

112/1Bilingual Education Courses (112 學年度第 1 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
							Mon	Tue	Wed	Thu	Fri	
1	碩設一甲	<a href="#">0250</a>	半導體元件製程 <b>Introduction to Semiconductor Device and Manufacturing Process</b>	選修	3	Disksha Chauhan 迪克莎喬 (博士)					2-4	BGA0611 綜一館研討室(三)
2	車碩一甲	<a href="#">0072</a>	科技論文閱讀與寫作 <b>The Reading and Writing of Scientific Paper</b>	選修	3	Disksha Chauhan 迪克莎喬 (博士)			7-9			ATB0303 第二期教學大樓 3F 普通教室
3	碩電子一甲	<a href="#">0087</a>	無線通訊 <b>Wireless Communications</b>	選修	3	Disksha Chauhan 迪克莎喬 (博士)				5-7		BGA0611 綜一館研討室(三)
4	碩材綠一甲	<a href="#">0232</a>	光電陶瓷材料 <b>Electro-Optics Ceramic Materials</b>	選修	3	Ranjit Anandaro Patil 藍吉特 (博士)				2-4		AME0324 機械工程館 3F 預備教室(三)
5	碩機一甲	<a href="#">0020</a>	半導體製程技術 <b>Semiconductor Process Technology</b>	選修	3	Ranjit Anandaro Patil 藍吉特 (博士)					2-4	AME0209 機械工程館 2F 第一專題研討室
6	碩電子一甲	<a href="#">0088</a>	光電能源元件 <b>Optoelectronic Energy Devices</b>	選修	3	Ranjit Anandaro Patil 藍吉特 (博士)					5-7	BGA0611 綜一館研討室(三)
7	碩航電一甲	<a href="#">0305</a>	高等熱力學 <b>Advanced Thermodynamic</b>	選修	3	Abhishek Kumar 庫秉弦 (博士)	2-4					BGA0611 綜一館研討室(三)
8	碩自一甲	<a href="#">0056</a>	協同產品設計 <b>Collaborative Product Design</b>	選修	3	Abhishek Kumar 庫秉弦 (博士)				2-4		BGA0450S 綜一館 4F 專業講堂
9	博智產一甲 博智產二甲	<a href="#">2705</a>	科技英文論文寫作 <b>Writing of Scientific English Paper</b>	選修	3	Abhishek Kumar 庫秉弦 (博士)			5-7			BGA0611 綜一館研討室(三)

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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, Department of Mechanical and Comuter-aided Engineering (機械與電腦輔助 工程系碩士班)	0010	Special Topics on Metal Forming 金屬成形特論	Elective 選修	3	Li-Wei Chen 陳立緯				5-7		(AME0209) Seminar Room I, Mechanical engineering Building 2F 機械工程館 2F AME0209 第一專題研討 室	<u>Course Plan</u>
2	Department of Mechanical Design Engineering (機械設計工程系 碩士班)	0248	Mechanical Vibrations 機械振動學	Elective 選修	3	Hwang , Yunn-Lin 黃運琳		2-4				(BGA0810) Multi-Purpose Engineering Bldg., Computer Aided Design Lab.8F 綜合工程一館 8F BGA0810 電腦輔助設計 室	<u>Course Plan</u>
3	Department of Precision	2654	P-TECH Course (5)	Elective 選修	1	Mao , Yen-Chieh 毛彥傑			7			(BGA0901) Multi-Purpose	<u>Course Plan</u>

	Mechanical Engineering (精密機械工程科 五專)		P-TECH 課程 (五)									Engineering Bldg., Conference Hall 9F 綜合工程一館 9F BGA0901 國際會議廳	
4	Doctoral Program in Mechanical and Electro-Mechanical Engineering, Department of Power Mechanical Engineering (動力機械工程系 博士班)	2689	Dynamics of Multibody Systems 多體動力學	Elective 選修	3	Hwang, Yunn-Lin 黃運琳			2-4			(AIA0201) Information Building 2F ordinary classroom 資訊大樓 2F AIA0201 普通教室(10301 起 工程學院電腦教室)	<u>Course Plan</u>
5	Master's Program, Department of Automation Engineering (自動化工程系碩士班)	0055	Autonomous Unmanned Vehicle System 自動化無人載具系統	Elective 選修	3	LI ,MENG TSE 李孟澤	5-7					(BGA0340) Seminar Room 3F, Building One, Campus Two 綜合工程一館 3F 研討室	<u>Course Plan</u>
6	Master's Program, Department of Automation Engineering	0054	Application for Digital Image Processing 數位影像處理	Elective 選修	3	Lee ,Kuang-Chyi 李廣齊			7-9			(BGA0330) Computer-aided Engineering Lab	<u>Course Plan</u>

	(自動化工程系碩士班)		實務									3F, Building One, Campus Two 綜合工程一館 3F 電腦輔助工程實驗室	
7	Master's Program in Aeronautical and Electronic Engineering, Department of Aeronautical Engineering (飛機工程系碩士班)	0306	Flight Safety 飛航安全	Elective 選修	3	Wang, Shih-Chia 王士嘉		5-7				(ATB0502) Phase II Teaching Building 5F ATB0502 ordinary classroom 第二期教學大樓 5F ATB0502 普通教室	<u>Course Plan</u>
8	Department of Electrical Engineering (電機工程系)	7266	Science and Technology English 科技英文	Elective 選修	3	Sen-Tung Wu 吳森統	10-12					EE building, Lighting laboratory 電機館 1F BEE0105 照明實驗室	<u>Course Plan</u>
9	Master's Program, Department of Electrical Engineering (電機工程系碩士班)	0133	FPGA Circuits Design FPGA 電路設計	Elective 選修	3	SUN, CHI-CHIA 宋啟嘉			2-4			BEE0502; Network Application and Chip Design Lab. 5F,	<u>Course Plan</u>

												Electrical 電機館 5F BEE0502 網路 應用與晶片設 計實驗室	
10	Master's Program, Department of Electrical Engineering (電機工程系碩 士班)	0129	Embedded Systems 嵌入式系統	Elective 選修	3	SU, HUI-KAI 蘇暉凱	5-7					BEE0402; Intelligent Electronic and Application Lab. 4F, Electrical Engineering Building 電機館 4F BEE0402 智慧 電子應用實驗 室	<u>Course Plan</u>
11	Department of Electro-Optical Engineering (光電工程系)	1138	Photonic detection 光電檢測	Optional 選修	3	Huang, Hung Ji 黃鴻基	3		7-8			(ATD0704) Phase 4 Teaching Building 7F 第四期教學大 樓 7F ATD0704 普通 教室	<u>Course Plan</u>
12	Master's Program, Department of Computer Science and Information Engineering (資訊	0118	Internet of Things 物聯網	Elective 選修	3	JIAN,MING-SHEN 簡銘伸	7-9					(BGC0614) The 3rd Assembly Building 6F e-Learning Lab.	<u>Course Plan</u>

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												Assembly Building 5F Bioinformatics Lab. 綜合工程三館 5F BGC0513 生物資訊實驗室	
15	Department of Computer Science and Information Engineering (資訊工程系)	2079	Microprocessor 微處理機	Required 必修	3	CHEN,KUO-YI 陳國益				7-9		(BGC0601) The 3rd Assembly Building 6F IC Desing Lab. 綜合工程三館 6F BGC0601 IC 設計實驗室	<u>Course Plan</u>
16	Department of Computer Science and Information Engineering (資訊工程系)	2078	Operation System 作業系統 (三甲)	Required 必修	3	HUANG,SHIH-CHANG 黃世昌		5-7				(BGC0601) The 3rd Assembly Building 6F IC Desing Lab. 綜合工程三館 6F BGC0601 IC 設計實驗室	<u>Course Plan</u>
17	Master's Program, Department of Computer Science and Information	0126	Big Data Analysis 巨量資料分析	Elective 選修	3	JIANG,JI-HAN 江季翰			5-7			(BGC0501) The 3rd Assembly Building 5F	<u>Course Plan</u>

	Engineering (資訊工程系碩士班)											Basic electricity and professional certification Lab. 綜合工程三館 5F BGC0501 基本電學與證 照實驗室	
18	Master's Program, Department of Computer Science and Information Engineering (資訊工程系碩士班)	0124	Machine Learning 機器學習	Elective 選修	3	LIN,WU-CHIEH 林武杰				2-4		(BGC0305) Embedded System Software Design Lab. 綜合工程三館 3F BGC0305 嵌入式系統軟 體實驗室	<u>Course Plan</u>
19	Department of Electronic Engineering (電子工程系)	1822	Introduction to Electronic Engineering 電子工程導論	Elective 選修	3	Yu-Sung Liu 劉育松		5,6		2		(AME0406) Lab 3, Building of Mechanical Engineering 4F 機械工程館 4F AME0406 物理實驗室 (三)	<u>Course Plan</u>
20	Master's Program in Industrial	0328	Quantitative Research	Required 必修	3	Chao, Wei-Cheng 趙偉成	5-7					Business Intelligence	<u>Course Plan</u>



	Engineering and Management, Department of Engineering and Management (工業管理系工業工程與管理碩士班)		Methodology 數量研究方法									Room (CMA0305) Applied Arts, Sciences and Management Building 3F 文理暨管理大樓 3F CMA0305 企業智慧教室	
21	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)	0330	Data Mining 資料探勘	Elective 選修	3	Ying -Lien Lee 李英聯					5-7	Business Intelligence Room (CMA0305) Applied Arts, Sciences and Management Building 3F 文理暨管理大樓 3F CMA0305 企業智慧教室	<u>Course Plan</u>
22	Master's Program in Industrial Engineering and Management, Department of Engineering and	0329	Simulation 模擬學	Elective 選修	3	Hu ,Chih -Hsiung 胡智熊			2-4			Business Intelligence Room (CMA0305) Applied Arts, Sciences and	<u>Course Plan</u>

	Management (工業管理系工業工程與管理碩士班)											Management Building 3F 文理暨管理大樓 3F CMA0305 企業智慧教室	
23	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)	2710	Sustainable Engineering and Management 永續工程與管理	Elective 選修	3	Li, Meng-Hua 李孟樺				7-9		Seminar RoomI (CMA0211) Applied Arts, Sciences and Management Building 3F 文理暨管理大樓 2F CMA0211 專業教室I	<u>Course Plan</u>
24	Institute of Information Management (資訊管理系碩士班)	0100	Introduction to Business Intelligence 商業智慧	Electives 選修	3	Yung-Tsung Hou 侯雍聰	5-7					(CMA0407) , Applied Arts, Sciences and Management Building 4F 文理暨管理大樓 4F CMA0407 智慧應用電腦教室	<u>Course Plan</u>
25	Institute of Information Management (資訊管理系碩士班)	0103	ETL and Modeling of Big data 大數據彙整與	Electives 選修	3	Nian-Ze Hu 胡念祖					2-4	(CMA0405) , Applied Arts, Sciences and Management Building 4F 文理暨管理大樓 4F CMA0405	<u>Course Plan</u>

			建模									多媒體電腦教室	
26	Institute of Information Management (資訊管理系碩士班)	0096	Seminar on Information Management(1) 資訊管理專題研討(一)	Electives 選修	3	Yen-Kun Lin 林彥昆		3,4				(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	<u>Course Plan</u>
27	Information Management (資訊管理系大學部)	2504	Social Network Analysis 社群網路分析	Electives 選修	3	Yi-Shih Lo 羅亦斯	2-4					(CMA0407) , Applied Arts, Sciences and Management Building 4F 文理暨管理大樓 4F CMA0407 智慧應用電腦教室	<u>Course Plan</u>
28	Information Management (資訊管理系大學部)	1866	Programming (1) 程式設計(一)	Required 大學部必修		You-feng Lan 藍友烽				2-4		(CMA0406) , Applied Arts, Sciences and Management Building 4F 文理暨管理大樓 4F CMA0406 企業電子化電腦教室	<u>Course Plan</u>
29	Master's Program in Business Management, Department of Business Administration (經營管理碩士班)	0357	Marketing Management 行銷管理	Elective 選修	3	Yi Hsu 徐怡		5-7				(CMA0206) Applied Arts, Sciences and Management Building 2F 文理及管理大樓 2F	<u>Course Plan</u>

												CMA0206 經營模擬與數據分析實驗室	
30	Master's Program in Business Management, Department of Business Administration (經營管理碩士班)	0358	Corporate Financial Management 公司財務管理	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	<u>Course Plan</u>
31	Master's Program in Business Management, Department of Business Administration (經營管理碩士班)	0360	Business Data Analysis 企業資料分析	Elective 選修	3	Liang, Chih-Chin 梁直青			2,3			(CMA0206) Applied Arts, Sciences and Management Building 2F 文理及管理大樓 2F CMA0206 經營模擬與數據分析實驗室	<u>Course Plan</u>
								2				(CMA0207) Applied Arts, Sciences and Management Building 2F 文理及管理大樓 2F CMA0207 電腦教室	

32	Master's Program in Business Management, Department of Business Administration (經營管理碩士 班)	0373	Motivation and Leadership 激勵與領導	Elective 選修	3	Ching-Hsiang Liu 劉慶湘				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	<u>Course Plan</u>
33	Master's Program in Business Management, Department of Business Administration (經 營管理碩士班)	0374	Entrepreneurial Management 創業管理	Elective 選修	3	Yu-Chun Chen 陳鈺淳			5-7			(CMAB108) Applied Arts, Sciences and Management Building B1 文 理及管理大樓 B1 三創學程 專業教室(1)	<u>Course Plan</u>
34	Master's Program in Business Management, Department of Business Administration (經 營管理碩士班)	0375	Internet Marketing 網路行銷	Elective 選修	3	Yen-Hao Hsieh 解燕豪	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	<u>Course Plan</u>

35	Department of Finance ( Graduate Program ) (財務金融系碩士班)	0039	Corporate Finance 公司理財	Required 必修	3	Wang, Jo-Yu 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	<u>Course Plan</u>
36	Department of Finance ( Graduate Program ) (財務金融系碩士班)	0040	Econometrics 計量經濟學	Required 必修	3	Tsai, Feng-Tse 蔡豐澤	5-7					(CHB0107) Certificate Center, Art and Humanity Building 1F 人文大樓 1F CHB0107 專業電腦教室二	<u>Course Plan</u>
37	Applied Foreign Languages (應用外語系)	1914	Introduction to Business 企業管理概論	Elective 選修	2	Chiu, Hui -Yun 邱慧昀					3-4	(AGR0312) Multi -function Professional Room, Red Building 3F 紅樓 3F AGR0312 多功能專業教室	<u>Course Plan</u>

38	Applied Foreign Languages (應用外語系)	1967	Cross-cultural management 跨文化管理	Elective 選修	2	Chiu, Hui -Yun 邱慧昀				7-8		(AGR0301) Multi -function Auditorium, Red Building 3F 紅樓 3F AGR0301 多 功能演講廳	<u>Course Plan</u>
39	Graduate Institute of Digital Contents and Creative Industries (多媒體設計系數位內容創意產業研究所碩士班)	0182	HCI Design Research 人機介面互動設計研究	Elective 選修	3	Shen Siu-Tsen 沈思岑			2-4			(CHB0305) Multimedia Design Studio, Art and Humanity Building 3F 人文大樓 3F CHB0305 多媒體設計實驗室	<u>Course Plan</u>
40	Graduate Institute of Digital Contents and Creative Industries (多媒體設計系數位內容創意產業研究所碩士班)	0190	Digital media communication 數位媒體傳播	Elective 選修	3	Shen Siu-Tsen 沈思岑		2-4				(CHB0305) Multimedia Design Studio, Art and Humanity Building 3F 人文大樓 3F CHB0305 多媒體設計實驗室	<u>Course Plan</u>

41	Graduate Institute of Digital Contents and Creative Industries (多媒體設計系數 位內容創意產業 研究所碩士班)	0185	Creativity and Innovation Research 創意創新研究	Elective 選修	3	Jue Wu-Haw 朱文浩				2-4		(CHB0305) Multimedia Design Studio, Art and Humanity Building 3F 人文大樓 3F CHB0305 多媒體設計實 驗室	<u>Course</u> <u>Plan</u>
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# 國立虎尾科技大學雙語教學課程計畫書

## Bilingual Education Course Plan

課程名稱(中) 課程名稱(英) Course title in Mandarin and English	金屬成形特論 Special Topics on Metal Forming	授課教師 Instructor	陳立緯 Li-Wei ,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：_ Special Topics on Metal Forming _ (_100_% 英文內容 Percentage in English) 2.自製教材 Self-made Materials：Special Topics on Metal Forming 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	<input checked="" type="checkbox"/> 教材講述 Lecturing <input type="checkbox"/> 小組討論 Group Discussion <input type="checkbox"/> 口頭問答 Q&A <input type="checkbox"/> 問題導向 Problem Based Learning <input checked="" type="checkbox"/> 協同教學 Collaborative Teaching <input checked="" type="checkbox"/> 分組報告 Group Report <input type="checkbox"/> 其他方式說明 Others：		
成績評量方式  Grading	<input checked="" type="checkbox"/> 期中/期末考：_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. <input checked="" type="checkbox"/> 英文期中/期末報告：_100_% 以英文表達。 The percentage of using English in midterm or final oral presentation <input checked="" type="checkbox"/> 全英語口頭簡報 (含 QA 問答)20分鐘以上(一般科系專業課、碩博專業課程必須包含此評量方式) English oral presentation including Q&A session at least 20 minutes (Department cores, master's degree and doctoral degree courses so must have <input checked="" type="checkbox"/> 其他方式(請說明中英文比例)Others(please state the proportion of Mandarin and English in grading)：		

課程進度 Course Outline		
週次 Week	單元/主題 Unit/Topic	教學活動重點及教材內容 Teaching Activities
W1	Introduction of Special Topics on Metal Forming	Introduction of Special Topics on Metal Forming
W2	literature review skills on metal forming related reference	literature review skills on metal forming related reference
W3	Principle of metal forming	Principle of metal forming
W4		
W5		
W6	Fundamental concept of plasticity	Fundamental concept of plasticity
W7		
W8		
W9	Midterm Examination	Midterm Examination
W10	Analysis of the material properties of metal forming	Analysis of the material properties of metal forming
W11		
W12	Analysis and simulation of metal forming	Analysis and simulation of metal forming
W13		

W14	Case study of advanced metal forming	Case study of advanced metal forming
W15		
W16	Project study	Project study
W17		
W18	Final Examination	Final Examination

## 國立虎尾科技大學雙語教學課程計畫書

### Bilingual Education Course Plan

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

成績評量方式 Grading	<p>■ 期中/期末考：<u>100%</u>以上英文試題，學生以英文答題<u>80%</u>。 The percentage of English using in designing midterm/final exam; the percentage of English using in answering the exam paper.</p> <p>■ 英文期中/期末報告<u>80%</u>以英文表達。 The percentage of using English in midterm or final oral presentation</p> <p>■ 全英語口頭簡報 (含 QA 問答)20分鐘以上(一般科系專業課、碩博專業課程必須包含此評量方式) English oral presentation including Q&amp;A session at least 20 minutes (Department cores, master's degree and doctoral degree courses so must have</p> <p><input type="checkbox"/> 其他方式(請說明中英文比例)Others(please state the proportion of Mandarin and English in grading )：</p>
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### 課程進度 Course Outline

週次 Week	單元/主題 Unit/Topic	教學活動重點及教材內容 Teaching Activities
W1	Introduce Working Model 2D	Software demonstration, Q&A
W2	Introduce RecurDyn	Software demonstration, Q&A
W3	Solutions of Vibration Ordinary Differential Equations	Lectures, Homework, Q&A
W4	1-DOF Undamped Free Vibrations	Lectures, Q&A
W5	1-DOF Undamped Forced Vibrations	Lectures, Homework, Q&A
W6	1-DOF Damped Free Vibrations	Lectures, Homework, Q&A
W7	1-DOF Damped Forced Vibrations	Lectures, Homework, Q&A
W8	Stability of Motion	Lectures, Homework, Q&A
W9	Midterm Examination	Open-Book Midterm Exam.
W10	Coulomb Damping Vibrations	Lectures, Homework, Q&A

W11	Rotating Unbalance	Lectures, Homework, Q&A
W12	Base Motion	Lectures, Q&A
W13	Experimental Methods for Damping Evaluation	Lectures, Homework, Q&A
W14	Response to Nonharmonic Forces	Lectures, Homework, Q&A
W15	Vibrations Under Periodic Forcing Functions	Lectures, Q&A
W16	More Than 1-DOF Vibration Systems	Lectures, Homework, Q&A
W17	Final project presentation	Oral presentations for final reports
W18	Final Examination	Open-Book 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	P-TECH 課程(五) P-TECH Course(5)	授課教師 Instructor	毛彥傑 Mao , Yen-Chieh
<p>教學簡要說明</p> <p>1.請依照授課班級英文分級程度規劃課程計畫書。 Please design the course plan by following the English using percentage of the course English level.</p> <p>2.如有聘請雙語導師，請於課程進度註明雙語導師授課之週次時數。 Please state bilingual instructor's teaching weeks and hours in course outline section.</p>			

課程教材 Material	1.指定課本書名 Book：IBM Workplace Learning Curriculum ( 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	<input checked="" type="checkbox"/> 教材講述 Lecturing <input checked="" type="checkbox"/> 小組討論 Group Discussion <input type="checkbox"/> 口頭問答 Q&A <input checked="" type="checkbox"/> 問題導向 Problem Based Learning <input checked="" type="checkbox"/> 協同教學 Collaborative Teaching <input checked="" type="checkbox"/> 分組報告 Group Report <input checked="" type="checkbox"/> 其他方式說明 Others： 專題實作 Case study and implementation
成績評量方式 Grading	<input type="checkbox"/> 期中/期末考：_____ %以上英文試題，學生以英文答題_____ %。 The percentage of English using in designing midterm/final exam; the percentage of English using in answering the exam paper. <input checked="" type="checkbox"/> 英文期中/期末報告： 50 %以英文表達。 The percentage of using English in midterm or final oral presentation <input checked="" type="checkbox"/> 全英語口頭簡報 (含 QA 問答)20 分鐘以上(一般科系專業課、碩博專業課程必須包含此評量方式) English oral presentation including Q&A session at least 20 minutes (Department cores, master's degree and doctoral degree courses so must have <input type="checkbox"/> 其他方式(請說明中英文比例)Others(please state the proportion of Mandarin and English in grading)：

### 課程進度 Course Outline

週次 Week	單元/主題 Unit/Topic	教學活動重點及教材內容 Teaching Activities
W1	時間管理概論 Time Management in Brief	Introductions to time management.
W2	時間管理在大型任務中之重要性 TM in Large-Scale Projects	Time management in a large project.
W3	待辦清單 To-do Lists	To-to lists.

W4	待辦事項之分類 Classifications in TDLs	Classifications in to-do lists.
W5	待辦事項之處理 Processing TDLs	Processing to-do lists.
W6	實際處理待辦清單之 邏輯 Strategy of Managing TDLs	Strategies to process to-do lists.
W7	實際處理待辦清單之 案例 Case Study of TDLs	Case study of processing a to-do list.
W8	時程清單 Schedule Arranging	Schedules.
W9	期中演練 Midterm Practice	Midterm practice.
W10	可定義時程之任務處 理 Scheduling	Scheduled tasks.
W11	未能定義時程之任務 處理 Tasks	Tasks that cannot be scheduled.
W12	選擇與定義任務負責	Selecting task correspondence.

	人 Identifying Correspondences	
W13	組織管理概論 Organization Management	Intro. to Organization management.
W14	組織架構與分層項目 Organization Hierarchy and Pathways	Organization hierarchy.
W15	判定個人之所擅長 Personal Skill Identifications	Personal skills.
W16	目標與時程定義 Goal Definition	Goal scheduling.
W17	目標時程追蹤與溝通 Goal Tracking	Goal tracking and communication.
W18	期末演練 Final Practice	Final practice.



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

Week	Unit/Topic	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	Introduction of Multibody Systems	Lectures, Q&A
W5	Reference Kinematics	Lectures, Homework, Q&A
W6	Properties of Rotation Matrices	Lectures, Homework, Q&A
W7	Velocity Equations	Lectures, Homework, Q&A
W8	Acceleration Equations	Lectures, Homework, Q&A
W9	Midterm Examination	Open-Book Midterm Exam.
W10	Generalized Coordinates and Kinematic Constraints	Lectures, Homework, Q&A
W11	Degree of Freedom and Generalized Coordinate Partition	Lectures, Homework, Q&A
W12	Virtual Work and Generalized Forces	Lectures, Q&A
W13	Mechanics of Deformable Bodies	Lectures, Homework, Q&A
W14	Floating Frame of Reference Formulation	Lectures, Homework, Q&A

W15	Equations of Motion	Lectures, Q&A
W16	Finite Element Formulation	Lectures, Homework, Q&A
W17	Large Deformation Problems	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	自動化無人載具系統 Autonomous Unmanned Vehicle System	授課教師 Instructor	李孟澤 LI ,MENG TSE
<p style="text-align: center;">教學簡要說明</p> <p>1.請依照授課班級英文分級程度規劃課程計畫書。 Please design the course plan by following the English using percentage of the course English level.</p> <p>2.如有聘請雙語導師，請於課程進度註明雙語導師授課之週次時數。 Please state bilingual instructor's teaching weeks and hours in course outline section.</p>			
課程教材 Material	<p>1.指定課本書名 Book：_____ (_____% 英文內容 Percentage in English)</p> <p>2.自製教材 Self-made Materials：採用英文之比例(Percentage in English) <u>80</u> %</p> <p>3.其他補充說明 Others：</p>		
雙語教學方式 (可多選，或簡述) Bilingual Teaching Strategies	<p>■教材講述 Lecturing    □小組討論 Group Discussion    ■口頭問答 Q&amp;A</p> <p>□問題導向 Problem Based Learning    □協同教學 Collaborative Teaching</p> <p>■分組報告 Group Report</p> <p>□其他方式說明 Others：</p>		

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

週次 Week	單元/主題 Unit/Topic	教學活動重點及教材內容 Teaching Activities
W1	Part-1: System Engineering	Introduction to “System Engineering”
W2		
W3	Part-2: The Unmanned Vehicles	History & Applications of AUVS
W4	Part-3: UAV	Unmanned Aerial Vehicle
W5		
W6	Part-4: UGV	Unmanned Ground Vehicle
W7		
W8	Part-5: UMV	Unmanned Maritime Vehicle
W9	<b>Mid-term Exam</b>	
W10	Part-6: The Subsystems of an Autonomous Unmanned Vehicle	Subsystems of an Autonomous Unmanned Vehicle

W11	Part-7: Case Study	Design an Autopilot System for UAV
W12		
W13	Part-8: HIL & SIL	Hardware/Software in the Loop Simulation
W14	Part-9: Navigation(I)	Inertial Navigation System
W15	Part-10: Navigation(II)	Global Positioning System (GPS)
W16		
W17	Part-11: Sensors	Sensors in UV system
W18	<b>Final Exam</b>	

## 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	數位影像處理實務 Application for Digital Image Processing	授課教師 Instructor	李廣齊 LEE ,KUANG-CHYI
<p>教學簡要說明</p> <p>1.請依照授課班級英文分級程度規劃課程計畫書。 Please design the course plan by following the English using percentage of the course English level.</p> <p>2.如有聘請雙語導師，請於課程進度註明雙語導師授課之週次時數。 Please state bilingual instructor's teaching weeks and hours in course outline section.</p>			
課程教材  Material	<p>1.指定課本書名 Book：RC Gonzalez, RE Woods &amp; SL Eddins, <u>Digital Image processing using MATLAB, McGraw Hill</u> (100% 英文內容 Percentage in English)</p> <p>2.自製教材 Self-made Materials：採用英文之比例(Percentage in English) <u>≥70%</u></p> <p>3.其他補充說明 Others：</p>		

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

**課程進度 Course Outline**

週次 Week	單元/主題 Unit/Topic	教學活動重點及教材內容 Teaching Activities
W1	Introduction to image processing	Oral
W2	Introduction to OpenCV(I)	Oral & Practice
W3	Introduction to OpenCV(II)	Oral & Practice
W4	Image processing toolbox in Matlab	Oral & Practice
W5	Image Convolution	Oral & Practice
W6	Noise Removing	Oral & Practice
W7	Edge Detection	Oral & Practice

W8	Contour Following method	Oral & Practice
W9	Midterm Exam	
W10	Introduction to AOI	Oral
W11	Hough Transform method	Oral & Practice
W12	Least square method	Oral & Practice
W13	Straightness	Oral & Practice
W14	Roundness	Oral & Practice
W15	Ellipticity(I)	Oral & Practice
W16	Ellipticity(II)	Oral & Practice
W17	Final Project Presentation	Oral
W18	Final Exam	

# 國立虎尾科技大學雙語教學課程計畫書

## Bilingual Education Course Plan

課程名稱(中) 課程名稱(英) Course title in Mandarin and English	飛航安全 Flight Safety	授課教師 Instructor	王士嘉 Wang, Shih-Chia
<p>教學簡要說明</p> <p>1. 請依照授課班級英文分級程度規劃課程計畫書。 Please design the course plan by following the English using percentage of the course English level.</p> <p>2. 如有聘請雙語導師，請於課程進度註明雙語導師授課之週次時數。 Please state bilingual instructor's teaching weeks and hours in course outline section.</p>			
課程教材 Material	<p>1. 指定課本書名 Book: _Aircraft Accidents Investigation (_100____% 英文內容 Percentage in English)</p> <p>2. 自製教材 Self-made Materials: 採用英文之比例 (Percentage in English) _100____%</p> <p>3. 其他補充說明 Others:</p>		
雙語教學方式 (可多選，或簡述) Bilingual Teaching Strategies	<p><input checked="" type="checkbox"/>教材講述 Lecturing <input checked="" type="checkbox"/>小組討論 Group Discussion <input type="checkbox"/>口頭問答 Q&amp;A</p> <p><input checked="" type="checkbox"/>問題導向 Problem Based Learning <input type="checkbox"/>協同教學 Collaborative Teaching</p> <p><input type="checkbox"/>分組報告 Group Report</p> <p><input type="checkbox"/>其他方式說明 Others:</p>		
成績評量方式 Grading	<p><input checked="" type="checkbox"/>期中/期末考: _100____% 以上英文試題，學生以英文答題 _100____%。 The percentage of English using in designing midterm/final exam; the percentage of English using in answering the exam paper.</p> <p><input checked="" type="checkbox"/>英文期中/期末報告: _100____% 以英文表達。 The percentage of using English in midterm or final oral presentation</p> <p><input checked="" type="checkbox"/>全英語口頭簡報 (含 QA 問答) 20 分鐘以上 <b>(一般科系專業課、碩博專業課程必須包含此評量方式)</b> English oral presentation including Q&amp;A session at least 20 minutes (Department cores, master's degree and doctoral degree courses so must have</p> <p><input type="checkbox"/>其他方式(請說明中英文比例) Others (please state the proportion of Mandarin and English in grading):</p>		
課程進度 Course Outline			



週次 Week	單元/主題 Unit/Topic	教學活動重點及教材內容 Teaching Activities
W1	Course Preparation	Let's roll
W2	Maintenance Perspective	Aircraft maintenance perspective
W3	Accidents Illustrations _1	Look for aircraft accident investigations
W4	Accidents Illustrations _2	Look for aircraft accident investigations
W5	Fuel Pump Operation	Schematics knowledge shown
W6	Safety technique demonstration	Aircraft festered skill demonstration
W7	1st Term Evaluation	Skill Team test
W8	Technology Perspective-1	Aircraft Material Point of View
W9	Technology Perspective-2	Mid-Air Collision Investigation
W10	Technology Perspective-3	Site Survey
W11	Technology Perspective-4	Investigation Management
W12	Site Safety	Share with students and ask for feedback
W13	Field Trip	Field trip to Taiwan Transport. Safety Board,
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	Grade and wrap up
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## 國立虎尾科技大學雙語教學課程計畫書

### Bilingual Education Course Plan

課程名稱(中) 課程名稱(英) Course title in Mandarin and English	科技英文 Science and Technology English	授課教師 Instructor	吳森統 Sen-Tung Wu
<p style="text-align: center;">教學簡要說明</p> <p>1.請依照授課班級英文分級程度規劃課程計畫書。 Please design the course plan by following the English using percentage of the course English level.</p> <p>2.如有聘請雙語導師，請於課程進度註明雙語導師授課之週次時數。 Please state bilingual instructor's teaching weeks and hours in course outline section.</p>			
課程教材 Material	<p>1.指定課本書名 Book：_____（_____ % 英文內容 Percentage in English）</p> <p>2.自製教材 Self-made Materials：採用英文之比例 (Percentage in English) __50__ %</p> <p>3.其他補充說明 Others：</p>		
雙語教學方式 (可多選，或簡述) Bilingual Teaching Strategies	<p><input checked="" type="checkbox"/> 教材講述 Lecturing   <input checked="" type="checkbox"/> 小組討論 Group Discussion   <input type="checkbox"/> 口頭問答 Q&amp;A</p> <p><input checked="" type="checkbox"/> 問題導向 Problem Based Learning   <input checked="" type="checkbox"/> 協同教學 Collaborative Teaching</p> <p><input checked="" type="checkbox"/> 分組報告 Group Report</p> <p><input type="checkbox"/> 其他方式說明 Others：</p>		

成績評量方式 Grading	<input type="checkbox"/> 期中/期末考：_____ %以上英文試題，學生以英文答題_____ %。 The percentage of English using in designing midterm/final exam; the percentage of English using in answering the exam paper. <input checked="" type="checkbox"/> 英文期中/期末報告：_100_%以英文表達。 The percentage of using English in midterm or final oral presentation <input checked="" type="checkbox"/> 全英語口頭簡報 (含 QA 問答)20 分鐘以上(一般科系專業課、碩博專業課程必須包含此評量方式) English oral presentation including Q&A session at least 20 minutes (Department cores, master's degree and doctoral degree courses so must have <input type="checkbox"/> 其他方式(請說明中英文比例)Others(please state the proportion of Mandarin and English in grading )：
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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 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 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	At present, most of our foreign students are exchange students from Indonesia, India,

	speaking Countries	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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## 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	FPGA 電路設計 FPGA System Design	授課教師 Instructor	宋啟嘉 教授 Prof. Dr.-Ing. Chi-Chia Sun
<p style="text-align: center;">教學簡要說明</p> <p>1.請依照授課班級英文分級程度規劃課程計畫書。 This course is designed for graduate students who are interested in advanced FPGA design n concept, design methodology, and basic concept of VLSI design. In the meantime, several Labs about the Xilinx Vivado tutorials will be demonstrated. After that, several lectures with the related topics to ZYNQ FPGA development kits will be given. Of course, we will select some state-the-art researches for computational efficient algorithm in FPGA/ARM implementation and these topics will be assigned as a small colloquium for students. At the end, graduate students shall present their final projects and its implementation on ZYNQ FPGA.</p> <ul style="list-style-type: none"> <li>● 100% Lecture in English</li> <li>● CEF-B2 Level</li> <li>● 本課開放電資學院外籍生修課，過往約台灣學生外籍生各半</li> </ul> <p>2.如有聘請雙語導師，請於課程進度註明雙語導師授課之週次時數。 Please state bilingual instructor's teaching weeks and hours in course outline section.</p> <p>無，授課教師本人已具備有全英授課能力 CEF-C1 Level</p>			
課程教材 Material	<p>1.指定課本書名 Book：_____ (_____%英文內容 Percentage in English)</p> <p>2.自製教材 Self-made Materials：採用英文之比例 (Percentage in English)_____%</p> <p>3.其他補充說明 Others：</p>		

雙語教學方式 (可多選，或簡述) Bilingual Teaching Strategies	<input checked="" type="checkbox"/> 教材講述 Lecturing <input checked="" type="checkbox"/> 小組討論 Group Discussion <input checked="" type="checkbox"/> 口頭問答 Q&A <input type="checkbox"/> 問題導向 Problem Based Learning <input type="checkbox"/> 協同教學 Collaborative Teaching <input checked="" type="checkbox"/> 分組報告 Group Report <input type="checkbox"/> 其他方式說明 Others：	
成績評量方式  Grading	<input type="checkbox"/> 期中/期末考：_____ %以上英文試題，學生以英文答題_____ %。 The percentage of English using in designing midterm/final exam; the percentage of English using in answering the exam paper. <input checked="" type="checkbox"/> 英文期中/期末報告：_____ %以英文表達。 The percentage of using English in midterm or final oral presentation <input checked="" type="checkbox"/> 全英語口頭簡報 (含 QA 問答)20分鐘以上(一般科系專業課、碩博專業課程必須包含此評量方式) English oral presentation including Q&A session at least 20 minutes (Department cores, master's degree and doctoral degree courses so must have) <input type="checkbox"/> 其他方式(請說明中英文比例)Others(please state the proportion of Mandarin and English in grading)：	
<b>課程進度 Course Outline</b>		
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 VLSI and FPGA	Lecture
W2		High Level Synthesis Lab1
W3		Lecture
W4	Challenges in VDSM and 3D-IC technology for FPGA	Lecture
W5		Lecture
W6	High Level Synthesis	Lecture
W7		High Level Synthesis Lab2

W8		High Level Synthesis Lab3
W9	Midterm	Oral Report
W10	MPSOC (ARM-FPGA)  Introduction	Lecture
W11		Lecture
W12		High Level Synthesis Lab4
W13	Colloquium	Recent FPGA paper study
W14		Recent FPGA paper study
W15	Collaborative Teaching	Xilinx Engineer Lecure
W16	PBL Project	Group Final Project
W17		Group Final Project
W18	Final Term	Oral 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	嵌入式系統 Embedded System	授課教師 Instructor	蘇暉凱 Su, Hui-Kai
<p style="text-align: center;">教學簡要說明</p> <p>1.請依照授課班級英文分級程度規劃課程計畫書。 Please design the course plan by following the English using percentage of the course English level.</p> <p>2.如有聘請雙語導師，請於課程進度註明雙語導師授課之週次時數。 Please state bilingual instructor's teaching weeks and hours in course outline section.</p>			

課程教材 Material	1.指定課本書名 Book：_____ (_____% 英文內容 Percentage in English) 2.自製教材 Self-made Materials：採用英文之比例(Percentage in English) <u>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	<input checked="" type="checkbox"/> 教材講述 Lecturing <input type="checkbox"/> 小組討論 Group Discussion <input type="checkbox"/> 口頭問答 Q&A <input checked="" type="checkbox"/> 問題導向 Problem Based Learning <input checked="" type="checkbox"/> 協同教學 Collaborative Teaching <input checked="" type="checkbox"/> 分組報告 Group Report <input checked="" type="checkbox"/> 其他方式說明 Others：
成績評量方式 Grading	<input checked="" type="checkbox"/> 期中/期末考： <u>100%</u> 以上英文試題，學生以英文答題 <u>10%</u> 。 The percentage of English using in designing midterm/final exam; the percentage of English using in answering the exam paper. <input checked="" type="checkbox"/> 英文期中/期末報告： <u>90%</u> 以英文表達。 The percentage of using English in midterm or final oral presentation <input checked="" type="checkbox"/> 全英語口頭簡報 (含 QA 問答)20 分鐘以上(一般科系專業課、碩博專業課程必須包含此評量方式) English oral presentation including Q&A session at least 20 minutes (Department cores, master's degree and doctoral degree courses so must have <input type="checkbox"/> 其他方式(請說明中英文比例)Others(please state the proportion of Mandarin and English in grading)：

### 課程進度 Course Outline

週次 Week	單元/主題 Unit/Topic	教學活動重點及教材內容 Teaching Activities
W1	Introduction to Embedded Computing	Lecturing Introduction to Embedded Computing
W2	Introduction to Embedded Computing	Lecturing Introduction to Embedded Computing
W3	Instruction Sets Lab1: Linux Installation	Lecturing Instruction Sets Experiment Lab1: Linux Installation
W4	Instruction Sets Lab1: Linux Installation	Lecturing Instruction Sets Experiment Lab1: Linux Installation



W5	Linux Driver and Application Programming	Lecturing Linux Driver and Application Programming
W6	Linux Driver and Application Programming Lab2: Driver and Application Programming for Embedded System	Lecturing Linux Driver and Application Programming Experiment Lab2: Driver and Application Programming for Embedded System
W7	Linux Driver and Application Programming Lab2: Driver and Application Programming for Embedded System	Lecturing Linux Driver and Application Programming Experiment Lab2: Driver and Application Programming for Embedded System
W8	Linux Driver and Application Programming Lab2: Driver and Application Programming for Embedded System	Lecturing Linux Driver and Application Programming Experiment Lab2: Driver and Application Programming for Embedded System
W9	Midterm	
W10	ROS Introduction	Lecturing ROS Introduction
W11	ROS Implementation Lab3: Embedded ROS	Lecturing ROS Implementation Experiment Lab3: Embedded ROS
W12	Lab3: Embedded ROS	Experiment Lab3: Embedded ROS
W13	Lab3: Embedded ROS	Experiment Lab3: Embedded ROS
W14	Final Project	Practice and discussion
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	光電檢測 Photonic sensing	授課教師 Instructor	黃鴻基 Huang, Hung Ji
<p style="text-align: center;">教學簡要說明</p> <p>1.請依照授課班級英文分級程度規劃課程計畫書。 Please design the course plan by following the English using percentage of the course English level.</p> <p>2.如有聘請雙語導師，請於課程進度註明雙語導師授課之週次時數。 Please state bilingual instructor's teaching weeks and hours in course outline section.</p>			
課程教材  Material	<p>1.指定課本書名 Book：___ (___100___% 英文內容 Percentage in English)</p> <p>2.自製教材 Self-made Materials：採用英文之比例(Percentage in English)___100___%</p> <p>3.其他補充說明 Others：</p>		
雙語教學方式 (可多選，或簡述)  Bilingual Teaching Strategies	<p>■教材講述 Lecturing    ■小組討論 Group Discussion    □口頭問答 Q&amp;A</p> <p>□問題導向 Problem Based Learning    □協同教學 Collaborative Teaching</p> <p>■分組報告 Group Report</p> <p>□其他方式說明 Others：</p>		
成績評量方式  Grading	<p><input type="checkbox"/> 期中/期末考：_____%以上英文試題，學生以英文答題_____%。 The percentage of English using in designing midterm/final exam; the percentage of English using in answering the exam paper.</p> <p><input type="checkbox"/> 英文期中/期末報告：_____%以英文表達。 The percentage of using English in midterm or final oral presentation</p> <p>■ 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&amp;A session at least 20 minutes (Department cores, master's degree and doctoral degree courses so must have</p> <p><input type="checkbox"/> 其他方式(請說明中英文比例)Others(please state the proportion of Mandarin and English in grading)：</p>		

課程進度 Course Outline		
週次 Week	單元/主題 Unit/Topic	教學活動重點及教材內容 Teaching Activities
W1	Introduction of photonic sensing	Selection of group report topics
W2	Introduction of single-board microcontroller	Arduino & Raspberry Pi
W3	System design- layout	
W4	System design- Mechanical parts	Introduction of Freecad
W5	System design- Mechanical parts	Introduction of Freecad
W6	System design- Electronics basic	
W7	Midterm report	Proposal of the group works
W8	Midterm report	Proposal of the group works
W9	Temperature & humidity sensing	Using a single-board microcontroller
W10	Magnetic field sensing	Using a single-board microcontroller
W11	Multiple LED transmission spectrometer	Using a single-board microcontroller
W12	Detection of Brewster's angle	Using a single-board microcontroller
W13	Imaging of interference pattern	Using a single-board microcontroller
W14	Low-frequency oscilloscope	Using a single-board microcontroller
W15	Low-frequency lock-in measurement	Using a single-board microcontroller

W16	Low-frequency lock-in measurement	Using a single-board microcontroller
W17	Final report	Presentation of the group works
W18	Final report	Presentation of the group works

## 國立虎尾科技大學雙語教學課程計畫書

### Bilingual Education Course Plan

課程名稱(中) 課程名稱(英) Course title in Mandarin and English	物聯網 Internet of Things	授課教師 Instructor	簡銘伸 JIAN,MING-SHEN
<p>教學簡要說明</p> <p>1.請依照授課班級英文分級程度規劃課程計畫書。 Please design the course plan by following the English using percentage of the course English level.</p> <p>2.如有聘請雙語導師，請於課程進度註明雙語導師授課之週次時數。 Please state bilingual instructor's teaching weeks and hours in course outline section.</p>			
課程教材 Material	<p>1.指定課本書名 Book：_____（_____ % 英文內容 Percentage in English）</p> <p>2.自製教材 Self-made Materials：採用英文之比例(Percentage in English) __80__ %</p> <p>3.其他補充說明 Others：</p>		
雙語教學方式 (可多選，或簡述) Bilingual Teaching Strategies	<p><input checked="" type="checkbox"/> 教材講述 Lecturing   <input type="checkbox"/> 小組討論 Group Discussion   <input type="checkbox"/> 口頭問答 Q&amp;A</p> <p><input type="checkbox"/> 問題導向 Problem Based Learning   <input type="checkbox"/> 協同教學 Collaborative Teaching</p> <p><input type="checkbox"/> 分組報告 Group Report</p> <p><input checked="" type="checkbox"/> 其他方式說明 Others：口頭報告 Oral Presentation</p>		

成績評量方式 Grading	<p>■期中/期末考：_____ %以上英文試題，學生以英文答題_____ %。 The percentage of English using in designing midterm/final exam; the percentage of English using in answering the exam paper.</p> <p>■英文期中/期末報告：_____ %以英文表達。 The percentage of using English in midterm or final oral presentation</p> <p>■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&amp;A session at least 20 minutes (Department cores, master's degree and doctoral degree courses so must have</p> <p>■其他方式(請說明中英文比例)Others(please state the proportion of Mandarin and English in grading )：</p>
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### 課程進度 Course Outline

週次 Week	單元/主題 Unit/Topic	教學活動重點及教材內容 Teaching Activities
W1	Introduction	Basics of EPC Training (PPT)
W2	Electronic Product Code	Basics of EPC Training (PPT)
W3	Identification Keys	Basics of EPC Training (PPT)
W4	The Secrets of RFID	Basics of EPC Training (PPT)
W5	Benefits of EPC Applications	Basics of EPC Training (PPT)
W6	Technical Information – RFID Tags	Basics of EPC Training (PPT)
W7	Technical Information – Readers	Basics of EPC Training (PPT)
W8	Technical Information – EPCglobal Network	Basics of EPC Training (PPT)
W9	Exam	Online
W10	EPC Global Certification	EPC Certification Exam Training (PPT)
W11	Implementation – Examples of	IoT_Learning (PPT)

	Projects	
W12	Internet of Things	IoT_Learning (PPT)
W13	Sensor Layer	IoT_Learning (PPT)
W14	Network Layer	IoT_Learning (PPT)
W15	Application Layer	IoT_Learning (PPT)
W16	EPC Global Certification	EPC Certification Exam Training (PPT)
W17	Presentation	Oral Presentation
W18	Exam	Online

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	科技論文寫作 Research Writing for Science and Technology	授課教師 Instructor	蔡柏祥 Tsai, Po-Hsiang
<p>教學簡要說明</p> <p>1.請依照授課班級英文分級程度規劃課程計畫書。 Please design the course plan by following the English using percentage of the course English level.</p> <p>2.如有聘請雙語導師，請於課程進度註明雙語導師授課之週次時數。 Please state bilingual instructor's teaching weeks and hours in course outline section.</p>			
課程教材  Material	<p>1.指定課本書名 Book：__ Writing Up Research: Experimental Research Report Writing for Students of English, Weissberg and Buker, 2008, 文鶴_ (10_% 英文內容 Percentage in English)</p> <p>2.自製教材 Self-made Materials：採用英文之比例(Percentage in English)__100_%</p> <p>3.其他補充說明 Others：</p>		

雙語教學方式 (可多選，或簡述) Bilingual Teaching Strategies	<input checked="" type="checkbox"/> 教材講述 Lecturing <input checked="" type="checkbox"/> 小組討論 Group Discussion <input checked="" type="checkbox"/> 口頭問答 Q&A  <input checked="" type="checkbox"/> 問題導向 Problem Based Learning <input type="checkbox"/> 協同教學 Collaborative Teaching  <input checked="" type="checkbox"/> 分組報告 Group Report  <input type="checkbox"/> 其他方式說明 Others：	
成績評量方式 Grading	<input checked="" type="checkbox"/> 期中/期末考：__100__%以上英文試題，學生以英文答題__60__%。 The percentage of English using in designing midterm/final exam; the percentage of English using in answering the exam paper. <input type="checkbox"/> 英文期中/期末報告：_____%以英文表達。 The percentage of using English in midterm or final oral presentation <input type="checkbox"/> 全英語口頭簡報 (含 QA 問答)20分鐘以上(一般科系專業課、碩博專業課程必須包含此評量方式) English oral presentation including Q&A session at least 20 minutes (Department cores, master's degree and doctoral degree courses so must have <input type="checkbox"/> 其他方式(請說明中英文比例)Others(please state the proportion of Mandarin and English in grading)：	
<b>課程進度 Course Outline</b>		
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 to the course
W2	Academic Research Writing	Trends in Scientific Publishing; What Publishers Need; Article Structure; Research Papers
W3	Revisions and Response to Reviewers	The Onset; Main Reasons for Rejection; Cover Letter; Post-referee revision; Plagiarism
W4	Revisions and Response to Reviewers	The Onset; Main Reasons for Rejection; Cover Letter; Post-referee revision; Plagiarism
W5	Article Search and Library Access	Literature Search; Research Performance Assessment; Papers Selection Criteria; Which Journal Articles to Submit
W6	Article Search and Library Access	Literature Search; Research Performance Assessment; Papers Selection Criteria; Which Journal Articles to Submit
W7	Academic writing approach	Types of Serial Research Publication; Experimental Research Report; Academic

		Writing; Strategy in Academic Writing; Formal Academic Writing Style
W8	Academic writing approach	Types of Serial Research Publication; Experimental Research Report; Academic Writing; Strategy in Academic Writing; Formal Academic Writing Style
W9	Mid-term exam	Mid-term exam
W10	Abstract	Skills and Conventions for Writing Abstract Section
W11	Introduction	Skills and Conventions for Writing Introduction Section
W12	Method	Skills and Conventions for Writing Introduction Method Section
W13	Materials	Skills and Conventions for Writing Introduction Materials Section
W14	Results	Skills and Conventions for Writing Introduction Results Section
W15	Results	Skills and Conventions for Writing Introduction Results Section
W16	Discussion	Skills and Conventions for Writing Introduction Discussion Section
W17	Discussion	Skills and Conventions for Writing Introduction Discussion Section
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	資訊工程導論 Introduction to Information Engineering	授課教師 Instructor	蔡柏祥 Tsai, Po-Hsiang
<p>教學簡要說明</p> <p>1.請依照授課班級英文分級程度規劃課程計畫書。 Please design the course plan by following the English using percentage of the course English level.</p> <p>2.如有聘請雙語導師，請於課程進度註明雙語導師授課之週次時數。 Please state bilingual instructor's teaching weeks and hours in course outline section.</p>			



課程教材  Material	1.指定課本書名 Book:_Computer Science an overview, 13th 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	<input checked="" type="checkbox"/> 教材講述 Lecturing <input checked="" type="checkbox"/> 小組討論 Group Discussion <input checked="" type="checkbox"/> 口頭問答 Q&A <input checked="" type="checkbox"/> 問題導向 Problem Based Learning <input type="checkbox"/> 協同教學 Collaborative Teaching <input checked="" type="checkbox"/> 分組報告 Group Report <input type="checkbox"/> 其他方式說明 Others：	
成績評量方式  Grading	<input type="checkbox"/> 期中/期末考：_____ %以上英文試題，學生以英文答題_____ %。 The percentage of English using in designing midterm/final exam; the percentage of English using in answering the exam paper. <input type="checkbox"/> 英文期中/期末報告：_____ %以英文表達。 The percentage of using English in midterm or final oral presentation <input checked="" type="checkbox"/> 全英語口頭簡報 (含 QA 問答)20分鐘以上(一般科系專業課、碩博專業課程必須包含此評量方式) English oral presentation including Q&A session at least 20 minutes (Department cores, master's degree and doctoral degree courses so must have <input type="checkbox"/> 其他方式(請說明中英文比例)Others(please state the proportion of Mandarin and English in grading )：	
<b>課程進度 Course Outline</b>		
週次  Week	單元/主題  Unit/Topic	教學活動重點及教材內容  Teaching Activities
W1	Syllabus	Syllabus
W2	English Oral Presentation Skills	Report Structure; Effective Paraphrasing; Avoidance of Plagiarism
W3	English Oral Presentation Skills	Academic Oral Presentation; Organization
W4	Introduction Computer Science	Overview; History of Algorithms and Computing
W5	Programming Languages	Historical Perspective; Traditional Programming

		Concepts
W6	Programming Languages	Procedural Units; Language Implementation
W7	Programming Languages	Object Oriented Programming; Programming Concurrent Activities
W8	Software Engineering	Software Life Cycle; Software Engineering Methodologies
W9	Mid-Term	
W10	Software Engineering	Modularity; Tools of the Trade
W11	Software Engineering	Testing; Documentation
W12	Data Abstractions	Data Structures; Implementing Data Structures
W13	Data Abstractions	Implementing Data Structures; Customized Data Types
W14	Data Abstractions	Classes and Objects
W15	Database System	Database Fundamentals; Relational Model
W16	Database System	Relational Model
W17	Database System	Maintaining Database Integrity
W18	Final-Term	

# 國立虎尾科技大學雙語教學課程計畫書

## Bilingual Education Course Plan

課程名稱 (中) 課程名稱 (英) Course title in Mandarin and English	微處理機實習 Microprocessor Lab	授課教師 Instructor	陳國益 Kuo-Yi Chen
<p>教學簡要說明</p> <p>1.請依照授課班級英文分級程度規劃課程計畫書。 Please design the course plan by following the English using percentage of the course English level.</p> <p>2.如有聘請雙語導師，請於課程進度註明雙語導師授課之週次時數。 Please state bilingual instructor's teaching weeks and hours in course outline section.</p>			
課程教材  Material	<p>1.指定課本書名 Book: _ Embedded Systems with ARM Cortex-M Microcontrollers in Assembly Language and C _ (_100_% 英文內容 Percentage in English)</p> <p>2.自製教材 Self-made Materials: 採用英文之比例(Percentage in English)_50_%</p> <p>3.其他補充說明 Others:</p>		
雙語教學方式 (可多選，或簡述) Bilingual Teaching Strategies	<p><input type="checkbox"/>教材講述 Lecturing   <input type="checkbox"/>小組討論 Group Discussion   <input checked="" type="checkbox"/>口頭問答 Q&amp;A</p> <p><input checked="" type="checkbox"/>問題導向 Problem Based Learning   <input type="checkbox"/>協同教學 Collaborative Teaching</p> <p><input type="checkbox"/>分組報告 Group Report</p> <p><input type="checkbox"/>其他方式說明 Others:</p>		
成績評量方式  Grading	<p><input checked="" type="checkbox"/>期中/期末考: _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.</p> <p><input type="checkbox"/>英文期中/期末報告: _____%以英文表達。 The percentage of using English in midterm or final oral presentation</p> <p><input checked="" type="checkbox"/>全英語口頭簡報 (含 QA 問答)20 分鐘以上(一般科系專業課、碩博專業課程必須包含此評量方式) English oral presentation including Q&amp;A session at least 20 minutes (Department cores, master's degree and doctoral degree courses so must have</p> <p><input type="checkbox"/>其他方式(請說明中英文比例)Others(please state the proportion of Mandarin and English in grading):</p>		

課程進度 Course Outline		
週次 Week	單元/主題 Unit/Topic	教學活動重點及教材內容 Teaching Activities
W1	NUC140 Cortex-M0Introduction	ARM Cortex-M0 Introduction
W2	NUC140 development	NUC140 and Keil C and project create
W3	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	

## 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	作業系統 Operation System	授課教師 Instructor	黃世昌 HUANG,SHIH-CHANG
<p style="text-align: center;">教學簡要說明</p> <p>1. 請依照授課班級英文分級程度規劃課程計畫書。 Please design the course plan by following the English using percentage of the course English level.</p> <p>2. 如有聘請雙語導師，請於課程進度註明雙語導師授課之週次時數。 Please state bilingual instructor's teaching weeks and hours in course outline section.</p>			
課程教材  Material	<p>1. 指定課本書名 Book : Abraham Silberschatz et.al. Operating System Concepts, 10th Edition", WILLY, ISBN: 1119454085 (_100_% 英文內容 Percentage in English)</p> <p>2. 自製教材 Self-made Materials : 採用英文之比例 (Percentage in English) __80__%</p> <p>3. 其他補充說明 Others : NA</p>		
雙語教學方式 (可多選，或簡述)  Bilingual Teaching Strategies	<p><input checked="" type="checkbox"/>教材講述 Lecturing   <input type="checkbox"/>小組討論 Group Discussion   <input checked="" type="checkbox"/>口頭問答 Q&amp;A</p> <p><input type="checkbox"/>問題導向 Problem Based Learning   <input type="checkbox"/>協同教學 Collaborative Teaching</p> <p><input checked="" type="checkbox"/>分組報告 Group Report</p> <p><input type="checkbox"/>其他方式說明 Others :</p>		

成績評量方式 Grading	<input checked="" type="checkbox"/> 期中/期末考：__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.	
	<input type="checkbox"/> 英文期中/期末報告：____%以英文表達。 The percentage of using English in midterm or final oral presentation	
	<input checked="" type="checkbox"/> 全英語口頭簡報 (含 QA 問答)20分鐘以上(一般科系專業課、碩博專業課程必須包含此評量方式) English oral presentation including Q&A session at least 20 minutes (Department cores, master's degree and doctoral degree courses so must have	
	<input type="checkbox"/> 其他方式(請說明中英文比例)Others(please state the proportion of Mandarin and English in grading )：	
課程進度 Course Outline		
週次  Week	單元/主題  Unit/Topic	教學活動重點及教材內容  Teaching Activities
W1	Overview	Overview OS
W2	Introduction	Introduction OS
W3	System structures	System structures
W4	Process concept	Process concept
W5	Multithreaded programming	Multithreaded programming
W6	Process scheduling	Process scheduling
W7	Synchronization	Synchronization
W8	Deadlocks	Deadlocks
W9	Midterm	Midterm
W10	Memory-management strategies	Memory-management strategies

W11	Virtual-memory management	Virtual-memory management
W12	File system	File system
W13	File system	File system
W14	Implementing file systems	Mass-Storage Systems
W15	Implementing file systems	I/O Systems
W16	Secondary-storage structure	System Protection
W17	Secondary-storage structure	System Security
W18	Final	Final

## 國立虎尾科技大學雙語教學課程計畫書

### Bilingual Education Course Plan

課程名稱(中) 課程名稱(英) Course title in Mandarin and English	巨量資料分析 Big Data Analysis	授課教師 Instructor	江季翰 Ji-Han Jiang
<p style="text-align: center;">教學簡要說明</p> <p>1.請依照授課班級英文分級程度規劃課程計畫書。 Please design the course plan by following the English using percentage of the course English level.</p> <p>2.如有聘請雙語導師，請於課程進度註明雙語導師授課之週次時數。 Please state bilingual instructor's teaching weeks and hours in course outline section.</p>			
課程教材  Material	<p>1.指定課本書名 Book：Big-Data Analytics for Cloud, IoT and Cognitive Computing, First Edition. Kai Hwang and Min Chen. (_100____% 英文內容 Percentage in English)</p> <p>2.自製教材 Self-made Materials：採用英文之比例(Percentage in English)_100__%</p> <p>3.其他補充說明 Others：</p>		

雙語教學方式 (可多選，或簡述) Bilingual Teaching Strategies	<input checked="" type="checkbox"/> 教材講述 Lecturing <input checked="" type="checkbox"/> 小組討論 Group Discussion <input checked="" type="checkbox"/> 口頭問答 Q&A <input checked="" type="checkbox"/> 問題導向 Problem Based Learning <input type="checkbox"/> 協同教學 Collaborative Teaching <input type="checkbox"/> 分組報告 Group Report <input type="checkbox"/> 其他方式說明 Others：
成績評量方式 Grading	<input checked="" type="checkbox"/> 期中/期末考：__100__%以上英文試題，學生以英文答題__20__%。 The percentage of English using in designing midterm/final exam; the percentage of English using in answering the exam paper. <input type="checkbox"/> 英文期中/期末報告：_____%以英文表達。 The percentage of using English in midterm or final oral presentation <input checked="" type="checkbox"/> 全英語口頭簡報 (含 QA 問答)20分鐘以上(一般科系專業課、碩博專業課程必須包含此評量方式) English oral presentation including Q&A session at least 20 minutes (Department cores, master's degree and doctoral degree courses so must have <input type="checkbox"/> 其他方式(請說明中英文比例)Others(please state the proportion of Mandarin and English in grading)：

### 課程進度 Course Outline

週次 Week	單元/主題 Unit/Topic	教學活動重點及教材內容 Teaching Activities
W1	Introduction	<ul style="list-style-type: none"> <li>What is Big Data: many Vs</li> <li>Open Data</li> <li>Big Data Analysis Tools</li> </ul>
W2	Analysis Tools	<ul style="list-style-type: none"> <li>Analysis Tools: R &amp; Python</li> </ul>
W3	Cases Study 1	<ul style="list-style-type: none"> <li>(Problem Based Learning)</li> <li>Analyzing 1.1 Billion NYC Taxi and Uber Trips</li> </ul>
W4	Getting to Know Your Data	<ul style="list-style-type: none"> <li>Data Objects and Attribute Types</li> <li>Basic Statistical Descriptions of Data</li> </ul>
W5	Getting to Know Your Data	<ul style="list-style-type: none"> <li>Data Visualization</li> <li>Measuring Data Similarity and Dissimilarity</li> </ul>
W6	Data Pre-processing	<ul style="list-style-type: none"> <li>Data Preprocessing: An Overview</li> <li>Data Quality</li> <li>Major Tasks in Data Preprocessing</li> </ul>
W7	Data Pre-processing	<ul style="list-style-type: none"> <li>Data Cleaning</li> <li>Data Integration</li> </ul>
W8	Data Pre-processing	<ul style="list-style-type: none"> <li>Data Reduction</li> </ul>



		<ul style="list-style-type: none"> <li>• Data Transformation and Data Discretization</li> </ul>
W9	Midterm	Midterm exam
W10	Outlier Detection	<ul style="list-style-type: none"> <li>• Outlier and Outlier Analysis &amp; Detection Methods</li> <li>• Statistical Approaches</li> <li>• Proximity-Base Approaches</li> <li>• Clustering-Base Approaches</li> <li>• Classification Approaches</li> </ul>
W11	Big Data Processing & Management	<ul style="list-style-type: none"> <li>• Big Data Storage Technologies</li> <li>• Hadoop Ecosystem</li> <li>• HDFS</li> </ul>
W12	Big Data Processing & Management	<ul style="list-style-type: none"> <li>• Big Data Storage Technologies</li> <li>• Hadoop Ecosystem</li> <li>• HDFS</li> </ul>
W13	Research Challenges and Trends	<ul style="list-style-type: none"> <li>• Big Data Applications</li> <li>• Big Data: Analytical Solutions</li> <li>• Research Challenges and Trends</li> </ul>
W14	Research Challenges and Trends	<ul style="list-style-type: none"> <li>• Big Data Applications</li> <li>• Big Data: Analytical Solutions</li> <li>• Research Challenges and Trends</li> </ul>
W15	Research Challenges and Trends	<ul style="list-style-type: none"> <li>• Big Data Applications</li> <li>• Big Data: Analytical Solutions</li> <li>• Research Challenges and Trends</li> </ul>
W16	Big Data Security	<ul style="list-style-type: none"> <li>• A Survey on Big Data Security Issues Challenges and Techniques</li> <li>• Data-centric Security</li> </ul>
W17	English Oral presentation	Final Project Oral Report and Discussion (in English)
W18	English Oral presentation	Final Project Oral Report and Discussion (in English)

# 國立虎尾科技大學雙語教學課程計畫書

## Bilingual Education Course Plan

課程名稱(中) 課程名稱(英) Course title in Mandarin and English	機器學習 Machine Learning	授課教師 Instructor	林武杰 LIN,WU-CHIEH
<p>教學簡要說明</p> <p>1.請依照授課班級英文分級程度規劃課程計畫書。 Please design the course plan by following the English using percentage of the course English level.</p> <p>2.如有聘請雙語導師，請於課程進度註明雙語導師授課之週次時數。 Please state bilingual instructor's teaching weeks and hours in course outline section.</p>			
課程教材 Material	<p>1.指定課本書名 Book： <u>Introduction to Machine Learning</u> ( <u>100</u> % 英文內容 Percentage in English)</p> <p>2.自製教材 Self-made Materials：採用英文之比例(Percentage in English)_____%</p> <p>3.其他補充說明 Others：</p>		
雙語教學方式 (可多選，或簡述) Bilingual Teaching Strategies	<p><input checked="" type="checkbox"/>教材講述 Lecturing   <input type="checkbox"/>小組討論 Group Discussion   <input checked="" type="checkbox"/>口頭問答 Q&amp;A</p> <p><input type="checkbox"/>問題導向 Problem Based Learning   <input type="checkbox"/>協同教學 Collaborative Teaching</p> <p><input type="checkbox"/>分組報告 Group Report</p> <p><input checked="" type="checkbox"/>其他方式說明 Others：上台以英文進行論文報告問答</p>		
成績評量方式 Grading	<p><input type="checkbox"/> 期中/期末考：_____ % 以上英文試題，學生以英文答題_____ %。 The percentage of English using in designing midterm/final exam; the percentage of English using in answering the exam paper.</p> <p><input checked="" type="checkbox"/>英文期中/期末報告：<u>60</u> % 以英文表達。 The percentage of using English in midterm or final oral presentation</p> <p><input checked="" type="checkbox"/>全英語口頭簡報 (含 QA 問答)20分鐘以上(一般科系專業課、碩博專業課程必須包含此評量方式) English oral presentation including Q&amp;A session at least 20 minutes (Department cores, master's degree and doctoral degree courses so must have</p> <p><input checked="" type="checkbox"/>其他方式(請說明中英文比例)Others(please state the proportion of Mandarin and English in grading)：隨堂練習、報告 60%、學期專案 60%</p>		
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	<ul style="list-style-type: none"> <li>● What is machine learning</li> <li>● Examples of machine learning applications</li> </ul>
W2	Supervised learning	<ul style="list-style-type: none"> <li>● Learning a class from examples</li> <li>● Vapnik-chervonenkis dimension</li> </ul>
W3	Supervised learning	<ul style="list-style-type: none"> <li>● Learning multiple classes</li> <li>● Regression</li> <li>● Dimension curses of a supervised learning algorithms</li> </ul>
W4	Bayesian Decision Theory	<ul style="list-style-type: none"> <li>● Bayesian Theory</li> <li>● Classification</li> <li>● Losses and risks</li> </ul>
W5	Parametric methods	<ul style="list-style-type: none"> <li>● Maximum likelihood estimation</li> <li>● Parametric classification</li> </ul>
W6	Multivariate methods	<ul style="list-style-type: none"> <li>● Multivariate data</li> <li>● Estimation of missing values</li> <li>● Multivariate normal distribution</li> </ul>
W7	Multivariate methods	<ul style="list-style-type: none"> <li>● Multivariate classification</li> <li>● Multivariate regression</li> </ul>
W8	Dimensionality reduction	<ul style="list-style-type: none"> <li>● Principal component analysis</li> <li>● Linear discriminant analysis</li> </ul>
W9	midterm	Finish exercises
W10	Decision trees	<ul style="list-style-type: none"> <li>● Univariate trees</li> <li>● Learning rules from data</li> </ul>
W11	Kernel machines	<ul style="list-style-type: none"> <li>● Optimal separating hyperplane</li> <li>● Support vector machine</li> <li>● Kernel machine for regression</li> </ul>
W12	Multilayer perceptron	<ul style="list-style-type: none"> <li>● The perceptron</li> <li>● Multilayer perceptron</li> <li>● Backpropagation algorithm</li> </ul>
W13	Deep learning	<ul style="list-style-type: none"> <li>● Convolution Neural Network</li> </ul>
W14	Deep learning	<ul style="list-style-type: none"> <li>● Encoder – decoder</li> <li>● Recurrent Neural Network</li> </ul>
W15	Paper presentation and discussions	
W16	Paper presentation and discussions	
W17	Term project presentation	
W18	Term 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	電子工程導論 Introduction to Electronic Engineering	授課教師 Instructor	劉育松 Liu, Yu-Suang
<p style="text-align: center;">教學簡要說明</p> <p>1.請依照授課班級英文分級程度規劃課程計畫書。 Please design the course plan by following the English using percentage of the course English level.</p> <p>2.如有聘請雙語導師，請於課程進度註明雙語導師授課之週次時數。 Please state bilingual instructor's teaching weeks and hours in course outline section.</p>			
課程教材 Material	<p>1.指定課本書名 Book：_____（_____ % 英文內容 Percentage in English）</p> <p>2.自製教材 Self-made Materials：採用英文之比例(Percentage in English)_____ %</p> <p>3.其他補充說明 Others：</p>		
雙語教學方式 (可多選，或簡述) Bilingual Teaching Strategies	<p><input checked="" type="checkbox"/> 教材講述 Lecturing   <input checked="" type="checkbox"/> 小組討論 Group Discussion   <input checked="" type="checkbox"/> 口頭問答 Q&amp;A</p> <p><input checked="" type="checkbox"/> 問題導向 Problem Based Learning   <input type="checkbox"/> 協同教學 Collaborative Teaching</p> <p><input checked="" type="checkbox"/> 分組報告 Group Report</p> <p><input type="checkbox"/> 其他方式說明 Others：</p>		
成績評量方式 Grading	<p><input type="checkbox"/> 期中/期末考：_____ % 以上英文試題，學生以英文答題_____ %。 The percentage of English using in designing midterm/final exam; the percentage of English using in answering the exam paper.</p> <p><input checked="" type="checkbox"/> 英文期中/期末報告：__100__ % 以英文表達。 The percentage of using English in midterm or final oral presentation</p> <p><input checked="" type="checkbox"/> 全英語口頭簡報（含 QA 問答）20分鐘以上（<b>一般科系專業課、碩博專業課程必須包含此評量方式</b>） English oral presentation including Q&amp;A session at least 20 minutes (Department cores, master's degree and doctoral degree courses so must have</p> <p><input type="checkbox"/> 其他方式(請說明中英文比例)Others(please state the proportion of Mandarin and English in grading)：</p>		
課程進度 Course Outline			
週次	單元/主題	教學活動重點及教材內容	

Week	Unit/Topic	Teaching Activities
W1	Introduction to Electronic Engineering	<ol style="list-style-type: none"> <li>1. Overview of the course and its objectives</li> <li>2. Introduction to basic electronic concepts and terminology</li> <li>3. Discussion of the history and development of electronic engineering</li> </ol>
W2	Engineering Ethics and Professionalism	<ol style="list-style-type: none"> <li>1. Overview of engineering ethics and professional responsibilities</li> <li>2. Discussion of codes of conduct and ethical decision-making</li> <li>3. Examination of case studies related to engineering ethics</li> </ol>
W3	Getting Started with Programming	<ol style="list-style-type: none"> <li>1. Fundamentals of programming languages</li> <li>2. Basic programming knowledge such as data types, data containers, flow controls and logic</li> <li>3. Basic programming practice</li> </ol>
W4	Advanced Programming	<ol style="list-style-type: none"> <li>1. Advanced programming concepts such as functions, classes and objects, etc.</li> <li>2. Programming practice</li> </ol>
W5	Introduction to Programming and Calculus Basics	<p>Overview of Calculus concepts, including</p> <ol style="list-style-type: none"> <li>1. limits,</li> <li>2. derivatives,</li> <li>3. integrals</li> </ol>
W6	Calculus Applications and Advanced Programming Topics	Application of calculus concepts to real-world problems, such as optimization and rate of change
W7	Introduction to Programming and Elementary Mechanics	Kinematics and dynamics in one, two, and three dimensions
W8	Introduction to Programming and Advanced Mechanics	Energy, momentum, and rotation
W9	Midterm Examination	Oral report of project proposal
W10	Introduction to Circuit Design	<ol style="list-style-type: none"> <li>1. Overview of circuit analysis concepts</li> <li>2. Setup the tools and environment</li> </ol>
W11	Circuit Design of Operational Amplifiers	<ol style="list-style-type: none"> <li>1. Overview of operational amplifier concepts</li> <li>2. Basic circuit design practice</li> </ol>
W12	Circuit Design of BJT and MOS Amplifiers	<ol style="list-style-type: none"> <li>1. Basic amplifier circuit design: Choose polarity, bias, coupling capacitor, calculate gain and bandwidth.</li> <li>2. Differential amplifier circuit design: Design input impedance, calculate gain, choose bias and CMRR.</li> <li>3. Current mirror circuit design: Design matching ratio, choose mirror and bias circuit, improve accuracy and stability.</li> </ol>
W13	Introduction to Microcontroller	<ol style="list-style-type: none"> <li>1. Overview of microcontroller concepts</li> <li>2. Setup the tools and environment</li> </ol>
W14	General Purpose Input and Output	<ol style="list-style-type: none"> <li>1. Basic data types, flow controls and logic</li> <li>2. Introduction to functions of GPIO controls</li> </ol>

W15	Concepts of Controlling Heavy Loads	<ol style="list-style-type: none"> <li>1. Introduction to the concepts between signal control and power control</li> <li>2. Basic programming practice</li> </ol>
W16	Analog Input and Output	<ol style="list-style-type: none"> <li>1. Introduction to the concepts of ADC</li> <li>2. Implement the analog control programming</li> <li>3. Practice analog sensor and actuators</li> </ol>
W17	Communication between Devices	<ol style="list-style-type: none"> <li>1. Overview of microcontroller communication concepts</li> <li>2. Implement serial, I2C, SPI communications</li> </ol>
W18	Final Examination	Oral report of project design