td>Vacuum Technology for Applied Surface Science</td><td>Lecturing, Group Discussion, Q & A</td></tr>
<tr><td>W4</td><td>Scanning and Transmission Electron Microscopy</td><td>Lecturing, Group Discussion, Q & A</td></tr>
<tr><td>W5</td><td>Auger Electron Spectroscopy (AES)</td><td>Lecturing, Group Discussion, Q & A</td></tr>
<tr><td>W6</td><td>Energy-dispersive X-ray Spectroscopy (EDXS)</td><td>Lecturing, Group Discussion, Q & A</td></tr>
<tr><td>W7</td><td>Electron Backscattering Spectroscopy (EBS)</td><td>Lecturing, Group Discussion, Q & A</td></tr>
<tr><td>W8</td><td>Low-energy Electron Diffraction (LEED)</td><td>Lecturing, Group Discussion, Q & A</td></tr>
<tr><td>W9</td><td>Mid-term Examination</td><td>Mid-term Examination</td></tr>
<tr><td>W10</td><td>Electron Energy-loss Spectroscopy (EELS)</td><td>Lecturing, Group Discussion, Q & A</td></tr>
<tr><td>W11</td><td>Secondary Ion Mass Spectrometry (SIMS)</td><td>Lecturing, Group Discussion, Q & A</td></tr>
<tr><td>W12</td><td>Secondary Ion Mass Spectrometry (SIMS)</td><td>Lecturing, Group Discussion, Q & A</td></tr>
<tr><td>W13</td><td>X-ray photoelectron Spectroscopy (XPS)</td><td>Lecturing, Group Discussion, Q & A</td></tr>
<tr><td>W14</td><td>Ultraviolet Photoelectron Spectroscopy (UPS)</td><td>Lecturing, Group Discussion, Q & A</td></tr>
<tr><td>W15</td><td>Scanning Tunneling Microscopy (STM)</td><td>Lecturing, Group Discussion, Q & A</td></tr>
<tr><td>W16</td><td>Atomic Force Microscopy (AFM)</td><td>Lecturing, Group Discussion, Q & A</td></tr>
<tr><td>W17</td><td>Surface Enhanced Raman Scattering (SERS)</td><td>Lecturing, Group Discussion, Q & A</td></tr>
<tr><td>W18</td><td>Final Examination</td><td>Final Examination</td></tr>
<tr><td colspan="3">Teachers can make appropriate adjustments to the above weekly schedule as the course progresses, and the schedule may be subject to change.</td></tr>
</table>

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	庫秉弦 Abhishek Kuma Kumar0313@nfu.edu.tw

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： Advanced Engineering Mathematics, Dennis G. Zill, 6th Edition, Jones and Bartlett Publishers, 2018 (100% 英文內容 Percentage in English) 2. Bender, Ország, *Advanced mathematical methods for scientists and engineers*, Springer. 3.自製教材 Self-made Materials：40% 採用英文之比例(Percentage in English) 100% 4.其他補充說明 Others： Internet sources
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：Assignments
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)：100%, (Homework: 20%, Mid-Tem: 40%, Final Exam: 40%)

<div align="center">

課程進度 Course Outline

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週次 Week	單元/主題 Unit/Topic	教學活動重點及教材內容 Teaching Activities
W1	Introduction	Definitions and Terminology Differential Equation as Mathematical Models Initial-Value Problems
W2	First Order Differential Equations	Basic Concepts. Modeling Separable Equations Linear Equations
W3	First Order Differential Equations	Exact Equations Solution by Substitution Linear and Nonlinear Models
W4	Higher Order Differential Equations	Initial-Value, Boundary-Value Homogeneous and Nonhomogeneous Equations Reduction of Order
W5	Higher Order Differential Equations	Homogeneous Linear Equations with Constant Coefficients Method of Undetermined Coefficients Method of Variation of Parameters
W6	Higher Order Differential Equations	Cauchy-Euler Equation Nonlinear Equations

		Linear Models; Initial-Value Problems
W7	Higher Order Differential Equations	Linear Models; Boundary-Value Problems Nonlinear Models
W8	Laplace Transform	Definition of Laplace Transform The Inverse Transfer and the Transform of Derivative Translation Theorems
W9	**Mid-Term**	**Open Book**
W10	Laplace Transform	Derivative of Transform, Transform of Integrals, and Periodic Functions The Dirac Delta Function
W11	Series Solutions of Linear Differential Equations	Solutions about Ordinary Points Solutions about Singular Points
W12	Series Solutions of Linear Differential Equations	Bessel and Legendre Functions
W13	Orthogonal Functions and Fourier Series	Orthogonal Function Fourier Series Fourier Cosine and Sine Series
W14	Orthogonal Functions and Fourier Series	Complex Fourier Series Sturm-Liouville Problem Fourier-Bessel and Fourier-Legendre Series
W15	Boundary-Value Problems in Rectangular Coordinates	The Method of Separation of Variables Classical Partial Differential Equations and Boundary-Value Problems Heat Equation
W16	Fourier Transform and Solving Partial Differential Equations	Fourier Integral
W17	Fourier Transform and Solving Partial Differential Equations	Fourier Transform
W18	**Final Exam**	**Open Book**

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	數值熱傳 Heat Tranter	授課教師 Instructor	庫秉弦 Abhishek Kuma Kumar0313@nfu.edu.tw

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：_____ (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： Lecture Notes
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：Assignments
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 exams; 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 a Q&A session of 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)：100% (Attendance: 10%, Assignments: 20%, Midterm: 30%, Final Exam 40%)

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	Conduction, Convection, and Radiation
W2	Conduction	Conduction rate equation, Thermal Properties of Matter, and Heat Diffusion Equation
W3	One-Dimensional, Steady-State Conduction	Plane Wall, Cylinder, Sphere Conduction Analysis
W4	One-Dimensional, Steady-State Conduction	Heat Transfer from Extended Surface
W5	Two-Dimensional, Steady-State Conduction	General Consideration and Solution Technique
W6	Transient Conduction	Lumped Capacitance Method
W7	Transient Conduction	Finite-Difference Method
W8	Forced Convection	Introduction
W9	**Midterm**	**Open Book**
W10	Forced Convection	Boundary Layer
W11	External Flow	Empirical Method
W12	Internal Flow	Hydrodynamic and Thermal Consideration, Energy Balance
W13	Free convection	Physical Consideration

W14	Free convection	Empirical Correlations
W15	Boiling and Condensation	Mode of Boiling
W16	Boiling and Condensation	Condensation
W17	Heat Exchangers	Design of Heat Exchangers
W18	**Final Exam**	**Open Book**

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	計算流體力學 Computational Methods for Fluid Dynamics	授課教師 Instructor	庫秉弦 Abhishek Kuma Kumar0313@nfu.edu.tw

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： Computational Methods for Fluid Dynamics by Ferziger and Peric, Springer (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)99% 3.其他補充說明 Others： Lecture Notes
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： Simulation Projects
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)：100% (10% Attendance, 40% Midterm and 50% Final Exam)

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	Basic Concepts of Fluid Flow	Introduction, Conservation Principles, Simplified Mathematical Models, and Types of Flows
W2	Introduction to Numerical Methods	Approaches to Fluid Dynamical Problems, What is CFD?, and Components of a Numerical Solution Method
W3	Introduction to Numerical Methods	Components of a Numerical Solution Method
W4	Finite Difference Methods	Approximation of the First, Second, and Mixed Derivatives and Other Terms
W5	Finite Difference Methods	Implementation of Boundary Conditions, Algebraic Equation System, Discretization Errors, and Introduction to spectral Method
W6	Finite Volume Methods	Surface Integral
W7	Finite Volume Methods	Volume Integral
W8	Solution of Linear Equation Systems	Direct Methods, Iterative Methods, Coupled Equations and Their Solution
W9	**Mid Term**	**Simulation Project and Presentation**
W10	Methods for Unsteady Problems	Initial Value Problems in ODEs, Two-Level Methods, and Multipoint Methods
W11	Methods for Unsteady Problems	Generic Transport Equation, Explicit Methods, Implicit Methods, and Other Methods
W12	Solution of the Navier-Stokes Equations	Discretization of Convective, Viscous, Pressure, and Body Forces Terms
W13	Solution of the Navier-Stokes Equations	Other Methods
W14	Complex Geometries	Grid generation, Variable Arrangement, and Axis Symmetric Problem
W15	Turbulent Flows	DNS and LES Model
W16	Turbulent Flows	RANS Model
W17	Compressible Flow	Methods Designed for Compressible Flow
W18	**Final Exam**	**Simulation Project and 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	模態實驗與分析 Modal Experiments and Analysis	授課教師 Instructor	張禎元 Chang, Jen-Yuan

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>L. Meirovitch, Analytical Methods in Vibrations, Macmillan</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>100%</u> 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：
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.

<div align="center">課程進度 Course Outline</div>

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	Chapter 1

	methods c. Frequency response function	
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	
W10	Equations of Motion for Continuous Systems a. Transition from discrete system to continuous system b. Infinitesimal element approach Torsional Rod, longitudinal rod, and string models; Euler-Bernoulli, Rayleigh, and Timoshenko Models; Membranes c. Variational approach Hamilton's principle for a conservative discrete system;	Course notes and Chapters 5, and 10.1-10.5

	Extended Hamilton's principle; Extension to continuous systems; Applications	
W11	Equations of Motion for Continuous Systems a. Transition from discrete system to continuous system b. Infinitesimal element approach Torsional Rod, longitudinal rod, and string models; Euler-Bernoulli, Rayleigh, and Timoshenko Models; Membranes c. Variational approach Hamilton's principle for a conservative discrete system; Extended Hamilton's principle; Extension to continuous systems; Applications	Course notes and Chapters 5, and 10.1-10.5
W12	Eigenvalue Problems of Continuous Systems a. Formulation and solution of eigenvalue problems 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.	Course notes and Chapter 5
W13	Eigenvalue Problems of Continuous Systems a. Formulation and solution of eigenvalue problems 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.	Course notes and Chapter 5
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

	Special topics	
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	

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

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：＿＿＿＿＿＿＿＿＿＿＿＿＿ (＿＿＿%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：

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__20__%。 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：_____%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)：

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 / AES	The principles, equipment structure, applied fields and operational precautions of Auger Electron Spectroscopy, AES
W4	Lecture 4 / XPS	The principles, equipment structure, applied fields and operational precautions of X-ray Photoelectron Spectroscopy, XPS
W5	Lecture 5 / XPS	The principles, equipment structure, applied fields and operational precautions of X-ray Photoelectron Spectroscopy, XPS
W6	Lecture 6 / SIMS	The principles, equipment structure, applied fields and operational precautions of Secondary Ion Mass Spectrometry, SIMS
W7	Lecture 7 / SIMS	The principles, equipment structure, applied fields and operational precautions of Secondary Ion Mass Spectrometry, SIMS
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 AFM
W11	Lecture 10 / AFM	The principles, equipment structure, applied fields and operational precautions of AFM
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	非線性系統分析 Nonlinear System Analysis	授課教師 Instructor	黃運琳 / 教授 Yunn-Lin Hwang / Professor

<table>
<tr><td colspan="4" align="center">教學簡要說明</td></tr>
<tr><td colspan="4">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.</td></tr>
<tr><td>課程教材
Material</td><td colspan="3">1.指定課本書名 Book：__Shabana, Ahmed A., Vibration of Discrete and Continuous Systems, Springer Nature Switzerland AG 1997, 2019.__ (__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：</td></tr>
<tr><td>雙語教學方式
(可多選，或簡述)
Bilingual Teaching Strategies</td><td colspan="3">■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： Final project</td></tr>
</table>

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_80__%。 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： _80_%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）：

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	Appendix: LINEAR ALGEBRA	Lectures, Homework, Q&A
W4	Kinematics of Rigid Bodies	Lectures, Q&A
W5	Dynamic Equations	Lectures, Homework, Q&A
W6	Single Degree of Freedom Systems	Lectures, Homework, Q&A
W7	Lagrangian Dynamics	Lectures, Homework, Q&A
W8	Lagrange's Equations	Lectures, Homework, Q&A
W9	Midterm Examination	Open-Book Midterm Exam.
W10	Multi-degree of Freedom Systems	Lectures, Homework, Q&A
W11	Forced Vibration of the Undamped Systems	Lectures, Homework, Q&A
W12	Viscously Damped Systems	Lectures, Q&A
W13	Nonlinear Systems and Modal Decomposition	Lectures, Homework, Q&A
W14	Vibration of Continuous Systems	Lectures, Homework, Q&A
W15	Free Longitudinal Vibrations	Lectures, Q&A
W16	Free Transverse Vibrations of Beams	Lectures, Homework, Q&A
W17	Free Torsional Vibrations	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	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：__Hamilton H. Mabie, Charles F. Reinholtz, 1987, Mechanisms and Dynamics of Machinery, 4th Edition, ISBN: 978-0-471-80237-2, 656 Pages.__ (__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	■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： Final project

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_80__%。 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：_80_%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)：

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 Working Model 2D	Software demonstration, Q&A
W2	Introduction of 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	Spur Gear Machine System	Lectures, Homework, Q&A
W11	Bevel Gear Machine System	Lectures, Homework, Q&A
W12	Worm Gear 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 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	工程分析 Engineering Analysis	授課教師 Instructor	李孟澤 Meng-Tse Lee

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：＿＿＿＿＿＿＿＿＿＿＿＿ (＿＿＿%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	■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：

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__70__%。 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：_____%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)：

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: 1st Order ODE Model	1st Order ODE- Phenomenon Observe
W3		1st Order ODE Modeling & Solutions
W4		1st Order ODE Problems
W5	Part-3: 2nd Order Homogeneous ODE	2nd Order Homogeneous ODE- Phenomenon Observe
W6		2nd Order Homogeneous ODE Modeling & Solutions
W7		2nd 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	巨量資料分析 Big Data Analysis	授課教師 Instructor	李廣齊 Kuang-Chyi Lee

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：J. Han, M. Kamber & J. Pei, Data Mining: Concepts and Techniques, Morgan Kaufmann Publishers(Elsevier) (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) ≥70% 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：
成績評量方式 Grading	■　期中/期末考：_70_％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. □　英文期中/期末報告：_____％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)：

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	

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Bilingual Education Course Plan

課程名稱(中) 課程名稱(英) Course title in Mandarin and English	嵌入式系統 Embedded Systems	授課教師 Instructor	李廣齊 Kuang-Chyi Lee

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>Gerard Beekmans, Linux From Scratch (LFS) 7.1, Lulu Press Publishers</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) $\geq$70% 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：

成績評量方式 Grading	■ 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. □ 英文期中/期末報告：＿＿＿％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)：

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 Embedded System(I).	Oral
W2	Holiday	
W3	Introduction to Embedded System(II)	Oral
W4	Introduction to Linux System(I)	Oral & Practice
W5	Introduction to Linux System(II).	Oral & Practice

W6	Introduction to Ubuntu(II).	Oral & Practice
W7	Holiday	
W8	Introduction to Python.	Oral
W9	Import numpy.	Oral
W10	Midterm exam.	
W11	Neural Network.	Oral & Practice
W12	Deep Learning	Oral & Practice
W13	Softmax.	Oral & Practice
W14	MNIST dataset.	Oral & Practice
W15	Case Study(I): Get Data	Oral & Practice
W16	Case Study(II): Training	Oral & Practice
W17	Case Study(III): Inference	Oral
W18	Final exam.	

國立虎尾科技大學雙語教學課程計畫書
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課程名稱(中) 課程名稱(英) Course title in Mandarin and English	飛機維修實務 Aircraft Maintenance Practices	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：_Aircraft Maintenance & Repair (_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：

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____%以英文表達手工技巧。
	    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)**

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	Maintenance Perspective	Aircraft maintenance perspective
W3	Illustrated Parts Catalogue	Look for aircraft Parts
W4	Safety technique demonstration	Aircraft festered skill demonstration
W5	Fuel Pump Operation	Schematics knowledge shown
W6	Lacing Cord	Wiring Bundle skill
W7	1st Term Evaluation	Skill Team test
W8	Aircraft Fuel System	Aircraft Fuel System Lecture
W9	Fuel System -1	Aircraft Fuel System Lecture
W10	Fuel System -2	Aircraft Fuel System Lecture
W11	Fuel System -3	Aircraft Fuel System Lecture
W12	Fuel System -4	Share with students and ask for feedback
W13	2ndTest	Written Test
W14	Human Factor-1	Team Presentation Contest
W15	Human Factor-2	Share with students and ask for feedback
W16	Human Factor-3	From Human Factor point of view lecture
W17	Big5 presentation	Oral Presentation
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	電子電路設計實務 Electrical Circuits Design and Applications	授課教師 Instructor	吳森統 Wu, Sen-Tung

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：＿＿＿＿＿＿＿＿＿ (＿＿＿%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)_90__% 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：

成績評量方式 Grading	☐　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. ☐　英文期中/期末報告：＿＿＿%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)：

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	Basic theory for electrical circuits	1.Explaining the lessons, learning goals, and grading rules of the course 2.Basic theory for EE field
W2	Components stress and characteristics curve analysis	1. To deliver the concept of components stress 2.Consideration of components selection

W3	Power amplifier circuit	1.The operation of power amplifiers 2.Practical circuit analysis for power amplifiers
W4	Filter design	1.Low pass, high pass filters 2.Band pass, band rejection filters 3.Simulation of each filter
W5	Protection circuit	1.Operation principle of passive protection components 2. Operation principle of active protection circuits
W6	AC application circuits	1.Most common AC application circuits 2.Discussion and design of AC application
W7	DC application circuits	1.Most common DC application circuits 2.Discussion and design of DC application
W8	Sensors circuits	1.Operation principle and analysis of passive sensors 2. Implementation and design with sensors and other devices
W9	Discussion of grounding and shielding behavior	1. Characteristic and understanding for grounding 2. Characteristic and understanding for shielding behavior
W10	Midterm (Oral presentation)	Midterm
W11	MOSFET power switch driving circuit	1.Operation principle for MOSFET 2.Implementation and design of MOSFET power switch driving circuit
W12	Introduction of EMI for radiation interference	1.Understand the basic concept of EMI 2.Understand EMI for radiation interference
W13	Introduction of EMI for conduction interference	1.Understand the basic concept of EMI 2.Understand EMI for conduction interference
W14	HIPOT and isolation testing for cable/wire	1.Introduction of HIPOT testing bench 2.Understand the risk and benefits of isolation
W15	Commercial integrated circuits	1.Introduction of commercial integrated circuits 2.Design review of commercial integrated circuits
W16	Battery charger circuit	1.CC-CV charging curve analysis and discussion 2.Topologies of different battery charger circuits
W17	Design rules for consumer products	1.Introduction of each stage of the consumer products 2.Desigh rules and considerations for engineers
W18	Final term (Oral presentation)	Final term

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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

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：＿＿＿＿＿＿＿＿＿＿＿＿ (＿＿＿%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)_90__% 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：
成績評量方式 Grading	☐　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. ☐　英文期中/期末報告：＿＿＿%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)：

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 outline and grading criteria explanation, English self-introduction skill**	Explain the main points of self-introduction in English
W2	**International Journal Reading Skill**	Reading skills and methods for international journals, including quick browsing tips for abstracts

W3	**Tips for browsing and searching international journal website**	Guide students to use the IEEE Xplore scientific journal search engine to describe how journal or seminar papers are filtered
W4	**Idea Generator-Mind map tool**	Teach students the extended associative concept of the mind map, and after deciding on the theme or theme, you can start to spread the relevant argument
W5	**English Briefing Material Skills**	Explain the basic structure of the brief, outline (preface), main body (main thesis), conclusion. and the proportion of time required for each stage
W6	**Simulation and Implementation of English Publication of Seminar Posters and Wallpaper**	Students will choose relevant scientific and technological topics that they are familiar with or interested in, and introduce them in English in the form of poster sharing
W7	**Seminar English Oral Presentation Simulation and Implementation**	Refer to the format, manner, process, time limit of oral presentation of the seminar, and precautions for questions from the audience
W8	**Listening Practice for English Speaking in English Speaking Countries**	In the context of dealing with foreigners from English-speaking countries, students can train their English listening through English speech videos on audio-visual platforms
W9	**English Speech Listening Practice for Non English speaking Countries**	At present, most of our foreign students are exchange students from Indonesia, India, Vietnam, or other non-English speaking countries. In the process of talking with students or interacting with teachers and students in class, due to the foreign accent, it is easy to understand the English meaning of foreign students at the first time. The main focus of this course is to allow students to train their English listening
W10	**Customized speech theme for English oral speech (midterm report**	Combined with the English oral presentation skills, briefing editing essentials, conference presentation methods and procedures learned before the mid-term report, each student is required to present the results in stages
W11	**Practice of English resume writing**	English resume writing is an important personal recommendation, so the teacher will explain in detail the structure and writing of the resume
W12	**Simulation of Foreign Interview Occasions**	Through group practice, students practice in the roles of main examiner and test taker in order. Teachers and practitioners will tour between groups to check the students' practical status and give immediate guidance
W13	**Simulation of internal group meetings of foreign companies for discussion**	In the process of entering the workplace, it often takes a lot of cross-departmental teamwork to complete the development of a project or the smooth production of a product. The working meetings of internal groups are often discussed in foreign companies
W14	**Communication skills for simulation of foreign companies using Con-call remote video conferences**	The content is last week's bridging course, and in the process of meeting and discussing with customers, it is impossible to achieve face-to-face direct response and expression, so the Con-call (Conference call) format is used for remote video conference

W15	**Using English to communicate with images or texting**	Students are individually selected, each student chooses English words or images, and after the students on the stage randomly draw lots to select the answer cards of the students' propositions, they try to describe the answers in English
W16	**Telling a story - impromptu speech**	The teaching purpose of this course is to stimulate students' imagination, based on interesting pictures and coherent story content. Use English to connect the story logic of the whole picture, so as to practice students' impromptu speech and oral expression skills。
W17	**English Song Listening Practices**	Each student listens carefully to the content of the song and can discuss with each other in the group to try to put together the correct lyrics of the song
W18	**Provide full English theoretical explanation in the field of electrical engineering to foreign students**	All dialogue and exchange sessions must be filmed (due to course time, it is not possible to invite all interviewed foreign students to the course for on-site interaction). Therefore, it is presented in the form of a video, and at the end of the interview process, there must be a QA part for the interviewed foreign students to ask questions and be answered by the students. Answers can be made with charts, gestures, or any tool that helps with explanation

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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

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：＿＿＿＿＿＿＿＿＿＿ (＿＿＿%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：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)

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：
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20%。 　　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：　80%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)：

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	5G Core Network and Private Network Technology	Lecturing 5G Core Network and Private Network Technology
W6	Lab 1: Construction and Measurement Experiment of 5G Private Network	Experiment Construction and Measurement Experiment of 5G Private Network
W7	5G Core Network and Private Network Technology	Lecturing 5G Core Network and Private Network Technology
W8	Lab 2: Experiment of Network Functions and Application Functions (NF/AF) in 5G Core Network	Experiment Experiment of Network Functions and Application Functions (NF/AF) in 5G Core Network
W9	Midterm	
W10	Network Function Application Service (NF/AF) in 5G Core Network	Lecturing Network Function Application Service (NF/AF) in 5G Core Network
W11	Collaborative Application Development of Mobile Devices and Core Networks in 5G Private	Lecturing Collaborative Application Development of Mobile Devices and Core Networks in 5G Private Networks

	Networks	
W12	Lab 3: Collaborative Application Development Experiment of Mobile Devices and Core Networks in 5G Private Networks	Experiment Collaborative Application Development Experiment of Mobile Devices and Core Networks in 5G Private Networks
W13	5G Security Technology	Lecturing 5G Security Technology
W14	Lab 4: Penetration Test and Stress Test of 5G Core Network	Experiment Penetration Test and Stress Test of 5G Core Network
W15	Final Project	Practice and discussion
W16	Final Project	Practice and discussion
W17	Final Project	Practice and discussion
W18	Final Project	Project 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	奈米光學特論 Special Topics in Nanophotonics	授課教師 Instructor	郭文凱 Wen-Kai Kuo

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:＿＿＿＿＿＿＿＿＿＿＿ (＿＿＿%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)__80___% 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:

成績評量方式 Grading	☐ 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. ☐ 英文期中/期末報告：_____%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)：

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	Review of Electromagnetic wave 1	
W3	Review of Electromagnetic wave 2	
W4	Polarization	
W5	Modulation of light	
W6	Diffraction grating 1	
W7	Diffraction grating 2	
W8	Surface plasmon resonance 1	
W9	Surface plasmon resonance 2	
W10	Guided-mode resonance 1	
W11	Guided-mode resonance 2	
W12	Rigorous coupled-wave analysis	
W13	Finite-difference time-domain	
W14	Simulation tools: Rsoft 1	
W15	Simulation tools: Rsoft 2	
W16	Final oral presentation	
W17	Final oral presentation	
W18	Final oral presentation	

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課程名稱(中) 課程名稱(英) Course title in Mandarin and English	特殊研究問題討論 Special research topics	授課教師 Instructor	黃鴻基 Huang, Hung Ji

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：＿＿＿＿＿＿＿＿＿＿＿＿ (＿＿＿%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：個人英文報告
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：＿＿＿%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)：

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 the rules and teaching class
W2	Fundamental concepts of nanotechnology	Teaching class
W3	Molecular nanotechnology	Teaching class
W4	Current nanotechnology	Teaching class

W5	Fabrication method: top-down and bottom approaches	Teaching class
W6	Functional and biomimetic approaches	Teaching class
W7	Midterm exam 1	Midterm exam
W8	Tools and Techniques 1	Teaching class
W9	Tools and Techniques 2	Teaching class
W10	Applications of nanotechnologies 1	Teaching class
W11	Applications of nanotechnologies 2	Teaching class
W12	Implications of Nanotechnologies	Teaching class
W13	Impact of Nanotechnology	Teaching class
W14	Health and environmental concerns	Teaching class
W15	Midterm exam 2	Midterm exam
W16	Final report	Personal oral report
W17	Final report	Personal oral report
W18	Final report	Personal oral report

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課程名稱(中) 課程名稱(英) Course title in Mandarin and English	特殊研究問題討論 Special research topics	授課教師 Instructor	黃鴻基 Huang, Hung Ji

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：＿＿＿＿＿＿＿＿＿＿＿＿＿ (＿＿＿％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：個人英文報告

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：_____%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)：

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 the rules and teaching class
W2	Fundamental concepts of nanotechnology	Teaching class
W3	Molecular nanotechnology	Teaching class
W4	Current nanotechnology	Teaching class
W5	Fabrication method: top-down and bottom approaches	Teaching class
W6	Functional and biomimetic approaches	Teaching class
W7	Midterm exam 1	Midterm exam
W8	Tools and Techniques 1	Teaching class
W9	Tools and Techniques 2	Teaching class
W10	Applications of nanotechnologies 1	Teaching class
W11	Applications of nanotechnologies 2	Teaching class
W12	Implications of Nanotechnologies	Teaching class
W13	Impact of Nanotechnology	Teaching class
W14	Health and environmental concerns	Teaching class
W15	Midterm exam 2	Midterm exam
W16	Final report	Personal oral report
W17	Final report	Personal oral report
W18	Final report	Personal oral report

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課程名稱(中) 課程名稱(英) Course title in Mandarin and English	雲端作業系統 Cloud Operation System	授課教師 Instructor	簡銘伸 JIAN,MING-SHEN

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：_____ (_____%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)___80___% 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：

成績評量方式 Grading	□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. □英文期中/期末報告：_____%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)：

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	Cloud Introduction	Introduction
W2	Cloud O.S. Structure	Cloud O.S. Structure
W3	Cloud O.S. Structure	Cloud O.S. Structure
W4	Laboratory	Build individual Cloud environment
W5	Cloud Resource Management	Cloud Resource Management

W6	Cloud System Management	Cloud System Management
W7	Laboratory	Java Environment Implementation
W8	Laboratory	Build Hadoop/MapReduce Environment
W9	Mid-Exam	Mid-Exam
W10	Hadoop/MapReduce	Hadoop/MapReduce Storage
W11	Hadoop/MapReduce	Hadoop/MapReduce Algorithm &System
W12	Laboratory	WordCount Example implementation
W13	NoSQL Database	Database
W14	Laboratory	NoSQL Implementation
W15	Discussion and Report	Discussion and Report
W16	Discussion and Report	Discussion and Report
W17	Discussion and Report	Discussion and Report
W18	Final-Exam	Final-Exam

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課程名稱(中) 課程名稱(英) Course title in Mandarin and English	雲端大數據安全 Big Data Security	授課教師 Instructor	江季翰 Ji-Han Jiang

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：Big-Data Analytics for Cloud, IoT and Cognitive Computing, First Edition. Kai Hwang and Min Chen. (_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：

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__20_%。 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：_____%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）：

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	• 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)

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課程名稱(中) 課程名稱(英) Course title　in Mandarin and English	微處理機實習 Microprocessor practice	授課教師 Instructor	陳國益 Kuo-Yi Chen

	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：_ Embedded Systems with ARM Cortex-M Microcontrollers in Assembly Language and C _ (_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)_50_% 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：
成績評量方式 Grading	■期中/期末考：_50_%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. □ 英文期中/期末報告：_____%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)：

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	SPI experiments	SPI control Flash
W4	Watchdog experiments	The timer as watchdog to protect MCU
W5	TSR experiments	TSR lab project
W6	Interrupter experiments	Interrupter lab project

W7	SRAM experiments	SRAM read/write operation
W8	Buzzer experiments	Buzzer operation
W9	File R/W experiments	Local file read/write operation
W10	Mid term	
W11	GPIO application	GPIO usage and PIN
W12	LCD experiments	LCD usage and LCD project
W13	UART experiments	UART protocol
W14	ADC experiments	ADC converter •NuMicro ADC
W15	PWM experiments	PWM controller with motor and buzzer
W16	Timer experiments	Cortex-M0 MCU Interrupt Vector,Timer,WatchDog
W17	I2C experiments	I2C access EEPROM
W18	Final term	

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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 HUANG,SHIH-CHANG

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. Rufi. ISBN: 978-1587133480 (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：

成績評量方式 Grading	■　期中/期末考：　90 ％以上英文試題，學生以英文答題 30-60 ％。 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：＿＿＿％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)：

<table>
<tr><th colspan="3">課程進度 Course Outline</th></tr>
<tr><th>週次
Week</th><th>單元/主題
Unit/Topic</th><th>教學活動重點及教材內容
Teaching Activities</th></tr>
<tr><td>W1</td><td>Overview of Computer Network</td><td>Network layer, topology</td></tr>
<tr><td>W2</td><td>Communicating concept</td><td>Analog and digital, baseband broadband, wired media</td></tr>
<tr><td>W3</td><td>Media and devices</td><td>UTP,CABLE, Modem, Router,Switch</td></tr>
<tr><td>W4</td><td>Protocols</td><td>Layer Protocol, TCP/UDP, OSI</td></tr>
<tr><td>W5</td><td>Local Area Network framework</td><td>Ethernet, Fast Ethernet, build the LAN/WLAN</td></tr>
<tr><td>W6</td><td>Network Planning</td><td>Layout, backbone, case study</td></tr>
<tr><td>W7</td><td>Layer 2 Protocol</td><td>CS/MACD, Frame format, collision</td></tr>
<tr><td>W8</td><td>IP protocol</td><td>IP class, CIDR, DHCP, DNS, IPV6</td></tr>
<tr><td>W9</td><td>Midterm</td><td>Midterm exam</td></tr>
<tr><td>W10</td><td>Addressing and Network I</td><td>IP Classification CIDR, Network Mask,</td></tr>
<tr><td>W11</td><td>Addressing and Network II</td><td>Subnet Scheduling</td></tr>
<tr><td>W12</td><td>TCP Protocol I</td><td>UDP/ TCP. TCP</td></tr>
<tr><td>W13</td><td>TCP Protocol II</td><td>Segment format, TCP connection</td></tr>
<tr><td>W14</td><td>ARP,RARP, ICMP</td><td>ARP,RARP, ICMP, header format</td></tr>
<tr><td>W15</td><td>Routing Protocols I</td><td>OSPF, RIP, DSRV, AODV</td></tr>
<tr><td>W16</td><td>Routing Protocols II</td><td>Static route, dynamic route</td></tr>
<tr><td>W17</td><td>Security</td><td>Firewall, digital signatual, hacker,</td></tr>
<tr><td>W18</td><td>Final</td><td>Final exam</td></tr>
</table>

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Bilingual Education Course Plan

課程名稱(中) 課程名稱(英) Course title in Mandarin and English	科技文件閱讀 English Reading for Science and Technology	授課教師 Instructor	蔡柏祥 TSAI, PO-HSIANG

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：__科技英文導讀(5th)，李開偉，全華，2016__(　80_%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	■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：
成績評量方式 Grading	■ 期中/期末考：_30_%以上英文試題，學生以英文答題_30　%。 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：　30　%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)：

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 Applica- tion	Issue about Non-Provisional Utility Paten Application
W13	Development of E-commerce in Manufacturing Operations	Issue about Development of E-commerce in Manufac- turing 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-En- gineering
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 English	科技英文 English for Science and Technology	授課教師 Instructor	蔡柏祥 TSAI, PO-HSIANG

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：__科技英文,陳志的,高立, 2006__ (__80___%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	■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：

成績評量方式 Grading	■ 期中/期末考：_30_%以上英文試題，學生以英文答題_30__%。 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：__30__%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)：

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	Liquid Crystals	Liquid Crystals
W3	Artificial Intelligence	Artificial Intelligence
W4	Balloon Flight	Balloon Flight
W5	Banner Ads	Banner Ads
W6	Domino's Store Management	Domino's Store Management
W7	Dow Chemical	Dow Chemical
W8	Expert Systems	Expert Systems
W9	Mid-Term Exam	Mid-Term Exam
W10	Hen's Egg	Issue about Hen's Egg
W11	Hindenburg	Issue about Hindenburg
W12	Jaw Crusher: Coarse Range	Issue about Jaw Crusher: Coarse Range
W13	Leadscrew Linear Actuators	Issue about Leadscrew Linear Actuators
W14	Superconductors	Issue about Superconductors
W15	Systems Software	Issue about Systems Software
W16	The Transformer	Issue about The Transformer
W17	Transistor Appliers	Issue about Transistor Appliers
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 English	科學計算 Scientific Computing	授課教師 Instructor	游允帥 Yu,Yun-Shuai

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：_____ (_____%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)__85__% 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：

成績評量方式 Grading	■　期中/期末考：__35__%以上英文試題，學生以英文答題__35__%。 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：_____%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)：

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 this course	Goals, Main contents、Development environment
W2	Introduction of Python	Basic knowledge of Python
W3	Introduction of Python	DataFrame
W4	Introduction of Python	DataFrame
W5	Data preprocessing	Numerical data

W6	Data preprocessing	Categorical data
W7	Linear regression	Simple regression
W8	Linear regression	Simple regression
W9	Mid-term exam	
W10	Linear regression	Multiple regression
W11	Supervised learning	Logistic regrssion
W12	Supervised learning	K nearest neighbor
W13	Supervised learning	Support vector machine
W14	Supervised learning	Decision tree
W15	Word analysis	Bag of words, term frequency
W16	Oral presentation in English	
W17	Oral presentation in English	
W18	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 English	Python 程式設計 Python Programming	授課教師 Instructor	劉育松 Yu-Sung Liu

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：＿＿＿＿＿＿＿＿＿＿ (＿＿＿％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)　80　% 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：
成績評量方式 Grading	□　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. ■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

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	*Ch1 Getting Started and Ch2 IDE installation*	Introduce lesson requirements and set up the developing tools.
W2	*Ch3 Basic Concepts of Computer Languages. Ch4 Basic programming*	Introduction to the history of Python and the motivation of using computer programming. How to write a simple Python program? Basis of data types and flow controls.
W3	*Ch5 Functions, Modules, Packages, Object-Oriented Programming*	Introduce the functions, modules, packages. Understand the main concepts of Object-Oriented Programming
W4	*Ch6 Graphical User Interface*	Discuss about how to implement a window program with the Python supported GUI libraries.
W5	*Ch7 Containers*	Introduce the Python special data structures - containers, including Lists, Dictionaries, Sets, and Tuples.
W6	*Ch8 Matplotlib Libraries*	Discuss about how to show and manipulate the diverse figures by matplotlib libraries.
W7	*Ch16 Pandas Data Analysis*	Introduce how to handle python DataFrames and convert them between Excel and CSV. Exhibit good scientific or statistical figures with the help of Pandas.
W8	*Ch17 Numpy Matrices and Mathematic library*	Basic knowledge of classes, objects, data members and function members.
W9	Midterm Examination	Oral presentations on interesting topics
W10	*Ch19 Machine Learning - Regression*	Learn the concepts of artificial intelligence. Implement the machine learning regression algorithm by Python modules and functions.
W11	*Ch20 Machine Learning – KNN, Ch21 Machine Learning – K-means*	Learn the concepts of KNN and K-means. Implement the machine learning KNN and K-means algorithms by Python modules and functions.
W12	*Ch22 Machine Learning – Decision Tree Ch23 Machine Learning – Random Forest*	Learn the concepts of decision tree and random forest. Implement the machine learning decision tree and random forest algorithms by Python modules and functions.
W13	*Ch24 Machine Learning – Bayes' theorem*	Introduce the basic concepts of – Bayes' theorem and how it is implemented in Python.
W14	*Ch25 TensorFlow Installation*	Install and setup the developing environment of TensorFlow modules.
W15	*Ch26 TensorFlow Neural Networor-Fundamental*	Show the basic concepts of neural networks. Exhibit the steps and functions of how the neural networks are implemented by TensorFlow.
W16	*Ch27 TensorFlow neural network-Advanced*	Discuss more advanced manipulation and concepts of TensorFlow.

| W17 | *Ch31 TensorFlow neural network-CNN* | Understand the basic concepts of CNN algorithm and it is implemented in the TensorFlow developing system. |
| W18 | *Final Examination* | Oral presentations on innovative application |

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	Python 程式設計 Python Programming	授課教師 Instructor	劉育松 Yu-Sung Liu

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：＿＿＿＿＿＿＿＿＿＿＿＿ (＿＿＿%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)　80　% 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：
成績評量方式 Grading	□　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. ■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 ■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)：

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	*Ch1 Getting Started and Ch2 IDE installation*	Introduce lesson requirements and set up the developing tools.
W2	*Ch3 Basic Concepts of Computer Languages. Ch4 Basic programming*	Introduction to the history of Python and the motivation of using computer programming. How to write a simple Python program? Basis of data types and flow controls.
W3	*Ch5 Functions, Modules, Packages, Object-Oriented Programming*	Introduce the functions, modules, packages. Understand the main concepts of Object-Oriented Programming
W4	*Ch6 Graphical User Interface*	Discuss about how to implement a window program with the Python supported GUI libraries.
W5	*Ch7 Containers*	Introduce the Python special data structures - containers, including Lists, Dictionaries, Sets, and Tuples.
W6	*Ch8 Matplotlib Libraries*	Discuss about how to show and manipulate the diverse figures by matplotlib libraries.
W7	*Ch16 Pandas Data Analysis*	Introduce how to handle python DataFrames and convert them between Excel and CSV. Exhibit good scientific or statistical figures with the help of Pandas.
W8	*Ch17 Numpy Matrices and Mathematic library*	Basic knowledge of classes, objects, data members and function members.
W9	Midterm Examination	Oral presentations on interesting topics
W10	*Ch19 Machine Learning - Regression*	Learn the concepts of artificial intelligence. Implement the machine learning regression algorithm by Python modules and functions.
W11	*Ch20 Machine Learning – KNN, Ch21 Machine Learning – K-means*	Learn the concepts of KNN and K-means. Implement the machine learning KNN and K-means algorithms by Python modules and functions.
W12	*Ch22 Machine Learning – Decision Tree Ch23 Machine Learning – Random Forest*	Learn the concepts of decision tree and random forest. Implement the machine learning decision tree and random forest algorithms by Python modules and functions.
W13	*Ch24 Machine Learning – Bayes' theorem*	Introduce the basic concepts of – Bayes' theorem and how it is implemented in Python.
W14	*Ch25 TensorFlow Installation*	Install and setup the developing environment of TensorFlow modules.
W15	*Ch26 TensorFlow Neural Networr-Fundamental*	Show the basic concepts of neural networks. Exhibit the steps and functions of how the neural networks are implemented by TensorFlow.
W16	*Ch27 TensorFlow neural network-Advanced*	Discuss more advanced manipulation and concepts of TensorFlow.
W17	*Ch31 TensorFlow neural network-CNN*	Understand the basic concepts of CNN algorithm and it is implemented in the TensorFlow developing system.
W18	*Final Examination*	Oral presentations on innovative application

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

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。

This introductory course gives an overview of many concepts, techniques, and processes in Big Data, beginning with topics such as business process and data business matrix and ending up with more recent topics such as slowly changing dimension, bridge tables and some advance fact table techniques.. The course will give the students the basic ideas and intuition behind modern data modeling methods as well as a bit more formal understanding of how, why, and when they work. The underlying theme in the course is ETL method as it provides the data flow for most of the scenarios covered.

Help students obtain the skills of:

The goal of this course is to give an introduction to the modeling technique of Big Data. The course will teach student basic skills to decide which approaches to use for what scenarios, build up your own data warehouse structure., etc

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.

課程教材 Material	1.指定課本書名 Book：Data Science from Scratch, Joel Grus, O'Reilly (_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	■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：
成績評量方式 Grading	■期中/期末考：_30_%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. ■英文期中/期末報告：_30_%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)：Attendance 20%, Workshop 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	Big Data	
W2	•Introduction to Big Data	
W3	•Architecture	
W4	•Database fundamental	
W5	•Data Modeling	
W6	•Dimensions	
W7	•Modeling Myths	
W8	• Project and team group discussion	
W9	Midterm	
W10	• Fact Table Techniques	
W11	• Dimension Table Techniques	
W12	Machine Learning	
W13	• Design for various Scenarios	
W14	• ETL Modeling	
W15	•ETL Plan	
W16	•ETL Implmentation	
W17	•Project and team group discussion	
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	資料庫管理 Database Management	授課教師 Instructor	侯雍聰 Yung-Tsung Hou
教學簡要說明 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.			
課程教材 Material	1.指定課本書名 Book：__Fundamentals of Database Systems _____ 　(__100___%英文內容 Percentage in English) 2.自製教材 Self-made Materials：補充講義 Lecture Notes，採用英文之比例(Percentage in English)___100___%		

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：
成績評量方式 Grading	□　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. ■　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)：

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	
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	

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	生產與作業管理 Production and Operations Management	授課教師 Instructor	郭文宏 Wen-Hung　Kuo

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：Operations Management, William J. Stevenson (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	■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：期末英文報告 (Final project presentation)
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_80_%。 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：_70_%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)：

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 Operations Management	Introduction to the architecture of operation management
W2	Competitiveness, Strategy, and Productivity	How a company get competitiveness and productivity.
W3	Strategic Capacity Planning for	Introduction to capacity planning of three planning

	Products and Services	horizons
W4	Strategic Capacity Planning for Products and Services	Different strategic capacity planning
W5	Process Selection and Facilities Layout	Process types, process selection, and automation.
W6	Process Selection and Facilities Layout	Classification of production systems and (corresponding) types of layouts.
W7	Simulation	Introduction to simulation
W8	Simulation	Introduction to FlexSim
W9	Midterm Exam	
W10	Simulation Modelling	Build a simple model
W11	Simulation Data	Get data from the model
W12	Simulation and Capacity	Simulation models of systems with different capacities
W13	Simulation and Capacity	Analysis of different capacities in a production system
W14	Simulation and Productivity	Simulation models of different facility layouts
W15	Simulation and Productivity	Productivity analysis of different facility layout
W16	Simulation and Productivity	Productivity analysis of different facility layout
W17	Final project presentation	English oral presentation
W18	Final project presentation	English oral 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	生產管理與實務 Production Management and Practice	授課教師 Instructor	胡智熊 Chih-Hsiung Hu

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： ___Operations Management/ William J. Stevenson /14th Edition___ (___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：
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)：

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 3 Forecasting	Lecturing / Q&A
W6	Chapter 4 Product and Service Design	Lecturing / Q&A
W7	Chapter 5 Strategic Capacity Planning for Products and Service	Lecturing / Q&A
W8	Chapter 6 Process Selection and Facility Layout	Lecturing / Q&A
W9	Mid-term	
W10	Chapter 11 Aggregate Planning and Master Scheduling	Lecturing / Q&A
W11	Chapter 11 Aggregate Planning and Master Scheduling	Lecturing / Q&A
W12	Chapter 13 MRP and ERP	Lecturing / Q&A
W13	Chapter 16 Scheduling	Lecturing / Q&A
W14	Chapter 16 Scheduling	Lecturing / Q&A
W15	Scheduling case practice introduction	Lecturing / Q&A
W16	Scheduling case scenario 1, 2, 3 report and discussion	Group Discussion and Report/Q&A Scheduling Assignment 6
W17	Scheduling case scenario 4, 5, 6 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 in Mandarin and English	網路與運籌 Networks and Logistics	授課教師 Instructor	謝益智 Hsieh ,Yi-Chih

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：＿＿＿＿＿＿＿＿＿＿＿ (＿＿＿%英文內容 Percentage in English) 2.自製教材自製教材 (Free handouts of lecture)：採用英文之比例 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：
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 70 %。 　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：60% 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)：

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 & Networks	Lecturing
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

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>Manufacturing Execution Systems: Optimal Design, Planning, and Deployment</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)_99__% 3.其他補充說明 Others：International Journal Papers
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：

<table>
<tr><td rowspan="8">成績評量方式
Grading</td><td>

☐　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.

■　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

■　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)：僅非報告形式之小組討論中允許含中文 50%發問

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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	Course Introduction	Lecturing 80% and Video Watching 20%
W2	Factory of Future	Lecturing 80% and Video Watching 20%
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 80% and Video Watching 20%
W16	Man-machine Collaborations	Lecturing 80% and Video Watching 20%
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	綠色及永續製造企業系統 Green and Sustainable Manufacturing and Enterprise Systems	授課教師 Instructor	李孟樺 Li, Meng-Hua

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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.

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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)__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：
成績評量方式 Grading	■期中/期末考：__50___％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. ■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)：

<div align="center">課程進度 Course Outline</div>

週次 Week	單元/主題 Unit/Topic	教學活動重點及教材內容 Teaching Activities
W1	Green Lean Six Sigma Introduction	Green Lean Six Sigma is a management approach that integrates the principles of Green Production and the Six Sigma methodology. The main focus of this course is to achieve highly efficient manufacturing and business processes while minimizing resource waste during production, enhancing performance, and reducing variability. Through the principles of Lean Production Management and the application of relevant techniques, continuous improvement and process optimization are implemented to consistently achieve higher levels of production efficiency.
W2	Green Lean Six Sigma Concepts and Relevant Tools	The concepts of Green Lean and Six Sigma are established based on environmental management, standardized operational processes, and organizational culture. This approach emphasizes reducing the use of energy and resources during the production process while ensuring efficiency through standardized operational processes. Relevant tools include the PDCA cycle, continuous improvement initiatives, and

		methodologies such as 5S organization and value stream mapping. These frameworks contribute to a comprehensive understanding of processes and facilitate optimization.
W3	Green Lean Six Sigma Concepts and Related Tools 2	This course delves into the principles and framework of Green Lean Six Sigma, emphasizing Quality Function Deployment (QF) and Design Thinking. It explores how to identify and control key parameters while classifying and managing various sources of variation. Simultaneously, it introduces how to apply these relevant concepts and tools to drive process improvement and enhance production efficiency.
W4	Measurement and Analysis Phase of Green Lean Six Sigma (GLSS)	The measurement and analysis phase of Green Lean Six Sigma encompasses data collection, filtering, and defining the analysis variables. Participants will learn to apply the steps and methods of the GLSS measurement phase, gaining an in-depth understanding of process performance through the use of data visualization tools.
W5	Analysis and Improvement in Green Lean Six Sigma (GLSS)	Through root cause analysis, formulation, and implementation of improvement plans, as well as continuous monitoring and evaluation of improvement outcomes. Simultaneously, emphasis is placed on establishing knowledge-sharing and learning mechanisms to ensure organizational competitiveness in a changing environment.
W6	Control and Tracking in Green Lean Six Sigma (GLSS)	In this phase, the establishment of standardized operational processes is achieved through the formulation and implementation of control plans. The process involves monitoring and tracking key performance indicators. Additionally, methods for predicting issues and establishing preventive mechanisms are introduced to ensure the organization consistently achieves superior production efficiency.
W7	From Lean to Green: Only Green Value Thinking	Commonalities and Complementary Aspects of Lean and Green Value
W8	Understanding Green Value Stream Mapping	How to Simultaneously Achieve Production Efficiency and Environmental Sustainability while Drawing a Value Stream Map.
W9	Comparison Analysis of Lean and TPS (Toyota Production System)	Understanding the similarities and differences between Lean Management and the Toyota Production System (TPS), and learning how to apply both methods in real business scenarios to enhance efficiency, reduce waste, and maintain high-quality products and services.
W10	The Five Simple Basic Principles of Implementing Lean Production System	Analyzing and practicing the Kaizen (Improvement) culture, encouraging everyone to participate in improving processes.
W11	Midterm Exam - Practical Application	Testing students' understanding and mastery of practical applications related to lean manufacturing.
W12	Establishing a Lean and Green Business	A method that combines waste reduction and

	System	efficiency improvement with environmental sustainability, achieving a win-win for both business and environmental benefits.
W13	Definition and Content of Green Lean Production	How to drive organizational culture towards the transformation of Lean and Green values.
W14	Lean Green Manufacturing Case Study	Examining specific business cases that have implemented Lean and Green values.
W15	Benefits and Advantages of Implementing Green Lean Production	How to establish a green supply chain and integrate lean principles to achieve a more sustainable manufacturing process.
W16	Net Zero Transformation for Small and Medium-sized Enterprises (SMEs)	Successful cases of businesses implementing green lean practices, understanding and implementing green standards and certifications.
W17	Exploring Lean Green Smart Manufacturing	Methods to reduce environmental impact and enhance sustainability, examining how smart factories achieve automation and optimization of the production process.
W18	Final - Outcome Presentation	The final outcome presentation involves practical projects and analysis related to smart manufacturing.

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

教學簡要說明

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.
a. To enable perception of why, where, and how information technology/systems should be linked with formulation of business strategy.
b. To examine from the strategic perspective the organization, control, monitoring and evaluation of information technology/systems activities.
c. To understand the main issues concerned with the economics aspects of information technology/systems.

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	☑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：Every student must report orally for assigned topic.

成績評量方式
Grading
	☑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)：
	School works/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	行為財務 Behavioral Finance	授課教師 Instructor	呂麒麟 Chilin Lu

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.

　　Behavioral finance plays a more and more important role in the development of financial 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.

課程教材 Material	1.指定課本書名 Book：__ Investment Madness_ (_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：Reference book: Ackert and Deaves, 2010, *Behavioral Finance: Psychology, Decision-Making, and Markets*, South-Western.
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：Paper presentation and discussion
成績評量方式 Grading	□　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. ■　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)：

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	Introduction	Lecturing
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	Report writing

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

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：_____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 Strategy Case 4: Lean Production at Virginia Mason	Ch4 Lecturing; Group Discussion; Q&A; Problem Based Learning; Group Report
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 Strrategy	Ch8 Lecturing; Group Discussion; Q&A; Problem

	Case 8: Avon Products	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 Organization Case12: Organization Change at Google	Ch12 Lecturing; Group Discussion; Q&A; Problem 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	科技管理 Technology Management	授課教師 Instructor	陳鈺淳 Yu-Chun Chen

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： 　Schilling, M. A., & Shankar, R. (2019). Strategic Management of Technological Innovation. McGraw-Hill Education　(_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：
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)：

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	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?
W5	Chapter 3: Types and Patterns of InnovationII	
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
W7	Chapter 4: Standards Battles and Design DominanceII	

W8	Chapter 4: Standards Battles and Design DominanceIII	to influence the likelihood of having its technology chosen as the dominant design?
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	時間數列分析 Time Series Analysis	授課教師 Instructor	王若愚 Jo-Yu Wang

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：_ *Time Series Analysis and Its Applications: With R Examples* __ 　　(___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	☑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：
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：_____%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)：

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課程進度 Course Outline

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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.	
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.	
W3	Time Series Regression and Exploratory Data Analysis. 3.1　Classical Regression in the Time Series Context. 3.2　Akaike's Information Criterion (AIC) and Bayesian Information	

	Criterion (BIC) applications. 3.3 Exploratory Data Analysis and the codes in R packages.	
W4	Autoregressive moving average (ARMA) models and the function of autoregressive integrated moving average (ARIMA) model. 4.1 The insights of AR and MA models, and their applications in Taiwanese Stock market or world equity indices. 4.2 Box-Jenkins methods. 4.3 How to apply ARMA and ARIMA model in R package.	Assignment: R installation and activate in personal laptop
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	Stationary and Non-stationary Data 5.1 Why the issue (Stationary or not) is important, and unit root testing. 5.2 How to test and identify it.	Assignment: download data from TEJ and read the data into R environment.
W7	5.3 How to cure the issue of non-stationary. 5.4 Building ARIMA Models with R: models, diagnosis, drawing diagrams, and explanations.	Assignment: download data from TEJ and read the data into R environment.
W8	In class practical exercises (II) with R language and TEJ database.	
W9	midterm	Midterm presentation: 10 minutes for each student
W10	In class practical exercises (III) with R language and TEJ database. One case study demonstrated by the lecturer.	In class assignment and practice.
W11	Volatility models of time series data 6.1 Why we need to consider volatility of time series data? 6.2 The features of time series data, particularly to financial or economic data. 6.3 Generalized autoregressive conditionally heteroscedastic (GARCH) model, and its applications.	Problem-based learning (PBL) lecturing and studying
W12	6.4 Example: analysis of G7 GNP. 6.5 Threshold Models 6.5.1 Why and how to use threshold model. 6.5.2 How to build a threshold model with GARCH model.	
W13	State-Space Models 7.1 Filtering, Smoothing, and Forecasting.	

	7.2 The Kalman Filter and its applications.	
W14	7.3 Maximum Likelihood Estimation (MLE) application to Kalman filter. 7.4 Missing Data Modifications.	
W15	Other topics of analysis of time series data. 8.1 Bootstrapping State-Space Models 8.2 Dynamic Linear Models with Switching. 8.3 Nonlinear and Non-normal State-Space Models Using Monte Carlo Methods	
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

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

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. 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. 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：Essentials of Investments (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：Research articles from journals

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：
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__5___％。 　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：_____％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)：

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	銀行管理專題 Topics on Bank Management	授課教師 Instructor	王若愚 Jo-Yu Wang

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：_ *Sustainability in Bank and Corporate Business Models = The Link between ESG Risk Assessment and Corporate Sustainability*_ (_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：

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：__90__%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)：

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. ● What are commercial bank and investment bank (security house) ● Overview of the Financial-Services Sector.	

W2	• Evolution and history of banking • Functions and types of banks • Banking regulations and compliance	The case study: HSBC growth in the past 30 years
W3	Banking Operations • Deposit and loan products • Payment systems • Core banking services	
W4		
W5	Risk Management in Banking • Credit risk management • Market risk management • Operational risk management • Liquidity risk management	
W6	Financial Management • Asset-liability management • Capital adequacy • Profitability analysis	
W7	Banking Technology and Innovation • FinTech and its impact on banking • Digital banking • Blockchain and cryptocurrencies	
W8	Corporate Governance in Banking (1) • Board structures and roles • Risk oversight • Compliance and ethics	
W9	Midterm: • Assignment at the class and discussion •	Midterm presentation: 10 minutes for each student
W10	Corporate Governance in Banking (2): readings	In class assignment and practice.
W11	Regulatory Framework • Basel III and other regulatory standards • Compliance and risk management • Anti-money laundering (AML) and Know Your Customer (KYC) regulations	Discussion: Basel III standards impact to the banking system
W12	Special Topics and Review • International Banking • Ethics and Social Responsibility in Banking • Strategic Management in Banking • Financial Inclusion and Microfinance • Current Issues and Trends in Banking	
W13	Investment banking and security firms • What are their core business in Taiwan? •	

W14	How to manage security firm's business? ● Underwriter's business ● Bonds, IPO and SEO underwriting business	
W15	Problem-based Learning at class: underwriter's business ● **Risk Assessment:** Underwriters analyze the potential risks associated with insurance policies or financial transactions. This includes evaluating the likelihood of a claim being made and the potential financial impact. ● **Policy Pricing:** Underwriters determine the appropriate premium to charge for insurance coverage based on their assessment of risk. ● **Technology and Automation:** Implementing and managing technology solutions is essential for efficiency and accuracy in underwriting. ● **Market research:** Building and maintaining relationships with clients, brokers, and other stakeholders is crucial.	Problem-based learning (PBL) lecturing and studying
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

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 Hung-Hsu Yen

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： **Marketing part:** Kotler, P., Bowen, J. T., and Makens, J. C. (2006). *Marketing for Hospitality and Tourism*, Pearson Education, N. J. Middleton, V. T. C. & Clarke, J. (2001). *Marketing in Travel and Tourism 3rd Ed.*, Butterworth-Heinemann, MA. **Management part:** Jubenville, A. & Twight, B. W. (1993). *Outdoor Recreation Management: Theory and*

	Application 3rd Ed., Venture Publishing, PA. Hammitt, W. E. & Cole, D. N. (1998). *Wildland Recreation: Ecology and Management 2nd Ed.*, John Wiley & Sons, NY. (　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：
成績評量方式 Grading	□　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. □　英文期中/期末報告：＿＿＿%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)：

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 Course	Course description
W2	Introduction of 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	Marketing environment analysis
W5	The Concept of Marketing	Consumer behavior
W6	The Concept of Marketing	Satisfaction
W7	The Concept of Marketing	Segmentation, Targeting, Positioning
W8	The Concept of Marketing	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	Carrying capacity and crowding issues
W14	The Issues in Management	Management strategy
W15	Group Discussion	The research design for marketing or management in the field of park and recreation
W16	Group Discussion	The research design for marketing or management in

		the field of park and recreation
W17	Group Discussion	The research design for marketing or management in the field of park and recreation
W18	Research project 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	國際企業管理 Multinational Management	授課教師 Instructor	邱慧昀 Chiu, Hui -Yun

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：Global Business (4th edition) by Mike Peng (__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)____50__% . To suit the level of the students, the lecturer will self-design the contexts of the slides. 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：

成績評量方式 Grading	☑ 期中/期末考：_30_%以上英文試題，學生以英文答題__30___%。 The percentage of English using in designing midterm/final exam; the percentage of English using in answering the exam paper. 　The exam format will be multiple choice. Vocabularies that students may not know will be given definition in Chinese. Additionally, students can bring their dictionaries to the exams ☐ 英文期中/期末報告：_____%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）： __10-20___%以英文表達。 Student's class participation points will be given based on their efforts in the classroom, how much they participate to the discussion in the class. Students can choose to use either English or Chinese, language which they feel more comfortable with.

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	
W2	CH 1 Global business	
W3	CH 2 Understanding politics, laws, and economics	
W4	CH 3 Emphasising informal institutions: cultures, ethics, and normsmn	
W5	CH　6 Investing abroad directly	Case discussion Emerging markets: Monetising the Maasai Tribal Name pp.92 -93 In group, discuss question 1 and 2. Be prepare for class discussion
W6	CH　6 Investing abroad directly	
W7	Guest lecture	
W8	Quiz	
W9	Midterm	

W10	CH 8 Capitalising on Global and Regional Integration		Case discussion Emerging markets: Automobile FDI in Brazil and Mexico pp. 204- 206 In group, discuss question 1, 2, and 3. Be prepare for class discussion
W11	CH 9 Capitalising on Global and Regional Integration		
W12	CH 10 Entering Foreign Markets		
W13	CH 12 Making Alliances and Acquisitions Work		
W14	CH 12 Making Alliances and Acquisitions Work		
W15	Guest lecture		
W16	CH 13 Strategising, Structuring, and Learning Around the World		Case discussion Emerging Markets: Mickey Goes to Shanghai pp. 339 - 340 In group, discuss question 1, 2, an . Be prepare for class discussion
W17	Preparation for Exam		
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	國際行銷 International Marketing	授課教師 Instructor	邱慧昀 Chiu, Hui -Yun
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：Global Marketing Management (8th edition) by Wareen J. Keegan 　(__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)____50__% . To suit the level of the students, the lecturer will self-design the contexts of the slides. 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：
成績評量方式 Grading	☑ 期中/期末考：_30_%以上英文試題，學生以英文答題__30___%。 The percentage of English using in designing midterm/final exam; the percentage of English using in answering the exam paper. 　The exam format will be multiple choice. Vocabularies that students may not know will be given definition in Chinese. Additionally, students can bring their dictionaries to the exams ☑ 英文期中/期末報告：__30___%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)： __10-20___%以英文表達。 Student's class participation points will be given based on their efforts in the classroom, how much they participate to the discussion in the class. Students can choose to use either English or Chinese, language which they feel more comfortable with.

<div align="center">課程進度 Course Outline</div>

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	
W2	CH 1. Introduction to global marketing	Understand briefly some fources that result in increasing global intergration.
W3	CH 2. The global economic enviroment	Interview one local business owner to determine their attitude toward global market (in-class activity).

W4	CH 4. The global cultural enviroment	Group presentation of the interview.
W5	CH 5 Global customers	What is the differene between a low-contexy and a high-context culture? Identify two countries to represent them also discuss their influences on marketing (in-class activity).
W6	CH 7 Segmentation, targeting, and positioning	
W7	CH 7 Segmentation, targeting, and positioning	
W8	Guest Lecture	
W9	Midterm exam	
W10	CH 10 Brand and product decision in global marketing	
W11	CH 10 Brand and product decision in global marketing	Group project preparation
W12	CH 12 Global marketing channles and physical distribution	Group project preparation and discussion
W13	CH 12 Global marketing channels and phsycical distributiob	
W14	Guest lecture	
W15	CH 13 Global marketing communication decision 1	Group project preparation and discussion
W16	CH 13 Global marketing communication decision 1	Group project preparation and discussion
W17	Presentation	
W18	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	社交媒體互動研究 Social Media Interaction	授課教師 Instructor	沈思岑 Siu-Tsen Shen

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：**Stories and Social Media: Identities and Interaction by Ruth E. Page; Routledge; ISBN 978- 041-583-702-6** (_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	☑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：

成績評量方式 Grading	☐　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. ☐　英文期中/期末報告：_____%以英文表達。 The percentage of using English in midterm or final oral presentation ☐　**v 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)：

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	Topics covered: Background and introduction to presenting in Stories and Social Media in Context (I)	Stories and Social Media in Context (I)
W2	Stories and Social Media in Context	Stories and Social Media in Context (II)

	(II)		
W3	Reading assignments	Chapter 1-3 of text.	
W4	Second Stories Told in Discussion Forums (I)	Second Stories Told in Discussion Forums (I)	
W5	Second Stories Told in Discussion Forums (II)	Second Stories Told in Discussion Forums (II)	
W6	Reading assignments	Chapter 4-6 of text.	
W7	Narratives of Illness and Personal Blogs (I)	Narratives of Illness and Personal Blogs (I)	
W8	Narratives of Illness and Personal Blogs (II)	Narratives of Illness and Personal Blogs (II)	
W9	Mid Term Assessment		
W10	Storytelling Styles in Facebook Updates (I)	Storytelling Styles in Facebook Updates (I)	
W11	Storytelling Styles in Facebook Updates (II)	Storytelling Styles in Facebook Updates (II)	
W12	Reading Assignments	Chapter 7-9 of text	
W13	Celebrity Practice: Stories Told in Twitter	Celebrity Practice: Stories Told in Twitter	
W14	Narrative and Commentary in Collaborative Storytelling	Narrative and Commentary in Collaborative Storytelling	
W15	Space and Identity in Stories on the Move	Space and Identity in Stories on the Move	
W16	Fakes, Fictions, and FB "Rape": Narrative authenticity	Fakes, Fictions, and FB "Rape": Narrative authenticity	
W17	Familiar, Reconfigured,& Emergent Dimensions of Narrative	Familiar, Reconfigured,& Emergent Dimensions of Narrative	
W18	Final Term Exam	Oral 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	多媒體創作與表現專題研究 Multimedia Presentation and Topic Oriented Research	授課教師 Instructor	沈思岑 Siu-Tsen Shen

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：**Presentation Zen: Simple Ideas on Presentation Design and Delivery by Garr Reynolds; New Riders Publisher; ISBN 978-032-152-565-9**___ (_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	☑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：
成績評量方式 Grading	☐ 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. ☐ 英文期中/期末報告：_____%以英文表達。 The percentage of using English in midterm or final oral presentation ☐ v 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)：

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課程進度 Course Outline

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週次 Week	單元/主題 Unit/Topic	教學活動重點及教材內容 Teaching Activities
W1	Topics covered: Background and introduction to presenting in Today's world (I)	Presenting in Today's world (I)
W2	Presenting in Today's world (II)	Presenting in Today's world (II)
W3	Reading assignments	Chapter: Introduction and Preparation of text.
W4	Preparation: Creativity, Limitations and Constraints (I)	Creativity, Limitations and Constraints (I)
W5	Creativity, Limitations and Constraints (II)	Creativity, Limitations and Constraints (II)
W6	Reading assignments	Chapter: Design of text.
W7	Planning Analog (I)	Planning Analog (I)
W8	Planning Analog (II)	Planning Analog (II)
W9	Mid Term Assessment	
W10	Crafting the Story (I)	Crafting the Story (I)
W11	Crafting the Story (II)	Crafting the Story (II)
W12	Reading Assignments	Chapter: Delivery of text
W13	Simplicity: Why it matters	Simplicity: Why it matters

W14	Presentation Design: Principles and Techniques	Presentation Design: Principles and Techniques
W15	Sample slides Demo	Sample slides Demo
W16	The Art of Being Completely Present	The Art of Being Completely Present
W17	Connecting with an Audience	Connecting with an Audience
W18	Final Term Exam	Oral Presentation