108/1 Courses taught in English(108 學年度第 1 學期全英文授課課程表)

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	Course Description 課程說明
1	Institute of Mechanical and Electro-Mechanical Engineering(動力機械工程系機械與機電工程博士班)	2461	Dynamics Multibody System （多體動力學）	Elective 選修	3	Yunn-Lin, Hwang 黃運琳	Course Outline
2	Institute of Mechanical and Electro-Mechanical Engineering(動力機械工程系機械與機電工程博士班)	2460	Friction Engineering （摩擦工程）	Elective 選修	3	Raimondas Kreivaitis	Course Outline
3	Institute of Mechanical and Electro-Mechanical Engineering(動力機械工程系機械與機電工程博士班)	2595	Special Topic on Machine Tools （工具機特論）	Elective 選修	3	Raimondas Kreivaitis	Course Outline
4	Institute of Automation Engineering(自動化工程系碩士班)	0036	AI Robotics （智慧型機器人）	Elective 選修	3	Yung-Jhao, Ji 季永炤	Course Outline
5	Institute of Automation Engineering(自動化工程系碩士班)	0035	Autonomous Unmanned Vehicle System （自動化無人載具系統）	Elective 選修	3	Meng-Tse, Lee 李孟澤	Course Outline
6	Institute of Automation Engineering(自動化工程系碩士班)	0034	Application for Digital Image （數位影像處理實務）	Elective 選修	3	Kuang-Chyi, Lee 李廣齊	Course Outline
7	Graduate Institute of Materials Science and Green	0208	Thermodynamics of Solids （固態熱力學）	Required 必修	3	Chau-Yi, Tsai	Course Outline

	Energy Engineering (材料科學與工程系材料科學與綠色能源工程碩士班)					蔡朝伊	
8	Graduate Institute of Materials Science and Green Energy Engineering (材料科學與工程系材料科學與綠色能源工程碩士班)	0224	Semiconductor Devices and Manufacturing Process （半導體元件與製程）	Elective 選修	3	Jau-Shiung, Fang 方昭訓	Course Outline
9	Graduate Institute of Aeronautical and Electronic Engineering（飛機工程系航空與電子科技碩士班）	0288	Engineering Analysis and Design and Aicraft Structures （飛機結構工程分析與設計）	Elective 選修	3	Chung-Yan, Lin 林中彥	Course Outline
10	Institute of Computer Science and Information Engineering (資訊工程系碩士班)	0114	Intelligent Optimization Algorithm (智慧型最佳化演算法)	Elective 選修	3	Jin-Tsong, Jeng 鄭錦聰	Course Outline
11	Institute of Computer Science and Information Engineering (資訊工程系碩士班)	0104	Technical Research Writing （科技論文寫作）	Required 必修	3	Po-Hsiang, Tsai 蔡柏祥	Course Outline
12	Institute of Electrical Engineering (電機工程系碩士班)	0121	FPGA Circuits Design （FPGA 電路設計）	Elective 選修	3	Chi-Chia, Sun 宋啟嘉	Course Outline
13	Institute of Electrical Engineering (電機工程系碩士班)	0125	Embedded Systems （嵌入式系統）	Elective 選修	3	Hui-Kai, Su 蘇暉凱	Course Outline
14	Master of Electro-Optical and Materials Science(光電	2590	Special Topics in Nano-optics (奈米光學特論)	Elective 選修	3	Wen-Kai, Kuo	Course Outline

	工程系光電與材料科技碩士班)					郭文凱	
15	Master of Electro-Optical and Materials Science(光電工程系光電與材料科技碩士班)	0279	Introduction to Micro-optics （微光學導論）	Elective 選修	3	Wei-Qun, Chuang 莊為群	Course Outline
16	Institute of Department of Finance(財務金融系碩士班)	0027	Financial Institutions and Risk Management (金融機構與風險管理)	Elective 選修	3	Jo-Yu, Wang 王若愚	Course Outline
17	Institute of Information Management(資訊管理系碩士班)	0077	Business Intelligence (商業智慧)	Elective 選修	3	Yung-Tsung, Hou 侯雍聰	Course Outline
18	Institute of Information Management(資訊管理系碩士班)	0079	ETL and Modeling for Big Data (大數據彙整與建模)	Elective 選修	3	Nian-Ze, Hu 胡念祖	Course Outline
19	Institute of Information Management(資訊管理系碩士班)	0080	Web Technology (Web 技術)	Elective 選修	3	Yu-Feng, Lan 藍友烽	Course Outline
20	Institute of Industrial Engineering and Management (工業管理系工業工程與管理碩士班)	0306	Seminar(一) (專題討論(一))	Required 必修	3	Chih-Hsiung, Hu 胡智熊	Course Outline
21	Institute of Industrial Engineering and Management (工業管理系工業工程與管理碩士班)	0307	Quantitative Research Methodology (數量研究方法)	Required 必修	3	Jyun-Ping, Huang 黃俊平	Course Outline

22	Master program of Business Management of Department of Business administration (企業管理系經營管理碩士班)	0337	Marketing Management (行銷管理)	Elective 選修	3	Mam-Shin, Cheng 鄭錳新	Course Outline
23	Master program of Business Management of Department of Business administration (企業管理系經營管理碩士班)	0340	Business Data Analysis (企業資料分析)	Elective 選修	3	Chih-Chin, Liang 梁直青	Course Outline
24	Master program of Business Management of Department of Business administration (企業管理系經營管理碩士班)	0338	Corporate Financial Management (公司財務管理)	Elective 選修	3	Chi-Lin, Lu 呂麒麟	Course Outline
25	Master program of Business Management of Department of Business administration (企業管理系經營管理碩士班)	0353	Motivation and Leadership (激勵與領導)	Elective 選修	3	Ching-Hsiang, Liu 劉慶湘	Course Outline
26	Master program of Business Management of Department of Business administration (企業管理系經營管理碩士班)	0354	Entrepreneurial Management (創業管理)	Elective 選修	3	Yu-Chun, Chen 陳鈺淳	Course Outline
27	Graduate School of Digital Contents and Creative Industries（多媒體設計系數	0163	Project Discussions (I) （專題討論(一)）	Required 必修	3	Siu-Tsen, Shen 沈思岑	Course Outline

	位內容創意產業碩士班）						
28	Graduate School of Digital Contents and Creative Industries（多媒體設計系數位內容創意產業碩士班）	0164	Design Research Methods (研究方法特論)	Required 必修	3	Siu-Tsen, Shen 沈思岑	Course Outline
29	Graduate School of Digital Contents and Creative Industries（多媒體設計系數位內容創意產業碩士班）	0165	Human-Computer Interaction Design Research (人機介面互動設計研究)	Elective 選修	3	Siu-Tsen, Shen 沈思岑	Course Outline
30	Graduate School of Digital Contents and Creative Industries（多媒體設計系數位內容創意產業碩士班）	0173	Digital Media Communication (數位媒體傳播)	Elective 選修	3	Siu-Tsen, Shen 沈思岑	Course Outline
31	Graduate School of Digital Contents and Creative Industries（多媒體設計系數位內容創意產業碩士班）	0166	Research in Digital Media Arts (數位媒體藝術研究)	Elective 選修	3	wen hwa, Cheng 鄭文華	Course Outline

Courses taught in English

Course title 課程名稱	Dynamics of Multibody Systems (多體動力學)
Course Description 課程概述	Multibody system is the study of the dynamic behavior of interconnected rigid or flexible bodies, each of which may undergo large translational and rotational displacements.
Course objective 課程目標	Let students understand “dynamics of multibody systems” in the applications of industry.
Competence 核心能力	Mature, Stable and Computational abilities.
Prerequisite Course(s) 先修課程或先備能力	Statics, Dynamics and Mechanics of Materials.
Teaching Strategies 教學方法	Course Notes, Computer Simulation, and Report Writing.
Course Material 課程教材	Shabana, Ahmed A., 2005, *Dynamics of Multibody Systems*, Cambridge University Press.
Grading 評量方式	Quiz, Mid-term Examination, Final Examination, and Final Project.
References 參考書目	1. Wittenburg, Jens, 2008, *Dynamics of Multibody Systems*, Springer-Verlag Berlin Heidelberg. 2. Nikravesh, Parviz E., 1988, *Computer-Aided Analysis of Mechanical Systems*, Prentice-Hall, Inc. 3. Shabana, Ahmed A., 2001, *Computational Dynamics*, John Wiley & Sons, Inc.
Contact with Teacher 老師聯絡資訊	Yunn-Lin Hwang/黃運琳 hwang@nfu.edu.tw TEL: 05-6315339

Course Outline 課程進度	
Outline: 1. Introduction 2. Reference kinematics 3. Analytical techniques 4. Mechanics of deformable bodies 5. Classical approximation methods 6. Finite-element formulation 7. Computer implementation	

Remarks 備註	

Courses taught in English

Course title 課程名稱	Special Topic on Machine Tools (摩擦工程)
Course Description 課程概述	Machining is the most popular manufacturing method for machinery parts. Special Topic on Machine Tools gives the basic knowledge in the field of cutting tools. Machining methods such as sawing, drilling, lathe, milling, grinding and polishing will be discussed in details.
Course objective 課程目標	Improving knowledge in power-driven machine tools.
Competence 核心能力	
Prerequisite Course(s) 先修課程或先備能力	Material Engineering
Teaching Strategies 教學方法	Most of the teaching course will be on slide show presentation and black board. There will be some videos involved to present material cutting processes.
Course Material 課程教材	During the course students will be introduced with basics on materials and their machinability. Machining methods and processes such as sawing, drilling, lathe, milling, grinding and polishing will be presented in details.
Grading 評量方式	The middle test 50 % + Final exam 50 %.
References 參考書目	• Machining Technology: Machine Tools and Operations. Helmi A. Youssef, Hassan El-Hofy. CRC Press, 2008 - 672 psl. • Non-Traditional Machining Handbook. Carl Sommer. Advance Pub., 2000 - 432 psl.
Contact with Teacher 老師聯絡資訊	Dr. Raimondas Kreivaitis, Department of Power Mechanical Engineering, Room 510

Course Outline 課程進度	
Week 1	**Introduction to Machine Tools**
Week 2	**Materials used for Machine Tools and Machinery Engineering**
Week 3-6	**Cutting tools, machine shop and material cutting processes (Sawing, Drilling, Lathe, Milling)**
Week 7-9	**Surface finishing (Grinding, Honing, Polishing, Super-finishing) tools, machine shop and processes** **The middle test**

Week 10	**Cooling and Lubrication Fluids for Machine Cutting Tools** **Non-Traditional Machining (Water-jet and Abrasive Water-jet Machining, Laser machining, Electrochemical machining)**
Week 11	**The Final exam**
Week 12-17	
Week 18	
Remarks 備註	

Courses taught in English

Course title 課程名稱	Friction Engineering (工具機特論)
Course Description 課程概述	Presents of friction reduce efficiency of most moving mechanism. It increases energy consumption. Therefore it is important to understand rolls of friction appearance and problems it can cause. Moreover knowledge in Friction Engineering can help to solve these emerging problems.
Course objective 課程目標	Improving knowledge in nature of friction and friction caused engineering problems.
Competence 核心能力	
Prerequisite Course(s) 先修課程或先備能力	Material Engineering
Teaching Strategies 教學方法	The teaching course will be on slide show presentation and black board.
Course Material 課程教材	During the course students will be introduced with basics of surface engineering, common friction pair materials, and main friction laws. Friction related engineering problems will be discussed in details.
Grading 評量方式	Middle Test 50 % + Final Report 50 %.
References 參考書目	• Fundamentals of Tribology (2Nd Edition). Ramsey Gohar, Homer Rahnejat. World Scientific Publishing Company, 2012-03-22 - 460 psl. • Lubricants and Lubrication. Mang, Wilfried Dresel. John Wiley & Sons, 2007-02-27 - 890 psl.
Contact with Teacher 老師聯絡資訊	Dr. Raimondas Kreivaitis, Department of Power Mechanical Engineering, Room 510

Course Outline 課程進度	
Week 1	**Introduction**
Week 2-3	**Nature of interacting surfaces**
Week 4-5	**Definition of Coefficient of Friction**
Week 6-7	**Sliding and Rolling friction**
Week 8-10	**Lubrication to Control Friction**
Week 10	**Middle Test**

Week 11-12	**Measuring Friction in the Lab-tests**
Week 13-14	**Wear and friction relationship**
Week 15-17	**Common friction related problems in machinery**
Week 18	**Final Report**
Remarks 備註	

Courses taught in English

Course title 課程名稱	AI Robotics (智慧型機器人)
Course Description 課程概述	This course covers the topics of programming paradigms of an artificially intelligent robot for applications involving sensing, navigation, path-planning, and navigating with uncertainty. Fundamental theories and architectures of the AI robot would be discussed in the class. The student will be asked to do the real robot programming project in the laboratory and evaluated. Pre-AI or Robotics courses are not required. Some basic programming skill and knowledge on microprocessor will be helpful in the learning and implementing the contents of this course although it is not necessary
Course objective 課程目標	1. Fundamental concepts of AI 2. Developing and programming an AI robotic system
Competence 核心能力	Mathematics 40, Science 40, Engineering 20
Prerequisite Course(s) 先修課程或先備能力	English comprehensive ability
Teaching Strategies 教學方法	Course lecture and Lab. Project
Course Material 課程教材	Introduction to AI Robotics, Robin R. Murphy, The MIT Press, ISBN 0-262-13383-0
Grading 評量方式	Projects and report Assignment: 30%; Midterm Examine:30%; Final Examine :40%.
References 參考書目	
Contact with Teacher 老師聯絡資訊	5383 josephj@nfu.edu.tw

Course Outline 課程進度	
Chapter 1: Artificial Intelligence and Robotics Chapter 2: Robot Paradigms Chapter 3: The Hierarchical Paradigm. Chapter 4: Biological Foundations of the Reactive Paradigm.	Chapter 5: The Hybrid Deliberative/Reactive Paradigm. Chapter 6: Multi-agents.

Remarks 備註	

Courses taught in English

Course title 課程名稱	Autonomous Unmanned Vehicle System (自動化無人載具系統)
Course Description 課程概述	The fundamental characteristic of Autonomous Unmanned Vehicle Systems (AUVS) is the absence of a human operator on board. These systems fall into three main categories, land, sea, and air, the latter being the most popular. The development and application of AUVS is a rapidly emerging field of technology in many parts of the world. While much of the media attention has focused on military applications, the civil and commercial sector applications have grown, and continue to grow, stronger with each passing year. With AUVS technology expanding at such a fast pace, the need for understanding this rapid-growing field to the engineering students is increasingly important.
Course objective 課程目標	This 18 weeks long program provides broad and basic knowledge view of autonomous unmanned vehicle systems. During the course, teacher uses computer-based multimedia learning environments with multimedia presentations and video tutorials. This course is divided into 11 parts, logically building up the knowledge, touches on all major areas necessary to cover unmanned vehicle's systems and subsystems, communications, data links, payloads, control, types, roles and applications.
Competence 核心能力	The Capability for Developing an Unmanned Vehicle System
Prerequisite Course(s) 先修課程或先備能力	Automatic Control, System Engineering
Teaching Strategies 教學方法	In-class PPT and Case studies
Course Material 課程教材	Tailor-made teaching materials
Grading 評量方式	Mid-term Oral Presentation 30%, Final Oral Presentation 30%, Design Report 30%, and Roll Call 10%
References 參考書目	Unmanned Systems Documents & Websites
Contact Teacher 老師聯絡資訊	mtlee@nfu.edu.tw, 05-6315388

Course Outline 課程進度	
Part-1: Introduction to "System Engineering"	Part-7: Case Study: Building an Autopilot

Part-2: History & Applications of the Unmanned Vehicle Part-3: Unmanned Aerial Vehicle Part-4: Unmanned Ground Vehicle Part-5: Unmanned Maritime Vehicle Part-6: The Subsystem of an Autonomous Unmanned Vehicle	for UAV Part-8: Hardware/Software in the Loop Simulation Part-9: Navigation(I) – Inertial Navigation Part-10: Navigation(II) – Global Positioning System (GPS) Part-11: Sensors
Remarks 備註	

Courses taught in English

Course title 課程名稱	Application for Digital Image Processing (數位影像處理實務)
Course Description 課程概述	To teach the students to learn the methods of digital image processing for the application of industry.
Course objective 課程目標	To teach the digital image processing methods of convolution, edge detection, contour following, Hough transform, LSM etc.
Competence 核心能力	Algorithm of Image Processing, MATLAB Programming
Prerequisite Course(s) 先修課程或先備能力	Calculus, Engineering Mathematics
Teaching Strategies 教學方法	Oral, Lab, Report
Course Material 課程教材	R.C. Gonzalez and R.E. Woods , Digital Image Processing, 3rd Edition, Pearson Education.
Grading 評量方式	Lab 40%, Midterm 30%, Final 30%
References 參考書目	Hand-out
Contact with Teacher 老師聯絡資訊	kclee@nfu.edu.tw, 05-6315379

Course Outline 課程進度	
Introduction to image processing Convolution methods Edge Detection methods Contour Following method Hough Transform method	LSM Straightness Roundness Ellipticity

Remarks 備註	

Courses taught in English

Course title 課程名稱	Thermodynamics of Solids （固態熱力學）
Course Description 課程概述	This course will review important concepts of Thermodynamics of Materials first and reinforce more details for master students.
Course objective 課程目標	Let students who take this course have a picture of Thermodynamics concepts in mind and could apply the knowledge to researches and works in the future.
Competence 核心能力	Concepts of Thermodynamics with microscopic viewpoints and calculation of Thermodynamic functions.
Prerequisite Course(s) 先修課程或先備能力	Thermodynamics of Materials
Teaching Strategies 教學方法	Explaining, describing and demonstration in class
Course Material 課程教材	Gaskell, David R., Laughlin, David E., “Introduction to the Thermodynamics of Materials”
Grading 評量方式	mid-term exam 40%, final exam 40%, class participation 20%
References 參考書目	
Contact with Teacher 老師聯絡資訊	cytsai503@nfu.edu.tw +886-5-6313491

Course Outline 課程進度	
1st to 2nd week	introduction to Thermodynamics of solid
3rd to 5th week	the first law of Thermodynamics
6th to 8th week	the second law of Thermodynamics
10th to 15th week	Auxiliary functions
16th to 17th week	the third law of Thermodynamics

Remarks 備註	

Courses taught in English

Course title 課程名稱	Semiconductor Devices and Manufacturing Process （半導體元件與製程）
Course Description 課程概述	This course is for technology students talking their first course in semiconductor manufacturing. The course contains comprehensive and up-to-date information on the semiconductor industry. The course provides excellent descriptions of semiconductors, advanced manufacturing technologies, and plasma in integrated circuits processes. The materials covered in this course reflect the real fabrication situations.
Course objective 課程目標	This course is intended for technical and college students who need an in-depth understanding of the technology as they prepare to find a job in the field of IC industry.
Competence 核心能力	The course can help the students to learn more about their jobs, improve their troubleshooting and problem-solving skills, and raise their career development potential.
Prerequisite Course(s) 先修課程或先備能力	Basic Physics and Chemistry
Teaching Strategies 教學方法	Lecturing in class
Course Material 課程教材	Handouts can be down loaded from e-campus
Grading 評量方式	Midterm 30%, Final 40%, Performance in class 30%
References 參考書目	Introduction to Semiconductor Manufacturing Technology
Contact with Teacher 老師聯絡資訊	(Jau-Shiung Fang) jsfang@nfu.edu.tw, 05-6315466

Course Outline 課程進度	
Before Midterm 1. Introduction 2. Introduction to IC fabrication 3. Semiconductor basics 4. Wafer manufacturing 5. Thermal processes 6. Photolithography 7. Plasma basics	After Midterm 1. Ion implantation 2. Etch 3. CVD and Dieletric thin film 4. Metallization 5. CMP 6. Process integration 7. CMOS processes

Remarks 備註	

Courses taught in English

Course title 課程名稱	Engineering analysis and design Of Aircraft structures （飛機結構工程分析與設計）
Course Description 課程概述	ANSYS is a finite element method (FEM, Finite Element Method) as the application tool for engineering structural analysis. It has been widely used in aerospace industry, automobile industry, shipbuilding industry, construction industry, machinery industry and general people's livelihood industry (such as Plastic industry) and other industries. The scope of analysis includes structural static analysis, dynamic analysis, vibration frequency analysis, Buckling Analysis, damage analysis, fatigue analysis, composite structure analysis, thermal analysis, fluid field analysis, electromagnetic field analysis and optimization design.
Course objective 課程目標	This course uses ANSYS as the main tool to learn how to apply ANSYS to verify related mechanical problems in the past and to further analyze the structural engineering analysis and design problems encountered by the industry.
Competence 核心能力	ANSYS
Prerequisite Course(s) 先修課程或先備能力	Mechanics of Material
Teaching Strategies 教學方法	Lecture, case study, and student project
Course Material 課程教材	ANSYS Workbench Tutorial Release, by Kent Lawrence
Grading 評量方式	Mid-term exam and student project
References 參考書目	蔡國忠 ANSYS/Workbench 有限元素分析及工程應用
Contact with Teacher 老師聯絡資訊	Instructor: C Y Lin Office Hours: by appointment or any time I'm in the office & available Contact me @ chungyan_lin@chungyan_lin.com or 05-631-5531

Course Outline 課程進度	
Topic 1 ANSYS Introduction and Quick Tour Topic 2 Basic Review of Structural Mechanics and Fundamental Theory of Finite Element Analysis Topic 3 Basic concepts of ANSYS structural analysis	Topic 8 Some examples of APDL Topic 9 Structural Dynamic Analysis, Time-History Analysis Topic 10 Thermal Analysis Topic 11 Optimized Design

Topic 4 ANSYS Command: Fundamentals and Concepts, Pre-Processing, Problem Solving and Post-Processing Topic 5 1D, 2D, 3D finite element model Topic 6 3D Entity Structure Analysis Example Topic 7 Coordinate System Writing of Topic 8 APDL (ANSYS Parametric Design Language)	Topic 12 Nonlinear Analysis: Material Nonlinear Analysis and Contact Analysis
Remarks 備註	

Courses taught in English

Course title 課程名稱	Intelligent Optimization Algorithm (智慧型最佳化演算法)
Course Description 課程概述	This course introduces the optimization theorems such as linear programming, quadratic programming, nonlinear programming, and intelligent algorithm such as GA, PSO, ACO, SA, neural networks, machine learning, deep learning for research application. Students must select a paper (must be a journal paper, IEEE is best) that belongs to optimization topic and implement the intelligent algorithm with Matlab. Students must present this paper thirty minutes in the finally examination with English and reserve 5 minutes for discussion. Besides, finally report needs use English to write the content.
Course objective 課程目標	This course introduces the optimization theorems and intelligent algorithm for research application. Besides, this course will implement the intelligent algorithm with Matlab.
Competence 核心能力	Possess information technology expertise in the field of computer science and information engineering. Possess the ability on plan and execute research project. Possess the ability to write and to present professional papers. Possess the ability to think creatively and solve problems independently. Possess the ability that has a good international outlook.
Prerequisite Course(s) 先修課程或先備能力	Computer Programming, Calculus, Linear Algebra, Probability and Statistics, Numerical Analysis
Teaching Strategies 教學方法	Class teaching, papers or technical reports studying, and project practicing
Course Material 課程教材	1.“Optimization Toolbox™ User’s Guide R2017b,” Mathworks, 2017 2. Handout from web and E-library.
Grading 評量方式	1. Mid-term exam 30% 2. Final exam 30% 3. Participation and Presentation 40% (class attendance, discussion, homework, and group work will be used)
References 參考書目	1. Paper from E-library. 2. Nello Cristianini and John Shawe-Taylor, “An Introduction to Support Vector Machines and Other Kernel-based Learning Methods,” Cambridge University Press, 2000.
Contact with Teacher 老師聯絡資訊	E-mail：tsong@nfu.edu.tw
Course Outline 課程進度	
單元主題	主題大綱

Unit 1	Introduction to Engineering Optimization
Unit 2	Introduction to Matlab Optimization Toolbox
Unit 3	Programming in Matlab
Unit 4	Quadratic Programming Optimization Problems
Unit 5	Unconstrained Optimization Problems
Unit 6	Constrained Optimization Problems
Unit 7	Lagrange Multiplier Method
Unit 8	Introduction to intelligent optimization algorithm such as GA, PSO, ACO, SA, SVM, LS-SVM, Neural Networks, Machine Learning
Unit 9	Implement Optimization Algorithm and Intelligent algorithm with Matlab
Unit 10	Intelligent Optimization Paper Study and Presentation
Remarks 備註	※Regular attendance is expected and necessary to understand the material. You are expected to be in class and on time each week, attendance will be taken each week. ※Roll will be taken each week and can be used to assess grade in borderline cases. ※Student who leaves class early will be counted absent for that class, unless prior approval has been given by me. ※If you miss a class with a valid excuse and wish to have the absence not counted, you should turn in an absence from with the appropriate documentation. (In advance apply is best) ※I expect you to attend every class meeting except in the event of personal illness or family emergency or official school activities. ※You are responsible for all work whether you attend class or not. ※You must download handout from the E3 platform before class and print them in advance. At the same time, study these materials and take to class.

Courses taught in English

Course title 課程名稱	Technical Research Writing (科技論文寫作)
Course Description 課程概述	This course is to help students to apply their analytical and rhetorical skills to the discourses of their chosen disciples (multi-disciplinary basis) and to explore how effective academic writing is achieved. It also helps students (as junior researchers) start from small-scale language points to eventually be able to write an article for publication. These skills gained from this course can also be applicable to other tasks such theses, dissertations, conference/journal papers, technical reports, and/or patent writing etc.
Course objective 課程目標	The gist of this course aims to provide overarching knowledge to help students prepare and write their research related documents.
Competence 核心能力	Students expect to possess the skills and knowledge applying in academic writing of their chosen fields.
Prerequisite Course(s) 先修課程或先備能力	Basic English Writing
Teaching Strategies 教學方法	Lecturing with Slides and Whiteboard
Course Material 課程教材	• Writing Up Research: Experimental Research Report Writing for Students of English,Weissberg and Buker, 2008，文鶴 (Main Book) • Academic Writing for Graduate Students-Essential Tasks and Skills, Swales and Feak, 2007，文鶴
Grading 評量方式	Attendance 10% Quiz 20% Mid-Term Exam 30% Final-Term Exam 30% Class Participation 10%
References 參考書目	Experimental Reaearch Report Writing for Students of English
Contact with Teacher 老師聯絡資訊	05-6315598 E-MAIL：ptsai@nfu.edu.tw

Course Outline 課程進度	
Academic Writing - Academic Research Writing	I: Academic Writing
	1.Academic Research Writing
	2.Revisions and Response to Reviewers
	3.Article Search and Library Access

	4.Digital Databases
	5.Academic writing approach
Academic Writing - Revisions and Response to Reviewers	Writing Up Research
	1.Introduction
	2.Method
	3.Materials
	4.Results
	5.Discussion
	6.Abstract
Remarks 備註	

Courses taught in English

Course title 課程名稱	FPGA System Design (FPGA 電路設計)
Course Description 課程概述	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.
Course objective 課程目標	The objective of FPGA System Design is a guidance how advanced FPGA design mythology could be applied to recent SoC FPGA platform, further leads to embedded system design at system level.
Competence 核心能力	
Prerequisite Course(s) 先修課程或先備能力	HDL Language (VHDL or Verilog) CPLD/FPGA Implantation
Teaching Strategies 教學方法	Lectures and Labs
Course Material 課程教材	● Power Point Slides ● FPGA labs ● ZYNQ Labs
Grading 評量方式	Home work assigments 20% Mid-term Presentation 20% Implementation 30% Presentation 10% Term 20%
References 參考書目	● W. Wolf, “FPGA-based System Design”, Prentice Hall, 2004 ● S. Palnitkar, “Verilog HDL: A Guide to Digital Design and Synthesis”, Prentice Hall, 2003, Second Edition ● Neil Weste, “CMOS VLSI Design: A Circuits and Systems Perspective (3th Edition)”, Addison Wesley, 2005
Contact with Teacher 老師聯絡資訊	+886-5-6315631 ccsun@nfu.edu.tw Prof. Dr.-Ing. Chi-Chia Sun

Course Outline
課程進度

1. Introduction of VLSI and FPGA
2. Challenges in VDSM and 3D-IC technology for FPGA
3. Xilinx Vivado Labs
4. ZYNQ Labs
5. Colloquium and Mid-Report
6. MPSOC (ARM-FPGA) Introduction and Labs
7. Colloquium Final-Project and Presentation

Remarks 備註	

Courses taught in English

Course title 課程名稱	Embedded System (嵌入式系統)
Course Description 課程概述	The course will introduce the fundamental of embedded system. Moreover, the lab experiences will train the students' practical skills. Installing embedded Linux, making Linux kernel and programming in the Linux environment are included in the lab experiences. Finally, the students will design, implement and present an embedded system project with team work.
Course objective 課程目標	1. Training the basic concepts of embedded system development. 2. Training the basic skills of driver programming and application programming for embedded systems.
Competence 核心能力	
Prerequisite Course(s) 先修課程或先備能力	Introduction to computers Programming Language
Teaching Strategies 教學方法	● Lecture ● Lab Experience with Project-Based Learning
Course Material 課程教材	1. The own teaching materials 2. Wayne Wolf, Computers as Components, Second Edition: Principles of Embedded Computing System Design, Morgan Kaufmann, 2008/8/22. (ISBN：0123743974)
Grading 評量方式	● Participation: 10% ● Experiment: 40% ● Midterm: 20% ● Final Project: 30%
References 參考書目	
Contact with Teacher 老師聯絡資訊	hksu@nfu.edu.tw 05-6315619

Course Outline 課程進度	
1. Introduction to Embedded Computing 2. Instruction Sets 3. CPUs 4. Bus-Based Computer Systems 5. Processes and operating Systems 6. Embedded Linux Operating system 7. The Linux kernel 8. Linux Driver and Application Programming 9. Final Project	

Remarks 備註	

Courses taught in English

Course title 課程名稱	Special Topics in Nanophotonics (奈米光學特論)
Course Description 課程概述	This course covers basic principles and some advanced topics in nano-grating structure applications for optical devices. Basic properties of electromagnetic wave in periodical structure will be reviewed first, advanced topics including guided-mode resonance and surface plasmoic resonance devices with nano-grating structures and their applications will be introduced. Some simulation software (RCWA and FDTD) for analysis the optical properties of nano-optic devices also will be learned in this course.
Course objective 課程目標	The students will understand the principle and applications of optical devices with nano-grating structures. They also will learn how to design the nanophotonic devices by using commercial available software.
Competence 核心能力	Simulation and applications of optical devices with nano-grating structures.
Prerequisite Course(s) 先修課程或先備能力	Optics, Electromagnetics
Teaching Strategies 教學方法	General lecturing and inquiry-based learning
Course Material 課程教材	Selected journal papers
Grading 評量方式	1. Presentation (50%) 2. Finial report (50%)
References 參考書目	1. Introduction to Nanophotonics, S. V. Gaponenko, Cambridge university press, 2010 2. Plasmonic optics-theory and applications, Y. Q. Li, SPIE press, 2017
Contact with Teacher 老師聯絡資訊	TEL: 05-6315667 (Office) Email: wkkuo@nfu.edu.tw

Course Outline
課程進度

1. Introduction 2. Review of Electromagnetic wave 3. Polarization and modulation of light 4. Diffraction grating 5. Surface plasmon resonance	6. Guided-mode resonance 7. Rigorous coupled-wave analysis (RCWA) and finite-difference time-domain (FDTD) 8. Practice of the simulation tools: EM explore and G-solver 9. Paper presentation

Remarks 備註	

Courses taught in English

Course title 課程名稱	Introduction to Micro-optics （微光學導論）
Course Description 課程概述	1.Introducion 2.Theory of optical waveguides 3.Reflective, refractive and diffractive micro-optics 4.Guided wave micro-optics 5.Micro-optics fabrication 6.Active micro-optics 7.Tunable micro-optics 8.Nano-optics
Course objective 課程目標	This course is an introduction to the theory and technology of micro-optics. It can be divided into three parts:(I) essential optics (II) micro-optics (III) neoteric optics. Essential optics overviews the fundamental of physical optics. The micro-optics introduces the optical theories of micro-optics devices. The remaining parts of this course are devoted to the detail study of the phenomena of liquid optics and nano-optics.
Competence 核心能力	1. Having the fundamental capacity for photoelectric *industry and technology* 2. Having the capacity for optoelectronic engineering systems, devices or related manufacturing processes 3. Having the ability to discover, analyze and solve problems.
Prerequisite Course(s) 先修課程或先備能力	1. Engineering Mathematics 2. Physics
Teaching Strategies 教學方法	1. Class lectures 2. Experimental demonstrations
Course Material 課程教材	Fundamentals of Micro-Optics
Grading 評量方式	1. Mid-term exam 30% 2. Final exam 40% 3. Participation 30%
References 參考書目	Optical integrated circuits H. Nishihara
Contact with Teacher 老師聯絡資訊	莊為群(Wei-Ching Chuang) 05-631-5663 教師研究室 eocwc@nfu.edu.tw

Course Outline 課程進度	
1. Introduction 2. The physics of light 3. Optical materials	6. Reflective micro-optics 7. Refractive micro-optics 8. Diffractive micro-optics

4. Optical interference 5. Interferometer	9. Guide-wave micro-optics 10. Micro-optics fabrication 11. Tunable micro-optics 12. Nano-optics
Remarks 備註	

Courses taught in English

Course title 課程名稱	Financial Institutions and Risk Management (金融機構與風險管理)
Course Description 課程概述	This course is a graduate-level course, focusing on the management and practices of financial institutions, and the applications of risk management in the institutions, especially to banks, security firms, and insurance companies. The contents includes the main operations of these institutions, principles of Basel (III) regulations to them, and the methods (or the practices) of risk management in the financial institutions.
Course objective 課程目標	Students are expected to understand the major business and the sources of profits of the financial institutions. Furthermore, students will realize how to build-up a calibrated risk measure and how to use it.
Competence 核心能力	Basic technique in risk modelling.
Prerequisite Course(s)先修課程或先備能力	The fundamental understanding on statistics is an essential knowledge to this course, and coding skills will be a plus but not necessary.
Teaching Strategies 教學方法	1. The foundations of financial institutions will be given with slides. 2. Students are asked to read some published papers (in advance) which will be provided by the lecturer. 3. Case study (provided by the lecturer) and some open online courses may be given to the students.
Course Material 課程教材	Anthony Saunders, and Marcia M. Cornett (2018), Financial Institutions Management: A Risk Management Approach, ninth Edition, McGraw-Hill. (華泰書局)
Grading 評量方式	Mid-term Exam.(research proposal) 30% Final Exam. (term paper) 30% Homework and Presentation 20% Course participation and attendance 20%
References 參考書目	We do not have textbook in this course, but some journal papers will be assigned for reading and discussion. 1. 謝德宗 (2017). 金融機構管理，第 8 版，華泰書局。 2. Peter Christoffersen (2003). Elements of Financial Risk Management, Academic Press. 3. Allan M. Malz (2011). Financial Risk Management: Models, History, and Institutions. John Wiley.
Contact with Teacher 老師聯絡資訊	Email: jywang@nfu.edu.tw

Course Outline 課程進度	
Course Introduction Part one：Introduction of financial institutions Chapter 1-Why Are Financial Institutions Special? Chapter 2- Financial Services: Depository Institutions Chapter 3- Financial Services: Finance Companies Chapter 4- Financial Services: Securities Firms and Investment Banks Chapter 6- Financial Services: Insurance Companies Chapter 7- Risks of Financial Institutions Part two： Measuring risk Chapter 8- Interest Rate Risk	

Chapter 10- Credit Risk Chapter 12- Liquidity Risk Chapter 13- Foreign Exchange Risk Chapter 14- Sovereign Risk Chapter 15- Market Risk Part three： Managing risk Chapter 18- Liability and Liquidity Management Chapter 19- Deposit Insurance and Other Liability Guarantees Chapter 20- Capital Adequacy	
Remarks 備註	

Courses taught in English

Course title 課程名稱	Business Intelligence （商業智慧）
Course Description 課程概述	This course aims at giving students an understanding of basic BI concepts, terminologies and technologies. This course serves as a comprehensive introduction to the various aspects of BI, including the business impacts, management and relevant information technology.
Course objective 課程目標	The student will learn the theoretical and practical knowledge from both the technical and organization perspectives.
Competence 核心能力	System Management, Information Technology
Prerequisite Course(s) 先修課程或先備能力	NA
Teaching Strategies 教學方法	Lectures, discussions, presentation, and HW assignments
Course Material 課程教材	1. Business Intelligence (2nd Edition) by Efraim Turban, Ramesh Sharda, Dursun Delen, and David King (Jul 28, 2010) 2. The Kimball Group Reader: Relentlessly Practical Tools for Data Warehousing and Business Intelligence by Ralph Kimball, Margy Ross, Warren Thornthwaite, and Joy Mundy (Feb 8, 2010)
Grading 評量方式	Presentation Midterm & Final report
References 參考書目	NA
Contact with Teacher 老師聯絡資訊	Dept. of Information Management, Yung-Tsung Hou 05-6315731

Course Outline 課程進度			
Week 1	Business Intelligence Introduction	Week 10	BI with Balanced Score Card
Week 2	BI Architecture	Week 11	BI and Big Data
Week 3	Business Strategies and Performance Indicators	Week 12	Big Data Introduction I
		Week 13	Big Data Introduction II
Week 4	Dimensional Modeling and Data Warehousing	Week 14	BI and Big Data System I
		Week15	BI and Big Data System II
Week 5	Information Retrieval and	Week16	Advance BI Analytical tools

	Transformation	Week 17	BI and Big Data Application
Week 6	Information Handling	Week 18	Final Report
Week 7	Cube and Business Analytics		
Week 8	OLAP		
Week 9	Midterm		
Remarks 備註			

Courses taught in English

Course title 課程名稱	ETL and Modeling of Big Data (大數據彙整與建模)
Course Description 課程概述	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.
Course objective 課程目標	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.
Competence 核心能力	Data Integration, Data Processing, Data Modeling
Prerequisite Course(s) 先修課程或先備能力	Database fundamental and Business Intelligence
Teaching Strategies 教學方法	Hands-on training
Course Material 課程教材	The Data Warehouse Toolkits second edition
Grading 評量方式	Midterm 20%, Final 20%, Class Practice 30%, Project 30%
References 參考書目	The Data Warehouse ETL Toolkit, Ralph Kimball
Contact with Teacher 老師聯絡資訊	Office Hours: Monday 11-12am. Contact by email.

Course Outline 課程進度	
Introduction to Big Data Architecture Database fundamental Data Modeling Dimensions Modeling Myths	Fact Table Techniques Dimension Table Techniques Design for various Scenarios ETL Modeling ETL Plan ETL Implmentation

Remarks 備註	

Courses taught in English

Course title 課程名稱	Web Technology (Web 技術)
Course Description 課程概述	The Web Technology course is designed to prepare students for professional web design work. The class will be a mix of not only theoretical and soft skills, but also practical front-end and back-end techniques in web design. Upon completion of this course, students should have a thorough knowledge of all areas of web page design. Topics of front-end techniques include the knowledge of HTML5 and CSS3, JavaScript, jQuery, ReactJS, Harp.js and Bootstrap 4. In terms of back-end techniques, topics include building web servers, PHP scripting language, and MySQL database. By the end of this course, students should have a solid understanding of the web design industry and modern web design techniques.
Course objective 課程目標	This course presents the process of designing and developing web sites from conception through the publication. Students gain valuable hands-on lab experience using web authoring software. The objectives of course are as follows: 1. Advanced use of HTML5 and CSS3 for web design 2. Understand the basics of computer programming languages using JavaScript 3. Apply jQuery, HTML5, and CSS3 effectively to create interactive and dynamic websites 4. Building responsive web pages with Bootstrap 4 5. Integrating client-side and server-side scripting into a website 6. Understanding of the framework of ReactJs and Harp.js in site development
Competence 核心能力	1. Logical Thinking and Analysis Competency : 8 point 2. Problem Solving Competency : 8 point 3. Information System Application and Integration Competency : 8 point 4. Internationalization and Foreign Language Competency : 9 point
Prerequisite Course(s) 先修課程或先備能力	We may suggest that students should have a basic working knowledge of HTML5 and CSS3 coding as well as uploading websites via FTP.
Teaching Strategies 教學方法	Material for this course will be presented using multiple teaching approaches, including lecture and discussion, exploration and inquiry, field experiences, cooperative group work, demonstrations, role plays, and/or presentations.
Course Material 課程教材	Title: Bootstrap 4 – Responsive Web Design Publisher: Packt Publishing Ltd. ISBN: 978-1-78839-731-5 Author: Silvio Moreto、Matt Lambert、Benjamin Jakobus、Jason Marah
Grading 評量方式	Students are evaluated on the basis of their timely and effective completion of homework assignments and projects. The detailed items are summarized as follows: 1. Class Participation* 30% 2. Project 35% 3. Homework 35%

	*Participation includes: presence in class (chat, responses to questions, actively engaged, etc.), attendance, and Discussion Board activity (postings and comments).
References 參考書目	● HTML5 & CSS3 Visual QuickStart Guide (7th Edition) by Elizabeth Castro, Bruce Hyslop ONLINE VERSION ● HTML5: Up and Running by Mark Pilgrim ONLINE VERSION ● Bootstrap Essentials by Snig Bhaumik ● Learning Web Development with React and Bootstrap by Harmeet Singh and Mehul Bhatt
Contact with Teacher 老師聯絡資訊	Yu-Feng Lan Email: yflan@nfu.edu.tw Office: C-MA-0912 Office Phone: 05-6315745 Cell Phone: 0960-060-989

Course Outline 課程進度	
1. Getting Bootstrap and setting up the framework 2. Understanding the grid system 3. Creating a landing page for different devices 4. Forming the forms and customizing buttons dropdown 5. Building a Web App 6. Working with JavaScript 7. Customizing a Bootstrap component	8. Project and team group discussion 9. Using Bootstrap Build Tools: Harp.js and Node.js 10. Flexbox basics and terminology 11. Using multiple containers on a single page 12. Reboot defaults and basics of content 13. Playing with components (Part I) 14. Playing with components (Part II) 15. Project and team group discussion

Remarks 備註	

Courses taught in English

Course title 課程名稱	Seminar 1 (專題討論(一))
Course Description 課程概述	First, all students must introduce themselves, and then present some features of their countries or the countries they select all in English. Secondly, some English IE-related articles from News or Magazines are provided, and students must present the review in English. Finally, some English IE-related research papers are provided, and students also present the review in English.
Course objective 課程目標	1. Students are going to understand more about other countries. 2. Students are going to do literature review and discuss in English.
Competence 核心能力	English Communication Capability Global Understanding Capability of Literature Review
Prerequisite Course(s) 先修課程或先備能力	Basic English Communication Capability
Teaching Strategies 教學方法	Lecture Student Presentation Discussion
Course Material 課程教材	News/Magazine articles Research papers
Grading 評量方式	Presentation 70% Participation 30%
References 參考書目	None
Contact with Teacher 老師聯絡資訊	chh@nfu.edu.tw 05-631-5720 05-631-5004

Course Outline 課程進度	
Introduction Introduce yourself Introduce the education system of your country Introduce the demography of your country Introduce the culture of your country Introduce the economy of your country	Introduce the tourism of your country Introduce optional title of your country Presentation and discussion of Industrial Engineering Related Articles Presentation and discussion of Research papers

Remarks 備註	

Courses taught in English

Course title 課程名稱	Quantitative Research Methodology （數量研究方法）
Course Description 課程概述	An introducing course of quantitative mathematical models.
Course objective 課程目標	To learn the mathematical tools for management problems.
Competence 核心能力	Application of quantitative mathematical models.
Prerequisite Course(s) 先修課程或先備能力	None.
Teaching Strategies 教學方法	Lecture.
Course Material 課程教材	Quantitative Analysis for Management by Barry Render, Ralph M. Stair, Jr. Michael E. Hanna. ISBN-13 978-0-273-75286-8
Grading 評量方式	Homework assignment 30%, Mid-term exam. 30%, Final exam. 40%
References 參考書目	1.Mathematical statistics with applications by Wackerly, Mendenall and Scheaffer. 2.Linear programming and network flows by Bazaraa, Jarvis and Sherali.
Contact with Teacher 老師聯絡資訊	Email:jphuagn@nfu.edu.tw Tel:05-6315714

Course Outline 課程進度	
Ch2 Probability and Statistics Ch3 Decision Making Ch4 Regression Models Ch 9 Transportation and assignmrnt models Ch 10 Network models Ch 12 Waiting and Queuing models	

Remarks 備註	

Courses taught in English

Course title 課程名稱	Marketing Management （行銷管理）
Course Description 課程概述	Ch 1 Defining Marketing Ch 2 Developing Marketing Strategies and Plans Ch 3 Scanning the Environment Ch 5 Creating Customer Value Ch 6 Analyzing Consumer Markets Ch 8 Identifying Marketing Segments and Targets Ch 10 Crafting the Brand Position Ch 12 Setting Product Strategy Ch 13 Designing and Managing Services Ch 14 Developing Pricing Strategies and Programs Ch 15 Designing and Managing Integrated Marketing Channels Ch 17 Designing and Managing Integrated Marketing Communications
Course objective 課程目標	1. Understanding Marketing Management 2. Capturing Markketing Insights 3. Connecting with Customers 4. Building Strong Brands 5. Shaping the Marketing Offerings 6. Delivering Value 7. Communicating Value
Competence 核心能力	1. Planning 7 2. Marketing management skill 10 3. Enhancing cooperation 5 4. Innovation 5 5. Problem solving 7 6. Expanding vision 6 7. Business practice 5
Prerequisite Course(s) 先修課程或先備能力	Listen and speak in English
Teaching Strategies 教學方法	ORAL
Course Material 課程教材	Kotler and Keller (2012), Marketing Management, 14th ed., Pearson Education, Inc.
Grading 評量方式	Class Assignment:40%; Presentation of Paper or Marketing Planning:40%;

	Class Participation:20%.
References 參考書目	Pride and Eerrell (2011), Marketing Management, 4th ed., South-western, Cengage Learning
Contact with Teacher 老師聯絡資訊	mscheng@nfu.edu.tw

Course Outline
課程進度

Ch 1 Defining Marketing	Defining Marketing	
	introduction	
Ch 2 Developing Marketing Strategies and Plans	Developing Marketing Strategies and Plans	
Ch 3 Scanning the Environment	Scanning the Environment	
Ch 5 Creating Customer Value	Creating Customer Value	
Ch 6 Analyzing Consumer Markets	Analyzing Consumer Markets	
Ch 8 Identifying Marketing Segments and Targets	Identifying Marketing Segments and Targets	
Ch 10 Crafting the Brand Position	Crafting the Brand Position	
Ch 12 Setting Product Strategy	Setting Product Strategy	
Ch 13 Designing and Managing Services	Designing and Managing Services	
Ch 14 Developing Pricing Strategies and Programs	Developing Pricing Strategies and Programs	
Ch 15 Designing and Managing Integrated Marketing Channels	Designing and Managing Integrated Marketing Channels	
Ch 17 Designing and Managing Integrated Marketing Communications	Designing and Managing Integrated Marketing Communications	

Remarks 備註	

Courses taught in English

Course title 課程名稱	Business Data Analysis (企業資料分析)
Course Description 課程概述	This course is broken into four main topic areas each covered in approximately one quarter of the course: 1. Introduction to Experimental Design, Causal Analysis, and Data Mining: What is it? Why is it important? Why is it interesting? Definitions and theories and how they apply (or not) to real cases. 2. Modeling: Building modeling through experimental design, survey, data collection, and modeling techniques that the participants can understand how to model the research target. 3. Innovation in Data Analysis: What new ways of doing experimental design, causal analysis, and data mining can be used to enhance business data analysis? 4. Practice: Analyzing business data through a designed experiment, a conducted survey, or a set of prepared data from a case company to find the operation procedures of data analysis.
Course objective 課程目標	Experiments and surveys need statistics to find the useful implications behind to the audiences. Nowadays, the use of structural equation modeling (SEM) and advanced statistics methods have mushroomed in these decades. SEM is widely recognized as one of the most powerful and most comprehensive methods for testing causal relationships among factors. Data mining, or intelligent analysis of information stored in data sets, has recently gained a substantial interest among practitioners in a variety of fields and industries. Nowadays, almost every organization collects data, which can be analyzed in order to make better decisions, conclude customer patterns, improve policies, detect credit fraud, predict important events, monitor, and evaluate reliability, etc. The course will provide conceptual bases of SEM and advance statistics as well as applications necessary to undertake researches. Students will learn to critically think about causal relations, measurement of variables, and testing of theories. There will also be plenty of demonstrations and hands-on exercises using SPSS AMOS version 18. Additionally, this course will provide the participants with understanding of the data mining methodologies, and with the ability of formulating and solving problems with them. Students will have a chance to understand the complicated environment of today's data mining business market.
Competence 核心能力	problem solution, multi-dimension thinking, systematic analysis, and business analysis.
Prerequisite Course(s) 先修課程或先備能力	N/A
Teaching Strategies 教學方法	Oral presentation, case discussion
Course Material	Barbara M. Byrne（2001）.Structural Equation Modeling with AMOS: Basic Concepts, Applications, and Programming. Lawrence Erlbaum Associates.

課程教材	Handbook of partial least squares (2016). Springer Berlin Heidelberg.
Grading 評量方式	Presentation 20% Homework and Discussion 40% mid-exam/report 20% final-exam/report 20%
References 參考書目	
Contact with Teacher 老師聯絡資訊	chihchin@nfu.edu.tw

Course Outline
課程進度

Research Framework	Foundations of Information systems in business competing with information technology
	How to build up a research framework
How to Build up Research Motivation	What is research motivation. How to write a rational motivation.
Discussion of Managerial Implications	1. What are the scholar's concerns? 2. What are the manager's concerns?
Logical thinking and writing	1. What is a logical thinking? 2. debate and argument? 3. claims or a theoretical argument? 4. How to convince the audiences?
Discussion of Questionnaire	What is survey? what is data mining? What do we concern about the development of a questionnaire? How to form your question items? A logical thinking about question items? What do you want to measure?
Discussion of Causality Relationship Analysis	The introduction of CB-SEM. What do we concerns about the analysis using CB-SEM application? Tests and checks are always needed after an analysis.
Discussion of PLS-SEM	What is PLS-SEM? What is the difference between CB-SEM and PLS-SEM? What is the research implications behind? How to use PLS-SEM to measure causality relationship?
Experimental Design	What is experimental design? Why we need the experimental design?

	small samples? large samples? Why we need to perform an experiment with multiple times? Do we need the outside effect?
Data Mining	Why do we need data mining? What do we do about the mining? Algorithm and its performance?

Remarks 備註	

Courses taught in English

Course title 課程名稱	Corporate Financial Management (公司財務管理)
Course Description 課程概述	The course introduce most areas of corporate finance which a manger need to know, including the financial statements, valuation of financial assets, capital budgeting, risk management, long term financial policy, short term financial planning, cash management and dividend policy.
Course objective 課程目標	This course studies fundamentals of corporate finance and capital markets, emphasizing the financial aspects of managerial decisions. The course draws also focus on empirical research to help guide managerial decisions, so students have to read some journal papers on the same times.
Competence 核心能力	
Prerequisite Course(s) 先修課程或先備能力	No
Teaching Strategies 教學方法	oral
Course Material 課程教材	Principle of corporate finance, by Brealey, Myers and Allen, 2nd concise edition.
Grading 評量方式	mid-exam 30% final exam 40% presentation and participation 30%
References 參考書目	Journal of corporate finance
Contact with Teacher 老師聯絡資訊	chilin@nfu.edu.tw

Course Outline
課程進度

1.financial background 2.financial analysis 3.time value of money 4.valuation of bond 5.valuation of stock	1An Overview of Finance	
	2Financial Background	
	3Cash flow and financial analysis	
	4financail sysytem	
	5time value of money	
	6the valuation of bonds	
	7the valuation of stocks	

	8risk and return	
1.risk and return 2.capital budgeting 3.cost of capital 4.capital structure 5.dividends	9.capital budgeting	
	10.cash flow estimation	
	11.cost of capital	
	12capital sturcture	
	13coporate restructuring	

Remarks 備註	

Courses taught in English

Course title 課程名稱	Motivation and Leadership (激勵與領導)
Course Description 課程概述	This course is designed for graduate students that give attention to research findings about leadership, leadership practice, and skill development.
Course objective 課程目標	This course is intended to provide students a comprehensive understanding of foundation of motivation and leadership development by offering theoretical background, practical information and an opportunity of self-assessment.
Competence 核心能力	Motivation and Leadership concepts, Communication and team work skills
Prerequisite Course(s) 先修課程或先備能力	Management
Teaching Strategies 教學方法	The course will consist of lecture, self-assessment, discussion, cases and application through experiential exercises for both the individual and group. Student-led exercises will be a major part of the student learning experience. Students are required to read the assigned text and any supplemental material before class. Appropriate and supportive behavior is critical for this class. Therefore, students have to listen actively and respectfully to whoever is speaking.
Course Material 課程教材	Principles of Leadership, 7th Edition by Andrew J. DuBrin, South-Western Cengage Learning.
Grading 評量方式	Presentation 30% Participation 30% Final Project 40%
References 參考書目	Effective Leadership, Achua and Lussier
Contact with Teacher 老師聯絡資訊	graceliu@nfu.edu.tw

Course Outline
課程進度

Introduction	Introduce the class requirements and format
Motivation Theories	Understanding the contemporary motivation theories
The Nature and Importance of Leadership	The meaning of leadership
	The impact of leadership on organizational performance

	Leadership roles
Traits, Motives, and Characteristics of Leaders	Personality traits of effective leaders
	Leadership Motives
Charismatic and Transformational Leadership	The meanings of charisma
	Types of charismatic leaders
	Characteristics of charismatic leaders
	Transformational leadership
Leadership Behaviors, Attitudes, and Styles	Task-related attitudes and behaviors
	Relationship-oriented attitudes and behaviors
Contingency and Situational Leadership	Situational influences on effective leadership behavior The path-goal theory of leadership effectiveness
Leadership Ethics and Social Responsibility	Principles and practices of ethical and moral leadership
Power, Politics, and Leadership	Sources and types of power Factors that contribute to organizational politics
Influence Tactics of Leaders	A model of power and influence
Developing Teamwork	Leader's action that foster teamwork
Motivation and Coaching Skills	Expectancy theory and motivation skills
Communication and Conflict Resolution Skills	Inspirational and powerful communication Listening as a leadership skill
Creativity, Innovation, and Leadership	Characteristics of creative leaders Overcoming traditional thinking as a creative strategy
International and Culturally Diverse Aspects of Leadership	Cultural factors influencing leadership practice
Strategic Leadership and Knowledge Management	The nature of strategic leadership Knowledge management and the learning organization
Leadership Development and Succession	Development through self-awareness and self-discipline Development through education, experience, and mentoring
Final Project	Present the final project

Remarks 備註	

Courses taught in English

Course title 課程名稱	Entrepreneurial management (創業管理)
Course Description 課程概述	This course is designed to provide knowledge in the field of entrepreneurial management. The course combines lectures, case analyses, guest speakers and student presentations. Students will learn the critical issues of new venture strategy and business planning through reading. At the end of the semester, students will be able to become a successful entrepreneur or an effective entrepreneurial team member.
Course objective 課程目標	1. A familiarity with current topics in entrepreneurial management. 2. A familiarity with the entrepreneurial process. 3. The ability to apply these concepts directly to real world situations.
Competence 核心能力	
Prerequisite Course(s) 先修課程或先備能力	
Teaching Strategies 教學方法	Lectures, presentations, and discussion
Course Material 課程教材	Barringer, B. R., & Ireland, R. D. (2015). ***Entrepreneurship: Successfully Launching New Ventures: 5th Edition***. New York: Pearson
Grading 評量方式	Class Participation.....10% Case Presentation (by group) .....30% Mid-term exam.....30% Final Project (by group) .....30% Innovation Bonus .....5~10%
References 參考書目	Journal of Business Venturing, Strategic Entrepreneurship Journal, Inc., Entrepreneur, and Fast Company.
Contact with Teacher 老師聯絡資訊	ycchen@nfu.edu.tw

Course Outline 課程進度
Chapter 0: Entrepreneurial Trends Chapter 1: Introduction to Entrepreneurship Chapter 2: Recognizing Opportunities and Generating Ideas Chapter 3: Feasibility Analysis Chapter 4: Developing an Effective Business Model Chapter 5: Industry and Competitor Analysis Chapter 6: Writing a Business Plan Chapter 8: Assessing a New Venture’s Financial Strength

and Viability Chapter 9: Building a New-Venture Team Chapter 10：Getting Financing or Funding Chapter 11：Unique Marketing Issues	
Remarks 備註	

Courses taught in English

Course title 課程名稱	Project Discussions (I) (專題討論(一))
Course Description 課程概述	• *Course content:* What is the basic content of the course and what makes it important or interesting? How does the course fit into the context of the discipline? • *Learning objectives:* What should students be able to do by the end of the course? Objectives are most helpful when they are expressed in terms of knowledge and skills that can be readily identified and assessed. For example, the ability to recognize, differentiate, apply or produce is much more readily identifiable than the ability to appreciate or understand. • *Characteristics of class meetings:* What types of activities should students be prepared for? Discussion? Lecture? Small groups? Student presentations?
Course objective 課程目標	The course aims to prepare, develop, determine and initially exemplify a design programme. The course also aims to develop the ability to document and justify design work. Once the course has been passed, students should be able to: 1. Develop and initially determine and exemplify a design programme based on their own selected project brief (What). 2. Develop and initially reflect on methods and working processes with reference to the planning and determination of a design programme (How). 3. Present, justify and critically discuss students' own proposed design programme (Why).
Competence 核心能力	1. Planning and development of a design programme 2. Experimental work in studio, workshops and laboratories Read two articles from a professional journal and write a one page report in unbound format and other formats.
Prerequisite Course(s) 先修課程或先備能力	1. All the participants would have to attend my undergraduate courses in the past 2. All the participants would be familiar with multimedia design relevant professional skills such as Photoshop, Illustrator, Flash, 3D Max, Uniity etc. 3. Only for Multimedia Design Department students
Teaching Strategies 教學方法	Oral presentations and interactive discussions
Course Material 課程教材	Teacher's prepared materials
Grading 評量方式	1. Grades will be determined by a student's performance on a midterm (15%), a final (20%), individual written assignments (20%), and a group project and assignments (45%). The project grades will be as a result of 1) individual presentations, 2) demos, 3) project write-ups, and 4) ratings given by the other members of the project team. The class will *not* be graded on a curve. The final grades will be

	determined by the standard scale of 90% = A-, 80% = B-, etc. 2. Individual homework should be done independently. It is fine to discuss the general techniques and methods required, but you must do your own work in solving the problems and writing up the solutions. *Cheating will not be excused* and will lead to failure in the course. After you turn in your individual homework, you may use this information in the group, combined with others homework, to aid in the project redesigns.
References 參考書目	
Contact with Teacher 老師聯絡資訊	My research office is located in A&H building 5TH Floor. Office telephone: 05-631-5878 Email: stshen@nfu.edu.tw

Course Outline 課程進度	
Lecture Week 1-2: Course Introduction Lecture Week 3: Fundamental Concepts Lecture Week 4: Studying Individuals based on each pupil's chosen topic Lecture Week 5: Analysing the detailed contents and structures Lecture Week 6-7: Preparing and Working with the intended presentation Lecture Week 8: Visualizing and finalizing the work Week 9 Mid Term Exam	Lecture 10-11: Discussions and feedbacks Lecture 12: Studying the second chosen topic Lecture 13: Analysing detailed contents and structures Lecture 14-15: Preparing and Working with the intended presentation Lecture 16-17: Visualising and finalizing the work Week 18 Final Term Exam

Remarks 備註	

Courses taught in English

Course title 課程名稱	Design Research Methods （研究方法特論）
Course Description 課程概述	• This course will prepare you to successfully utilize design as a catalyst for innovation and change. Along the way, you will investigate the world of innovation, creativity and design thinking. In this class you will venture into the world of “fuzzy” or unstructured situations where problems are yet undefined but within a larger context. You will use design research methods to sort through and tackle complex conditions— where you must identify and define those unstated needs for design—possibly utilizing design that goes outside the classic concerns of traditional visual communication. Application and integration of theory, methods and skills for design analysis in the context of cross disciplinary collaborative processes for innovation. Identifying patterns and framing insights. Emphasis on defining problems in fuzzy situations. Surveying, performing and evaluating design analysis methodologies from multiple disciplinary perspectives. Several techniques will be explored within each phase of the design research process.
Course objective 課程目標	4. You will identify and solve challenging communication problems through: visualization of gathered data and solutions and the creation of prototypes for evaluation. 5. You will use techniques and strategy tools to manage complex communication issues by: (a) extracting maximum information from facts; (b) using strategies to break down problems into manageable parts; (c) identifying likely causes of problems; (d) recognizing the patterns that are present within given situations. 6. You will use techniques for effective decision making by: (a) looking at a decision from all points of view; (b) selecting the most important changes to make; (c) weighing pros and cons of a decision and by projecting likely outcomes.
Competence 核心能力	3. Upon completion of this course, you will be equipped to: (a) understand the theory, practice and outcomes of various design-led innovation methods. (b) determine appropriate methods to gather useful data for the task at-hand. (c) synthesize and present process, finding, and reflection about practiced methods in a meaningful way. (d) develop a research plan to drive innovation in a defined area. (e) demonstrate an ability to work collaboratively and facilitate participatory activities. (f) visually communicate process, outcomes and insights through info graphics and/or data visualizations. (g) collaborate with others and show respect for their differences. (h) express civic identity and how service integrates into his or her larger identity.

Prerequisite Course(s) 先修課程或先備能力	4. All the participants would have to attend my undergraduate courses in the past 5. All the participants would be familiar with multimedia design relevant professional skills such as Photoshop, Illustrator, Flash, 3D Max, Uniity etc. 6. Only for Multimedia Design Department students
Teaching Strategies 教學方法	Oral presentations and interactive discussions
Course Material 課程教材	Teacher's prepared materials
Grading 評量方式	3. Grades will be determined by a student's performance on a midterm (15%), a final (20%), individual written assignments (20%), and a group project and assignments (45%). The project grades will be as a result of 1) individual presentations, 2) demos, 3) project write-ups, and 4) ratings given by the other members of the project team. The class will *not* be graded on a curve. The final grades will be determined by the standard scale of 90% = A-, 80% = B-, etc. 4. Individual homework should be done independently. It is fine to discuss the general techniques and methods required, but you must do your own work in solving the problems and writing up the solutions. *Cheating will not be excused* and will lead to failure in 5. the course. After you turn in your individual homework, you may use this information in the group, combined with others homework, to aid in the project redesigns.
References 參考書目	1. 101 Design Methods: A Structured Approach for Driving Innovation in Your Organization by Vijay Kumar 2. Universal Methods of Design: 100 Ways to Research Complex Problems, Develop Innovative Ideas, and Design Effective Solutions by Bruce Hanington and Bella Martin
Contact with Teacher 老師聯絡資訊	My research office is located in A&H building 5TH Floor. Office telephone: 05-631-5878 Email: stshen@nfu.edu.tw

Course Outline 課程進度	
Lecture Week 1-2: Course Introduction Lecture Week 3: Discussion about Design Thinking/Methods Lecture Week 4: Discussion about Design Thinking/Methods Lecture Week 5: Visualization Techniques Lecture Week 6-7: Visualization Techniques Lecture Lecture Week 8: Visualizing and finalizing the work Week 9: Mid Term Exam	Lecture 10-11: Intro to Analysis phase (I) Lecture 12: Intro to Analysis phase (II) Lecture 13: Intro to Evaluation phase Lecture 14-15: Preparing and Working with the intended presentation Lecture 16-17: Visualising and finalizing the work Week 18 Final Term Exam

Remarks 備註	

Courses taught in English

Course title 課程名稱	Human-Computer Interaction Design Research （人機介面互動設計研究）
Course Description 課程概述	Human-Computer Interaction (HCI) is concerned with the design, evaluation and implementation of interactive computing systems for human use and with the study of major phenomena surrounding them. On the practical side, this means the principles and methods with which one builds effective user interfaces. A basic precept of HCI is that users should be able to get things done through the computer, without having to pay attention to the intricacies of complex software. Interfaces must be accessible, meaningful, visually consistent, comprehensive, accurate, and oriented around the tasks that users tend to perform. The course will provide a balance of practical and theoretical knowledge, giving students experience ordinarily not provided by other courses in the field of multimedia design. Practical concerns will be balanced by discussion of relevant theory from the literature of computer science, cognitive psychology, and industrial design. You will solve problems in homework assignments and on-campus students will participate in group projects to design, implement, and evaluate user interfaces. On completion of this course, you should have (a) practical skills for user interface design, (b) an understanding of the human side of computing, (c) the background to apply theoretical and empirical techniques in HCI, and (d) a good overview of the field.
Course objective 課程目標	On completion of this course according to course **goals**, the student should be able to: • understand the basics of human and computational abilities and limitations. • understand basic theories, tools and techniques in HCI. • understand the fundamental aspects of designing and evaluating interfaces. • practice a variety of simple methods for evaluating the quality of a user interface. • apply appropriate HCI techniques to design systems that are usable by people.
Competence 核心能力	*Definition*: students will be able to recognize and recall terminology, facts and principles For example, students can define 'direct manipulation' and list some of its strengths and weaknesses as an interaction style. *Concept Understanding*: students will be able to determine the relationships between specific instances and broader generalizations. For example, students can determine which parts of a system exhibit direct manipulation features and can explain why a change in the system produced different properties. *Directed Application*: students will be able to use concepts and principles to explain, analyze and solve specific situations, often with the applicable concepts implicit in the

	setting. For example, students can redesign part of an interface to exhibit direct manipulation style and predict the likely effects of the change. *Realistic Problem Solving*: students will be able to apply course content in coping with real life situations. These differ from directed applications by having less structured questions and issues, no direction as to which concepts will be applicable and a range of potentially acceptable answers. For example, students can design an interface for real tasks and users which incorporates direct manipulation in appropriate ways (and evaluate/defend their choices).
Prerequisite Course(s) 先修課程或先備能力	7. All the participants would have to attend my undergraduate courses in the past 8. All the participants would be familiar with multimedia design relevant professional skills such as Photoshop, Illustrator, Flash, 3D Max, Uniity etc. 9. Only for Multimedia Design Department students
Teaching Strategies 教學方法	Oral presentations and interactive discussions
Course Material 課程教材	Teacher's prepared materials
Grading 評量方式	6. Grades will be determined by a student's performance on a midterm (15%), a final (20%), individual written assignments (20%), and a group project and assignments (45%). The project grades will be as a result of 1) individual presentations, 2) demos, 3) project write-ups, and 4) ratings given by the other members of the project team. The class will *not* be graded on a curve. The final grades will be determined by the standard scale of 90% = A-, 80% = B-, etc. 7. Individual homework should be done independently. It is fine to discuss the general techniques and methods required, but you must do your own work in solving the problems and writing up the solutions. *Cheating will not be excused* and will lead to failure in the course. After you turn in your individual homework, you may use this information in the group, combined with others homework, to aid in the project redesigns.
References 參考書目	3. Dix A. et al., Human-Computer Interaction. Harlow, England: Prentice Hall, 2004, ISBN-10: 0130461091 4. Yvonne Rogers, Helen Sharp, Jenny Preece, Interaction Design: Beyond Human Computer Interaction, 3rd Edition, Wiley, 2011, ISBN-10: 0470665769
Contact with Teacher 老師聯絡資訊	My research office is located in A&H building 5TH Floor. Office telephone: 05-631-5878 Email: stshen@nfu.edu.tw

Course Outline 課程進度	
Lecture Week 1-2: Introduction to Human-Computer Interaction/Semester project and student teams	Lecture Week 10-11: Beyond screen design: characteristics of good representations, information visualization, Tufte's guidelines, visual variables, metaphors, direct manipulation

Lecture Week 3: Task-centred system design: task-centered process, development of task examples, evaluation of designs through a task-centered walk-through Lecture Week 4-5: User-centred design and prototyping: assumptions, participatory design, methods for involving the user, prototyping, low fidelity prototypes, medium fidelity prototypes, wizard of Oz examples Lecture Week 5-6: Methods for evaluation of interfaces with users: goals of evaluation, approaches, ethics, introspection, extracting the conceptual model, direct observation, constructive interaction, interviews and questionnaires, continuous evaluation via user feedback and field studies, choosing an evaluation method Lecture Week 7-8: Psychology of everyday things: psychopathology of everyday things, examples, concepts for designing everyday things Week 9: Mid Term Exam	Lecture Week 12-13: Graphical screen design: graphical design concepts, components of visible language, graphical design by grids Lecture Week 14-15: Design principles and usability heuristics: design principles, principles to support usability, golden rules and heuristics, HCI patterns Lecture Week 16: HCI design standards: process-oriented standards, product-oriented standards, strengths and limitations of HCI Standards Lecture Week 17: Past and future of HCI: the past, present and future, perceptual interfaces, context-awareness and perception Lecture Week 18 Final Term Exam
Remarks 備註	

Courses taught in English

Course title 課程名稱	Digital Media Communication (數位媒體傳播)
Course Description 課程概述	This course will examine “social media” from a cultural perspective, with a focus on how media technologies figure in practices of everyday life and in the construction of social relationships and identities. We will work from an expansive definition of what constitutes “social media,” considering social network sites, smartphone apps, and online games, among other technologies. Questions we will consider include: What tools can we use to study the place of social media in culture? How can social media enable the formation of community? How is identity performed in/with social media? How are constructions of youth, gender, race, ethnicity, and sexuality mediated through social media technologies? Can social media technologies be a vehicle for political activism? What are the commercial uses of social media? What are the ethical issues associated with social media technologies? Is it possible to refuse social media? The course itself will involve communication in social media channels in addition to the traditional seminar format, thus we will be actively participating in the phenomena under study as we go.
Course objective 課程目標	Upon the successful completion of this course, students should be able to: • Identify and critique instances of technological determinism in popular discourse on social media technologies • Critically evaluate methodologies employed by studies of social media use Describe social media practices among various social groups, differentiated by age, gender, race, and sexual identity, among others • Understand performances of identity in social media • Critically evaluate the potential for social media technologies to facilitate the formation of identities, communities, activist movements, and consumer markets • Articulate some of the ethical problems posed by emerging social media technologies Apply each of the above skills and concepts to their own real-life observations of social me
Competence 核心能力	Upon completing this course, students can expect to gain digital skills and knowledge, as demonstrated by: 4. Authoring and maintaining a WordPress blog throughout the semester on a specific topic of his/her choice 5. Applying concepts learned in class to self-promote his/her blogs using social media 6. Completing assessments on topics explained in lecture and online materials 7. Utilizing skills explained in online and in-class tutorials, like HTML and iMovie to complete digital media projects 8. Writing a reflection on his/her course experience 9. Creating an effective online brand and presence

	10. A collection of writing samples and multimedia projects to be used in a senior portfolio
Prerequisite Course(s) 先修課程或先備能力	N/A
Teaching Strategies 教學方法	Oral presentations and interactive discussions
Course Material 課程教材	Baym, N. (2010). Personal Connections in the Digital Age. Cambridge, UK: Polity
Grading 評量方式	This digital media communication course is designed to build skill, and an essential part of that skill-building is practicing and questioning. Your participation during the class lectures, and your reading of other students' participatory questions and trials, is therefore an essential element of learning. In the weekly schedule for our class contained at the bottom of this syllabus, you'll notice that I ask you to participate by answering questions and posting information during each lecture. To gain credit for that participation, you should make your contributions *during the week that a lecture is introduced*: the specific due date for participation is listed in each week's schedule. Informed, prepared, thoughtful, active participation in class activities and discussion, in a manner that is respectful of and responsive to your peers, will result in a high class participation grade. Carelessness, lack of preparation, inactivity, unresponsiveness and disrespect toward peers will lead to a lower class participation grade. You must positively engage to earn a score. Scores will range from 100 (Outstanding) to 90 (Excellent) to 80 (Good) to 70 (Acceptable) to 60 (Unacceptable) to 0 (None).
References 參考書目	N/A
Contact with Teacher 老師聯絡資訊	My research office is located in A&H building 5TH Floor. Office telephone: 05-631-5871 Email: stshen@nfu.edu.tw

Course Outline 課程進度	
Lecture Week 1-2: Course Introduction Lecture Week 3: Define personal connections in the digital age and its history Lecture Week 4: Studying social media networks Lecture Week 5: Forming relationships and community through social media	Lecture 10: Performing identity though social media, continued. Lecture 11: Youth and discourse about social media Lecture 12: Gender and sexuality issues Lecture 13: Race, ethnicity, and class Lecture 14: Ethical issues

Lecture Week 6-7: Forming relationships and community, continued. Lecture Week 8: Performing identity through social media Week 9 Mid Term Exam	Lecture 15: Social media activism Lecture 16: Social media and political participation Lecture 17: Learning about and reaching customers Week 18 Final Term Exam
Remarks 備註	Only for Multimedia Design Department's students

Courses taught in English

Course title 課程名稱	Research in Digital Media Arts (數位媒體藝術研究)
Course Description 課程概述	1. Introduction to applications of digital media arts. 2. Case study of digital media arts exhibition in Taiwan via book “Taiwan Digital Art E-Files” .
Course objective 課程目標	1. Exploring new media arts in Taiwan. 2. Museum exhibition case study. 3. The purpose of this course is to provide students new media arts knowledge and cross-disciplinary thinking.
Competence 核心能力	Developing knowledge of digital art and new media
Prerequisite Course(s) 先修課程或先備能力	Multimedia presentation skills required
Teaching Strategies 教學方法	Lecture and discussion
Course Material 課程教材	Taiwan Digital Art E-Files Author: Pey-Chwen Lin http://www.books.com.tw/products/0010558514
Grading 評量方式	1. participation in class: 40% 2. midterm exam 30%: implementation of project work and through written examination 3. final exam 30%: implementation of project work and through written examination (or written report or presentation)
References 參考書目	
Contact with Teacher 老師聯絡資訊	whcheng@nfu.edu.tw

Course Outline 課程進度	
1. Week 1: Syllabus 2. Week 2: Lecture/ Lecture & Discussion: Chapter1- New Aesthetics 3. Week3: Lecture/ Lecture & Discussion: Chapter1- New Aesthetics 4. Week4: Lecture/ Lecture & Discussion: Chapter2- New Vision	10. Week10: Lecture/ Lecture & Discussion: Chapter3- New Education 11. Week11: Lecture/ Lecture & Discussion: Chapter3- New Body 12. Week12: Lecture/ Lecture & Discussion: Chapter4- New Body 13. Week13: Lecture/ Lecture & Discussion:

5. Week5: Lecture/ Lecture & Discussion: Chapter2- New Vision 6. Week6: Field trip Art Museum 7. Week7: Presentation 8. Week8: Presentation 9. Week9: Midterm exam	Chapter4- New Media 14. Week14: Guest speech / New Media Arts 15. Week15: Lecture/ Lecture & Discussion: Chapter4- New Exhibition 16. Week16: Presentation 17. Week17: Presentation 18. Week18: Final Exam
Remarks 備註	