102 學年第 1 學期 校課程委員會會議

傳閱附件

目　錄

一、農學院

(一)農園系

校外產業實習(1)　　1　選　　顏昌瑞

本課程為提供學生至校外產業實習 1 個月，以加強對產業界之了解及提升實務經驗。

Off-campus Practical Training (1)　　1　E　　C.R. Yen

The course is offer 1 month off-campus training to enhance undergraduate industrial and practical experience.

校外產業實習(2)　　1　選　　顏昌瑞

本課程為進一步提供學生至校外產業實習 1 個月，以加強對產業界之了解及提升實務經驗。

Off-campus Practical Training (1)　　1　E　　C.R. Yen

The course is to provide further 1 month off-campus training to enhance undergraduate industrial and practical experience.

(二)生技系

生技實務(1)　　3　選　　合授、

本課程的目的為使學校課程內容與企業需求間更加緊密結合，透過校外實習之過程，讓學生熟悉研發、生產、品管及行銷等企業運作流程並瞭解企業制度與產業趨勢。進一步地，協助學生從實習經驗中充實專業技能、培養獨立思考、協調溝通的能力及敬業態度。

Bioindustrial Internship (1)　　3　E　　All teachers S

This course aims to establish close correlation between course contents in this department and industrial needs. Through the industry internship, students will be more familiar with business trends and key industrial components such as research and development, manufacturing, quality assurance, marketing, and so on. In addition, this course also aims to help students not only enrich job skills, but develop independent thinking, coordinating and communication ability, and professional attitude.

生技實務(2)　　3　選　　合授、

本課程的目的為使學校課程內容與企業需求間更加緊密結合，透過校外實習之過程，讓學生熟悉研發、生產、品管及行銷等企業運作流程並瞭解企業制度與產業趨勢。進一步地，協助學生從實習經驗中充實專業技能、培養獨立思考、協調溝通的能力及敬業態度。

Bioindustrial Internship (2) 3 **E** **All teachers S**

This course aims to establish close correlation between course contents in this department and industrial needs. Through the industry internship, students will be more familiar with business trends and key industrial components such as research and development, manufacturing, quality assurance, marketing, and so on. In addition, this course also aims to help students not only enrich job skills, but develop independent thinking, coordinating and communication ability, and professional attitude.

生技實務(3) 3 **選** **合授、**

本課程的目的為使學校課程內容與企業需求間更加緊密結合，透過校外實習之過程，讓學生熟悉研發、生產、品管及行銷等企業運作流程並瞭解企業制度與產業趨勢。進一步地，協助學生從實習經驗中充實專業技能、培養獨立思考、協調溝通的能力及敬業態度。

Bioindustrial Internship (3) 3 **E** **All teachers S**

This course aims to establish close correlation between course contents in this department and industrial needs. Through the industry internship, students will be more familiar with business trends and key industrial components such as research and development, manufacturing, quality assurance, marketing, and so on. In addition, this course also aims to help students not only enrich job skills, but develop independent thinking, coordinating and communication ability, and professional attitude.

(三)食品系

食品工廠管理 2 **選**

本課程在介紹食品工廠的生產規劃與作業管理、工廠內的新產品研究發展、自主的管理系統(HACCP、ISO、GMP、CAS、GHP 等)、工廠的安全與衛生、風險管理與危機應變、中央廚房介紹與其管理等。

Food factory management 2 **E**

In this course, the following subjects in a food factory will be introduced: Production Planning and Operation Management, R & D of new products, Autonomous Management System (HACCP、ISO、GMP、CAS、GHP), Safety and Sanitation, Risk Management and Crisis Handling, and Introduction to Central Kitchen and Its Management.

(四)動畜系

校外實習 9 **必** **全系教師 上**

本課程目的在，讓學生於校內學習後，對產業的運作有初步的認識與瞭解後。進而實際投入產業的運作，更進一步讓學理與實際的配合，更能充分瞭解的全程實際運作，時所遇到的問題與結局方法的訂定。作為日後投入業界的基礎訓練。

Practice of Industrial Training 9 R

This course aims to enable students to learn at school after the initial operation of the industry\'s awareness and understanding later. And thus the operation of actual investment industry, further to the theoretical and practical cooperation, better understanding of the actual operation of the whole, the problems encountered when the method set with the outcome. The basis for future investment in industry training.

二、工學院

(一) 土木工程系

灌溉方法　　3　　選　　陳鈞華、上

糧食短缺問題及有限水資源分配等情事，對於灌溉系統分配及應用效率化之評估更極為重要。常用灌溉方法有三種（地表、噴灑、滴水灌溉）如當特別設計將可得到較高灌溉效率。地表灌溉（如畦溝田埂灌溉）由地表高往低流動，有較低施灌效率，但是如採最佳長度設計選擇特別流率控制灌溉時間及斷水流量或多進水口等設計，將可提高灌溉效率。滴水灌溉是在作物根係範圍內進行濕潤灌溉，其施灌效率高於噴灑灌溉。土壤水分收支決策管理決定灌溉方法之效率及成本，土壤水分張力變化對作物產量有不同敏感度，其關係對灌溉方法所需設計管理參數有其相關影響。

Irrigation Methods　　3　E　　J.H.Chen，S

With the increasing world food shortage problems and the limited water resource situation, the evaluation of irrigation system efficiency (distribution and application efficiency) is increasingly important. All three types of irrigation systems(surface, sprinkler and drip) can achieve high distribution efficiency with proper design. Surface irrigation, which usually means border or furrow, has low application irrigation efficiency. When water is applied from the upstream end, it takes time to travel to the downstream end. The irrigation application efficiency can be increased by designing the optimal length, selecting proper flow rate, controlling irrigation time and using cutoff inflow or multiple inlet system. Drip irrigation which irrigates only in the root zone can achieve even better irrigation efficiencies than that of sprinkler irrigation. Depth of daily water application is a management decision that depends on water availability and cost. This study relates the effect of the design and management parameters to yield for crops with different sensitivity to moisture stress.

營建自動化　　3　選　　柯千禾、上

本課程之目的在讓學生了解營建自動化的涵義，並具備運用自動化技術提升營建生產力之能力，內容包含(1)經濟有效性分析，(2)規劃自動化，(3)施工自動化，(4)管理自動化，(5)機具自動化，(6)人因工程，與(7)機器人製作，最後透過自動化競賽評定成績。

Automation in Construction　　3　　E　　C.H.Ko，F

This course introduces the benefits of construction automation. Through the course, students can identify opportunities for improving construction productivity using robots. The contents of the course include: (1) economic effectiveness evaluation, (2) planning automation, (3) construction automation, (4) management automation, (5) equipment automation, (6) human factors, and (7) robot design. The course is finalized by a competition of construction automation.

(二)機械工程系

太陽能應用工程　　3　選

本課程著墨於太陽能的原理、設計、及應用相關技術的介紹。經由課程介紹，讓學生了解太陽能應用工程之相關技術。課程教材分為四個主題**: (1)**太陽熱能的原理及應用**; (2)**太陽能電池的原理、設計及製程技術**; (3)**太陽能光觸媒原理及應用**; (4)**太陽能水裂解原理及應用。

Solar Energy Application Engineering　3　E

This course introduces the theory, design, and applications of solar energy. Through the course, students understand the related technologies of solar energy application engineering. The teaching material is divided into four subjects: (1) solar thermal energy principle and applications; (2) principle, design and process technology of solar cells; (3) principles and applications of photocatalyst; (4) principles and applications of water splitting using solar power.

能源科技概論　　3　選

人類的永續發展之重大因素之一便是能源，包括：化石燃料、核能及再生能源。但是，因為地球資源貯存量有限，如果沒有適當的能源節制及恰當的再生能源技術，進而有效的能源管理政策，不但有害於經濟的發展，也會造成能源缺乏，引起全球人類與社會衰退。

提升能源環保技術及管理的基本步驟是奠定具有整體觀的能源環保之教育，具有科技、管理、經濟整體觀，因此本課程之內容涵蓋了過去、現在及未來的能源技術、能源種類、能源經濟及管理問題、等等。本課程探討各議題加以說明，並指出未來的可能展望。對我國的能源現況加以分析，也探討近代能源之環保議題，因此應用範圍極廣。本課程主要的內容為:

1 簡介
2 能源概論
3 化石燃料
4 核能
5 太陽、風與地熱能
6 水力發電與海洋能
7 生質能
8 氫能與燃料電池
9 發電科技
10 能源與環境

An Introduction to Energy Technology 3 E

Energy is the key issue of whether human race and all the other lives can be sustained or not in earth for the future. Energy resources usually includes: fossil fuel, nuclear power, and renewable energy. However, since the energy stored in earth is limited, it can be dissipated very quickly and inefficiently if governments/citizens of countries are not aware of the basic ideas and do not have a good knowledge or policy of energy usage management. An inefficient way (or, in a wrong way) of the energy usage will definitely bring in the result of economy recession or depression, civilization development backward, and even to the disaster of human races annihilation.
Therefore, in this course, we provide the knowledge of energy education from different prospects and point of views, introduce the idea and techniques of how to preserve and use energy efficiently. Also the issues of environment protection related with energy usage and storage methods. Main subjects discussed will be:

1. fossil fuel
2. nuclear energy
3. solar, wind, geothermal energy
4. hydraulic energy (hydroelectric power、marine current and Tidal energy)
5. bioenergy(biofuel)
6. hydrogen energy and fuel cell
7. basic principle of electric generation
8. issues of environment protection

風力與海流發電概論 3 選

再生能源如風能及海流能已被世界上許多國家廣泛的採用以減少對石化燃料的依賴。風力機與海流機是某種將流體的動能轉換成機械能或電能的裝置。所產生的能源通常是清潔與可再利用的。本課程將先複習流體力學的概念，然後介紹機翼理論、機翼性能、以及驅動裝置如齒輪箱與發電機等。其他內容如設計概念、成本分析與環境影響亦將在課程中提及。

Introduction of wind turbine and water turbine 3 E

Renewable energy, such as wind power or ocean current, has been widely adopted by many
countries around the world to reduce the reliance on the fossil fuel. Wind turbine and water turbine are the devices that convert kinetic energy from the moving fluid into mechanical energy or electricity. The generated energy is usually clean and reusable. This course starts with a review of the concepts of fluid mechanics, and then introduces the blade/rotor theories, blade performance, and the drive train which contains the gearbox and generator. Other subjects, such as the design concepts, cost issues, and the environmental concerns, are also included.

三維列印技術概論 3 選

本課程主要為介紹三維(3D)列印技術，3D 列印技為對任何形狀的數位模型

進行三維實體列印。實現3D 列印為使用添加劑過程中，材料的連續層定下不同的形狀。3D 列印也被認為是有別於傳統的加工技術，主要依賴於材料如切割或鑽孔的方法去除。3D 列印技術用於原型和應用架構的分佈式製造，廣泛應用於建築，工業設計，汽車，航空，軍事，工程，土木工程，牙科和醫療產業，生物技術（人體組織替代），時尚，鞋類，珠寶，眼鏡，教育，地理信息系統，食品和許多其他領域。據推測3D 列印可能會成為一個大眾市場的項目，因為開源的3D打印機可以很容易地使消費者降低購買物品相關的成本，彌補其資本成本。。

Introduction to 3D Printing Technology 3 E

3D printing is a process of making a three-dimensional solid object of virtually any shape from a digital model. 3D printing is achieved using an additive process, where successive layers of material are laid down in different shapes. 3D printing is also considered distinct from traditional machining techniques, which mostly rely on the removal of material by methods such as cutting or drilling.

The 3D printing technology is used for both prototyping and distributed manufacturing with applications in architecture, construction , industrial design, automotive, aerospace, military, engineering, civil engineering, dental and medical industries, biotech (human tissue replacement),fashion, footwear, jewelry, eyewear, education, geographic information systems, food, and many other fields. It has been speculated[5] that 3D printing may become a mass market item because open source 3D printers can easily offset their capital costs by enabling consumers to avoid costs associated with purchasing common household objects.

金屬切削原理 3 選

本課程目在於使修習學生瞭解機械切削加工所牽涉之加工機制以及材料特性與刀具對加工成品之影響，並教導其相關的包括金屬切削中切屑的形成和變形、切削力、切削熱和切削溫度、刀具的磨損機理和刀具壽命、切削振動和加工表面質量等分析方法，使學生能結合其所學之機械製造、機械材料性質、基本力學與工件品質及其經濟考量之相關知識，並應用於實際切削加工程序之分析。

Theory of Metal Cutting 3 E

This curriculum helps students to understand the fundamental mechanism of material removal

process, effect of material and tool on machining quality. And to teach them metal cutting chips in formation and transformation, cutting force, cutting temperature, tool's wear, tool's life, cutting vibration, and machined surface quality. It helps students to combine the knowledge of machinery manufacturing, mechanical material, the basic mechanics and workpiece quality and economics,and the methodology for machining system analysis and design.

(三)車輛工程系

雷射加工技術 3 選 **張金龍**

本課程主要目的在介紹雷射之基本原理與應用於各種材料加工上之應用。內容包含有：雷射系統簡介、基本雷射特性、雷射共振腔、加工用雷射源、導光系統、雷射切割、雷射焊接、雷射表面處理、雷射鑽孔、雷射蝕刻及雷射安全規範。

Laser Processing Technique　3　E　Chin-Lung Chang

The main purpose of this course is to introduce the fundamental principles of laser and its applications in materials processing. The course's main content cover the introduction of laser system, fundamental characteristics of laser, laser cavity, laser sources for manufacturing, laser guiding system, laser cutting, laser welding, laser surface treatment, laser drilling, laser eroding and laser safety arrangements.

工程統計與分析　3　選　李佳言

本課程主要介紹工程統計基本觀念及原理，並輔以許多工程專業應用的例題來說明統計分析方法，使主修工程的學生能充分掌握如何將統計學應用在工程專業領域。

Engineering Statistics and Analysis　3　E　Chia-Yen Lee

In this course, the following subjects in a food factory will be introduced: Production Planning and Operation Management, R & D of new products, Autonomous Management System (HACCP、ISO、GMP、CAS、GHP), Safety and Sanitation, Risk Management and Crisis Handling, and Introduction to Central Kitchen and Its Management.

車輛英語　3　選　陳雅文

本課程引入生活性的學習方法來誘發學生學習動機，並培養可在車輛工程相關社會與職場運用的四項英文基本技能(聽說讀寫)。課程目標在幫助學生在生活實境習得英文，為他們裝備可溝通表達於日常、社交活動，並提升職涯的整合性英文技能。課程設計在於幫助學生學習車輛英語之領域如下： 1.加強學生之聽說能力。2.研讀車輛英語文獻。3.學習各種車輛相關專業英語。

Vehicle English　3　E　Ya-Wen Chen

This course introduces real-world based learning approaches for students to raise their learning aspirations and to develop the four essential English skills (reading, writing, speaking, and listening) that are applicable in vehicle related social and professional encounters. This course aims to help students practice English in most real-life settings and to equip them with integrated skills to advance their careers. The class is designed to help students excel in the following vehicle related English areas: (1) improvement in the listening and speaking skills of the students, (2) reading of vehicle English literature, (3) learning of vehicle related professional English terminology.

微積分演習（1）　1　選　陳彩蓉

本課程希望透過教師講解以及同學實作，讓學生能夠對微分及積分有充分的瞭解，以強化同學未來學習工程數學及相關專業課程之數學基礎。本課程配合微積分教學進度，講授課本之習題。進行方式以「回答數學基本觀念」、「概念的澄清」為主。課程內

容包括：極限與連續、導數及其應用、積分(定積分與不定積分)、超越函數及其反函數、積分法則、不定型與瑕積分、定積分的應用、偏導數、重積分。

Problem - solving course of Calculus (1)　1　E　Tsai-Lung Chen

The purpose of this course is to strengthen the ability of students on mastering calculus through personal practice under the supervision of instructor so that the students could have a better background for studying Engineering Mathematics and other professional courses. This course will be progressed in accordance with the Calculus course. Fundamental concepts of Calculus will be emphasized. The major topics of this course are: Limit and Continuity, Differentiation and its Applications, Integration (Definite and Indefinite Integrals), Transcendental Functions and their Inverse Functions, Rules for Integration, Intermediate Forms and Improper Integrals, Applications of Definite Integrals, Partial Derivatives, Iterated Integrals.

微積分演習（2）　1　選　陳彩蓉

本課程希望透過教師講解以及同學實作，讓學生能夠對微分及積分有充分的瞭解，以強化同學未來學習工程數學及相關專業課程之數學基礎。本課程配合微積分教學進度，講授課本之習題。進行方式以「回答數學基本觀念」、「概念的澄清」為主。課程內容包括：極限與連續、導數及其應用、積分(定積分與不定積分)、超越函數及其反函數、積分法則、不定型與瑕積分、定積分的應用、偏導數、重積分。

Problem - solving course of Calculus (2)　1　E　Tsai-Lung Chen

The purpose of this course is to strengthen the ability of students on mastering calculus through personal practice under the supervision of instructor so that the students could have a better background for studying Engineering Mathematics and other professional courses. This course will be progressed in accordance with the Calculus course. Fundamental concepts of Calculus will be emphasized. The major topics of this course are: Limit and Continuity, Differentiation and its Applications, Integration (Definite and Indefinite Integrals), Transcendental Functions and their Inverse Functions, Rules for Integration, Intermediate Forms and Improper Integrals, Applications of Definite Integrals, Partial Derivatives, Iterated Integrals.

(四)生物機電工程系

生物機電產業實習　2　選　合授，三上

為增強本系學生與生物機電相關產業鏈結，除本系必修課程「校外實習」外加開本課程；於生物機電產業實習 320 小時以上可修習本課程。本課程由業界主管及本系教師共同輔導，提供必要諮詢及操作練習。

Biomechatronics Industry Intership　2　E

In order to enhance the links between the students and related industries, the department opens the course in addition to the established compulsory course named "Internship". Students are required to biomechatronics engineering industry for more than 320 hours internship to fit the requirement of the course. The course consists of industry experts and the

faculties come together to advise students and to provide students with the necessary suggestions and exercises.

農業機械人原理與應用　　3　選　　張仲良，四下

本課程內容主要讓學生建立農業機器人相關理論與應用技術，內容主要包含移動型農業機器人運動模型建立、運動控制、感測導航、定位原理、路徑規劃以及地圖建構等，修課生完成此門課程後可具有解釋農業機器人導航與控制原理之能力。

Agricultural Mechanics: Fundamentals and Applications　　3　E　　Chin-Lung Chang

This course will deal with autonomous robot from both a theoretical and a practical perspective. It will contain basics theory of robot, representation of autonomous system, and application of robot navigation. The course will have a balanced focus on math formulations and exercise and thus will not get into too much of an involved mathematical discussion on the individual concepts. It will include some homework and a final project using MATLAB to allow for more space to assimilate the concepts than getting tied down with the mathematics.

生醫材料　　3　選　　傅龍明，上

本課程在討論金屬、陶瓷與高分子性質與應用在整形外科和牙醫界。課程內容包括生醫材料之發展、牙醫材料之應用、複合材料在生醫工程之應用、生醫陶瓷、生醫材料之腐蝕機制以及生醫材料之工程問題。

Introduction to Biomaterials　　3　E　　Fu Lung-Ming，F

The topics of this course include the properties of metallic, ceramic and polymeric materials, and their applications in the orthopedic and dental fields. The course contains the development of biomaterials, the application of materials for dentistry and dental surgery, composite materials in biomedical engineering, bioceramics, corrosion mechanisms of metallic biomaterials and engineering problems associated with materials.

生醫材料特論　　3　選　　洪廷甫，上

介紹材料在生物醫學應用上的基本要求、評估材料是否適合用於生醫替代及植入物、介紹各種體內或體外之生物相容性實驗方法、講解基本生物材料力學、組織工程及彷生材料。

Advanced Biomaterials　　3　E　　Ting-Fu Hong，F

Describe the requirements for synthetic implant materials in biomedical applications、Assess various materials in relation to their suitability for implant materials、Describe the function and degradation of synthetic replacement materials in vitro and in vivo、Discuss the concept of bioactivity by biocompatibility testing、Understand generation of forces within the body and the behaviour of the structures in resisting these forces. Illustrate fundamental tissue engineering and biomimetic materials.

系統動態建模與控制　　3　選　　蔡循恒，下

本課程內容包含系統鑑別、建模與控制，在課程中學生將學習到藉由系統輸入輸出的量測來獲取系統動態模式的方法。本課程主要目的在於介紹系統鑑別和控制所必須的知識和技術，同時使學生學習到系統動態分析和建模的技巧。

System dynamic modeling and control　　3　E　　H. H. Tsai，S

The course includes system identification, modeling, and control. The identification is the extraction of a system dynamic model starting the input output measurements. The aim of this course is to provide the knowledge necessary for the comprehension and implementation of techniques for system dynamic identification and control, meanwhile, enable the students to realize the dynamic analysis and modeling technologies.

(五)材料工程研究所

材料力學　　3 選　　洪廷甫，一上

本課程規劃在讓學生認識材料力學的相關理論及其在工程上的常見應用，並著重在符合力平衡、變形相容性及材料行為之需求重要性探討。授課內容為工程力學中之基本靜力學觀念、應力與應變、材料機械性質、材料受軸向載重、扭轉、彎曲之應力應變分析、應力應變轉換。

Mechanics of Materials　　3　E　　Ting-Fu Hong，F

The aim of this course is to provide a clear presentation to acquaint the student with the theory concept and applications of Mechanics of Materials. The course will emphasize the importance of satisfying equilibrium, compatibility of deformation and material behaviour requirements. After the successful completion of this course unit the student will understand: Basic concepts of Statics in Engineering Mechanics、Stress and strain、Mechanical properties of materials、Stress and strain analysis on materials under axial load, torsion and bending、Stress and Strain Transformation.

鋼鐵電弧銲接實務　　3 選　　曾光宏，一上

本課程目標主要係介紹鋼鐵料電弧銲接之理論、方法及程序，並於課程中進行鋼鐵銲接實務培訓，以及輔導學生參加技術士技能檢定，可使學生獲得職業證照，並使成為學生日後職場就業之關鍵技能。本課程授課內容包括：(1)安全操作、(2)銲接實務、(3)切割實務、(4)接頭幾何與銲接符號、(5)鋼鐵性質與破壞性試驗、(6)鋼鐵銲接冶金、(7)銲道瑕疵與缺陷、(8)銲道目視檢驗。

Arc welding practices for steels　　3　E　　Kuang-Hung Tseng，F

The objectives of this course are to introduce to the students the theories, methods, and procedures of arc welding for steels. The practice course also includes training in arc welding for steels. With the objective of practices course, a training topic on the skill test of certified technician is presented. Students are expected to gain the occupational certification and will

become their critical skill in the future employment. This course includes: (1) Safe practices, (2) Welding practices, (3) Cutting practices, (4) Joint geometry and welding symbols, (5) Steel properties and destructive testing, (6) Welding metallurgy of steels, (7) Discontinuities and defects of welds, (8) Visual Inspection of welds.

非破壞檢測技術　　3 選　　曾光宏，一上

本課程目標將介紹非破壞檢測之方法、理論及程序步驟，並於課程中介紹目前非破壞檢測技術之應用現況，以及材料破損分析實務，可使學生獲得相關之知識與實務，使成為日後職場之重要技能。本課程授課內容包括：液滲檢測技術、超音波檢測技術、射線檢測技術、渦電流檢測技術、磁粉檢測技術及破損分析等。

Non-Destructive Testing Technology　3　E　Kuang-Hung Tseng，F

The objectives of this course are to introduce to the students the methodology, theory, and procedures of non-destructive test. The course also introduces to the students the application practices in non-destructive testing field. With the background, a course topic on the failure analysis is presented. Students are expected to gain the related practical knowledge and will become their critical skill in the future. Main topics of this course include: liquid penetrant inspection, ultrasonics inspection, radiography inspection, eddy-current inspection, magnetic particle inspection, and failure analysis.

(六)材料工程研究所

材料力學　　3 選　　洪廷甫，一上

本課程規劃在讓學生認識材料力學的相關理論及其在工程上的常見應用，並著重在符合力平衡、變形相容性及材料行為之需求重要性探討。授課內容為工程力學中之基本靜力學觀念、應力與應變、材料機械性質、材料受軸向載重、扭轉、彎曲之應力應變分析、應力應變轉換。

Mechanics of Materials　3　E　Ting-Fu Hong，F

The aim of this course is to provide a clear presentation to acquaint the student with the theory concept and applications of Mechanics of Materials. The course will emphasize the importance of satisfying equilibrium, compatibility of deformation and material behaviour requirements. After the successful completion of this course unit the student will understand: Basic concepts of Statics in Engineering Mechanics、Stress and strain、Mechanical properties of materials、Stress and strain analysis on materials under axial load, torsion and bending、Stress and Strain Transformation.

三、管理學院

(一) 企業管理系

人力資源管理制度設計　　3　選　　林鉦棽

本課程旨在使學生獲得人力資源管理之理論及實務等相關知識。包含的範圍是有關組織的策略、人事遴選、工作分析、任用管理、績效評估、薪資與福利及離職管理等範圍。

Human Resource System Design　　3　E　　C. C. Lin.

The objective of this course is designed to teach the related knowledge of theory and practices of design ofhuman resource management. The scope includes organizational strategy, selection, job analysis, performance appraisal, and turnover.

四、人文學院

(一) 應用外語系

英語教學專業實習　　9　選

本課程主要目的是提供學生於英語教學相關機構中，實地觀摩與試教的機會，裨使學生能將課堂所學之英語教學專業知識及技巧，實際運用於教學活動中，結合理論與實務，驗證英語教學專業知能。

English Teaching Practicum　　9　E

This course aims to provide students with opportunities to observe and do teaching demonstration in institutions committed to the enterprise of English teaching. Students who have acquired the knowledge and skill of English teaching in school may apply theories to the teaching practices they have engaged themselves in during their practicum.

商務專業實習　　9　選

本課程主要目的是提供學生於商務機構中，實地觀摩與操作之機會，裨使學生能將課堂所學之商務英文知識、簡報技巧、溝通談判技能，實際運用於商業活動中，結合理論與實務，增進學生職場實務經驗。

Business Practicum　　9　E

This course aims to provide students with opportunities to observe and practice in various businesses. Students who have acquired the knowledge and skill of business in school may apply theories to the practices they have engaged themselves in during their practicum.

(二)休閒運動健康系

山域運動與指導　　2　選

登山為我國國民主要休閒活動之一，因而本課程之主要目的在於給予學生登山之基本知識與技能,以期將來可以帶隊爬山與了解其應用，開拓登山休閒市場，並利用學校附近之優良登山環境，以達到與其他類似科系學生有所不同之處，增進將來進入就業市場之競爭力。

課程內容概要：登山概說，登山器材與使用，登山計劃書，地圖判讀與指北針，背包打包與食物，行走與營地生活，緊急避難，溯溪 (海神宮)，郊山攀登 (白賓山或笠頂山) ，北大武山攀登。

Mountaineering　　2　　E

Course Outline：Mountain climbing is one of the most popular outdoor recreation activities in Taiwan. Hence, the purpose of this course is to enable students to possess the abilities and skills of mountaineering. In addition, this course aims to train students to become a qualified guide and/or leader of mountain climbing via the practices with the abundant resources of mountaineering around the campus. This course should be able to make students possess qualified mountaineering skills and then make them different with students in other similar departments, which means they shall be more competitive in their future career.

冒險觀光　　2　選

課程大綱：本課程旨在於使學生對冒險觀光此一正蓬勃發展的市場做一全面性的了解，從該市場之需求面(例：國內觀光客與國際觀光客)到供給面(例：業者，旅行社，器材供應商，網路，雜誌)，以及相關環境與地方議題(例：自然資源與觀光景點當地居民)做一學習，最後並對冒險觀光未來之走向與趨勢做一討論。

Adventure Tourism　　2　　E

The realm of adventure tourism, the demand-side of adventure tourism (inbound and outbound adventure tourists, tourist motivation and behavior, the supply-side of adventure tourism (tour operators, tour agencies, gear shops, magazines and internet), the future of adventure tourism.

五、獸醫學院

(一) 獸醫系

醫療器材創新設計　　2 選　　吳弘毅、下

著重「從醫療需求到產品概念」之醫療器材研發過程之學習與實作。與臨床醫師討論及治療為主，深入探討醫療行為中所遭遇到的問題，進而提出解決方案，並設計出創新之醫療器材。在醫療環境中發掘臨床問題，找出臨床需求，並養成解決問題的能力。

Medical device innovation-Biodesign　　2 E　　H.Y. Wu S

This course is focused on " From Medical Devices needs to product concept", and challenges in development, manufacturing and clinical trials processes. Such medical problems beg for innovative solutions, and to design innovative medical devices.In medical learning process, the student can be explore clinical problems, identify clinical needs, and develop problem-solving skills.

獸醫學研究法　　2 必　　全系老師　上、下

本課程主要目標在訓練研究生瞭解實驗設計之基本原理、設計解決獸醫學問題之實驗、分析實驗資料、熟悉獸醫學研究之技巧與方法、整理結果以及作成發表報告。

Methods for Veterinary Science　　2 R　　All Teachers, F, S

The main goal of this course is to train graduate students to understand the basic principles of experimental design, to solve the problems related with veterinary medicine, to analyze the data of experimental results, to familiar with the techniques and methodologies of veterinary studies, to organize the data and information for the publication of the experimental results.

專題研究(1)　　2 選　　全系老師　上

本課程目的在提供各種特殊技術和知識，以解決研究生實驗和研究時之特殊問題。由指導教授安排一序列之個別口頭發表和討論，以提昇學生論文有關之研究能力。

Special Topics (1)　　2 E　　All Teachers, F

The purpose of the course is to offer varieties of special technique and knowledge used to solve special problems occurred during research or graduate study for graduate students. A sequence of individual presentations and discussions are arranged from adviser to promote the student the study ability in the topics involving his (her) thesis.

專題研究(2) 2 選 全系老師 下

本課程目的在提供各種特殊技術和知識，以解決研究生實驗和研究時之特殊問題。由指導教授安排一序列之個別口頭發表和討論，以提昇學生論文有關之研究能力。

Special Topics (2) 2 E **All Teachers, S**

The purpose of the course is to offer varieties of special technique and knowledge used to solve special problems occurred during research or graduate study for graduate students. A sequence of individual presentations and discussions are arranged from adviser to promote the student the study ability in the topics involving his (her) thesis.

專題研究(3) 2 選 全系老師 上

本課程目的在提供各種特殊技術和知識，以解決研究生實驗和研究時之特殊問題。由指導教授安排一序列之個別口頭發表和討論，以提昇學生論文有關之研究能力。

Special Topics (3) 2 E **All Teachers, F**

The purpose of the course is to offer varieties of special technique and knowledge used to solve special problems occurred during research or graduate study for graduate students. A sequence of individual presentations and discussions are arranged from adviser to promote the student the study ability in the topics involving his (her) thesis.

專題研究(4) 2 選 全系老師 下

本課程目的在提供各種特殊技術和知識，以解決研究生實驗和研究時之特殊問題。由指導教授安排一序列之個別口頭發表和討論，以提昇學生論文有關之研究能力。

Special Topics (4) 2 E **All Teachers, S**

The purpose of the course is to offer varieties of special technique and knowledge used to solve special problems occurred during research or graduate study for graduate students. A sequence of individual presentations and discussions are arranged from adviser to promote the student the study ability in the topics involving his (her) thesis.

(二) 動物疫苗所

疫苗佐劑學　　2　選　　朱純燕、鍾曜吉等合授

本課程主要教導學生有關疫苗、佐劑的相關免疫學理基礎及動物疫苗之應用。其課程內容第一部分包括疫苗之生物研究過程及近代免疫學理論對疫苗研究與發展之新領域等，並介紹不同動物之疫苗研發與應用。第二部分介紹疫苗佐劑之用途、佐劑之生物與物化特性及其作用機轉、佐劑與生物體各種免疫細胞之交互作用、如何選擇適當之佐劑、不同佐劑之設計與製備，以及佐劑有效性之評估。

Vaccine adjuvants　　2　E

The purpose of this course is to teach students the theory of vaccination, adjuvant and the applications of various veterinary vaccines. The first part of this course include the past research on vaccination and the impact of update knowledge about cellular and molecular immunity on developing new generations of vaccines and also introduce the current research of veterinary vaccines and their applications. This second objective of this course is to introduce the purpose of an adjuvant, the acting mechanisms and related characteristics and chemical features of an adjuvant, the interactions of adjuvants with immune cells, the choice of the appropriate adjuvant and how to manufacture different types of adjuvants and evaluate their efficacy.

進階免疫學　　2　選　　莊國賓

瞭解進階免疫學的精義、免疫系統的要素及激發免疫反應的重要條件等基本知識。由基礎講起，並加入進階及最新之知識：1.先天及後天免疫要素，2.抗原、抗體之結構、功能與交互作用，3. 補體，4. B 淋巴球及 T 淋巴球之生物學基礎，5.抗體的遺傳學基礎，6.主要組織相容抗原複合物之角色，7. 細胞激素。

Advanced Immunology　　2　E

Introduce the elements of Immunology from the basic, advanced concepts and journal including: 1. Innate and Acquired Immunity. 2. Antigen, Antibody structure and function. 3. Complement. 4. Biology of B and T lymphocyte. 5. The genetic basis of Antibody structure. 6 The role of the major histocompatibility complex in the immune response. 7. Cytokines.

農企業管理系

Department of Agribusiness Management

一、必修科目 Required Courses

502001 農企業概論　　3　必　　彭克仲　上

本課程旨在使學生瞭解農企業基本概念。其授課內容包括：(1)農企業意義、範圍、重要性 (2)農企業演變與發展(3)農企業特性(4)農用品企業(5)農場生產企業(6)農產品加工業(7)食品行銷企業(8)農業服務業(9)農企業與環保(10)農企業政策與法規。

502001 Introduction to Agribusiness　　3　R　　K.C. Peng, F

The contents of the course include the followings: (1)What is Agribusiness; (2)Agribusiness History; (3)Agribusiness features; (4)Input section of Agribusiness; (5)Farming Section of Agribusiness; (6)Processing Section of Agribusiness; (7)Food Marketing Section of Agribusiness; (8)Service Section of Agribusiness; (9)Agribusiness V.S. Environment protection; (10)Agribusiness V.S. Policy & Rules.

502002 微積分　　3　必　　蔡月香　上

本課程之目的在使學生了解函數之行為與應用，其課程內容包含微積分概說、函數的極限與連續、導數、導數之應用、積分、積分的方法、定積分的應用、偏導數及重積分等題材。

502002 Calculus　　3　R　　G.Y.H. Tsai, F

The purpose of this course is concerned with the behavior and application of functions. Course contents include introduction to Calculus, limits and continuity of functions, the of the definite integral, partial derivatives, and double integrals.

502003 產業組織實務　　2　必　　鄭秋桂 上

本課程旨在教授產業組織的基本理論，並說明農企業的市場結構、行為和績效的實證研究，其內容包括：(1)產業組織的基本概念(2)市場佔有率和集中度(3)進出市場條件(4)購併和規模經濟 (5)寡佔定價與差別定價(6)產品差異及產品增值(7)聯合行為(8)利潤及價格績效(9)技術效率(10)公平績效(11)實例分析。

502003 Industrial Organization Practice　　2R　　C.K. Cheng, F

The objective of this course is to teach the basic theory of industrial organization, and interpret the market structure, conduct, and performance of agribusiness. It contains:1.Basic Concepts of Industrial Organization; 2.Market Share and Concentration; 3.Market Entry Conditions; 4.Merger and Economic Scale; 5.Monopolistic Pricing and Price Discrimination; 6.Product Differentiation and Added Value; 7.Collusion; 8.Profits Performance; 9.Technical Efficiency; 10.Equity Performance; 11.Case Study.

502004 農企業管理　　3　必　　彭克仲　下

本課程乃系統性地介紹一個農企業經理人應具備之技能，包括：(1)農企業管理學內涵(2)農企業經營規劃與決策(3)消息收集與分析(4)預測方法(5)農企業產品與生產規劃(6)農企業資金與預算(7)農企業成本與收益觀念(8)不同評價之成本項目與效益分析(9)農企業行銷(10)農業政策與環保問題(11)農企業組織(12)人力資源(13)農企業控制原則(14)農企業經營目標之設計。

502004 Agribusiness Management　　3　R　　K.C. Peng, S

The course gives a systematic knowledge for agribusiness manager includes as follows:(1)The contents of Agribusiness; (2)Planning and Decision; (3)Information collection and Analysis; (4)Forecasting; (5)Products and Production planning; (6)Capital and Budget; (7)Cost and Revenue; (8)Cost evaluation and Benefit analysis; (9)Agribusiness marketing; (10)Agricultural policy and Ecosystem protection; (11)Agribusiness Organization; (12)Manpower Resources; (13)Controlling; (14)Management Indicators.

502005 經濟學（2）　　3　必　　鄭秋桂　下

本課程旨在介紹總體經濟表現及測度、金融體系、貨幣創造與政策、財政政策、均衡所得決定、總合供需、通貨膨脹與景氣循環、失業率與經濟成長、國際金融等方面之基礎概念。

502005 Economics (2)　　3　R　　C.K. Cheng, S

The purposes of this course is to provide the basic concepts in measuring nation’s production and income, banking system, money creation and monetary policy, fiscal policy, equilibrium income decision, aggregate demand and supply, inflation and business cycle, unemployment and economic growth, and international finance.

502006 會計學實習　　1　必　　林永順　下

本課程主要在提供一般基本會計實務之訓練，除了讓學生了解會計理論與技術外，亦能熟稔實際帳務之處理。本課程包括：(1)會計科目與借貸法則應用(2)會計處理程序之練習(3)買賣業會計之練習(4)帳簿組織之練習(5)資產：現金與銀行存款，短期投資及應收帳款等會計處理練習。

502006 Practice of Accounting　　1　R　　Y.S. Lin, S

It includes: 1.Application of Account Titles and the formula of Debit and Credit; 2.Practice of Accounting procedure; 3.Practice of Commerce-Accounting; 4.Journals and Legers; 5.Assets, Liabilities and Owner's equity.

502007 統計學實習(1)、(2)　　2　必　　黃文琪　上　下

本課程將配和統計學的教授，作為統計學的支援課程。期以實作與練習增加同學對統計方法之瞭解與認識。本課程內容將包括敘述統計、機率、機率分配、抽樣、抽樣分配、估計、假設、假設檢定、變異數數分析、迴歸分析、相關分析、卡方檢定、指數和時間數列等之習作。

502007 Practice of Statistics(1)、(2)　　2　R　　W.C. Huang, F，S

This course mainly goes with Statistics as a supporting course. This course includes cases and problems practice of contents of Statistics.

502008 農場企業經營實務　　2　必　　段兆麟 下

本課程內容在於介紹目前我國台灣地區主要農場企業之經營管理。包含：1.農作物：花卉、蔬菜、果樹、特用作物 2.林產物 3.水產養殖 4.畜產 5.休閒農業。

502008 Farm Business Management　　2　R　　C.L. Tuan, S

Practice

This course introduces management practices for the major enterprises of farms in Taiwan. The enterprises which will be of major concerns are: 1.Major Crops: Flowers, Vegetables, Orchards, and Special crops; 2.Forest Farming; 3.Agriculture; 4.Livestock farming; 5.Leisure Farming.

502009 生產管理　　3　必　　蔡青園　上

本課程旨在使學生瞭解如何有效且經濟的提供農企業產品之生產及服務，授課內容包括：生產與作業之重要性、農企業產品之分類、工業性產品之製造途程、農業性產品之生產途程、服務性產品之 4P's 技術。

502009 Production Management　　3　R　　C.Y. Tsai, F

Contents Abstract: The Importance of Production; The classification of Agribusiness Products; Industrial Products - Routing; Farming Products - Routing; Service Products - 4P'S Techniques.

502010 行銷管理　　3　必　　林豐瑞　上

本課程將以農場投入部門、農產品生產與加工部門、及食品部門等三大部門之行銷管理學與技術作一深入探討。其中包括：行銷規劃、市場區隔、行銷組合、農產品的行銷特質、運銷職能、運銷成本、運銷制度、消費市場之變化、國際貿易等；本課程以討論方式進行。

502010 Marketing Management　　3　R　　F.J. Lin, F

This course targets at the theory and technique of marketing management for the department of the agricultural inputs, farming and agricultural product processing, and food

marketing agribusiness. The content investigates the marketing planning, market segmentation, marketing mix, marketing attributes of agricultural products, marketing functions, marketing costs, marketing system, changes of consumer market, and international trade. The course is in a free discussion format.

502011 人力資源管理　　3　必　　段兆麟　下

本課程之目的在培養學生認知人力資源管理之意義及重要性，熟悉人力資源管理之規劃與實施方法，以為將來擔任農企業主管及從事人力資源管理工作之用。內容包括：(1)人力資源管理的意義、目的、功能(2)人力資源之羅致管理：人力需求預測、人力規劃、甄選等(3)人力資源之開發管理：教育訓練、績效考核、升遷等。(4)人力資源之報償管理：薪資、福利、非財務之誘因等(5)人力資源之維護管理：人際關係、勞資關係、勞工安全與健康等(6)農企業人力資源管理工作之實地觀摩。

502011 Human Resources Management 3 R C.L.Tuan, S

The contents are as follows:(1)The Meaning, Objectives, and Functions of H.R.D.; (2)Acquisition of H.R.: Job Analysis, Personnel Planning and Recruiting, and Employee Testing and Selection; (3)Development of H.R.: Education and Training, Performance Appraisal, and Promotion; (4)Compensation of H.R.: Financial Incentives, Benefits and Services and Nonfinancial Motivation Techniques; (5)Maintenance of H.R.: Human Relation, Labor Relation, and Employee Safety and Health; (6)A H.R.M. Practice in Agribusiness.

502012 國際貿易實務　　2　必　　彭克仲 上

本課程旨在使學生瞭解： 國際間交易如何進行、處理國際間交易的技術、獲得國際間交易的知識。內容包括：(1)國際貿易的交易程序(2)交易前的準備(3)國際交易條件及其解釋規則(4)國際商會貿易條件解釋規則(5)美國對外貿易條件解釋規則(6)華沙牛津規則及其他貿易條件(7)基本交易條件(8)一般交易條件的協議(9)報價與接受報價(10)貿易契約(11)進口簽證(12)信用狀(13)進口結匯(14)進口報關、檢驗與提貨(15)出口簽證、檢驗與報關(16)出口結匯 (17)定期船運輸(18)不定期船運輸(19)提單(20)貨物運輸保險(21)輸出保險(22)匯票(23)貿易索賠與糾紛(24)國際交務伸裁(25)三角貿易。

502012 International Trade Practice 2 R K.C. Peng, F

This course gives the a technique of international trade for students, including as follows: (1)Procedure of Trade and Delivery; (2)Preparation for Trade; (3)Rules of Terms and Conditions of Trade; (4)INCOTERMS; (5)American Definition; (6)Warsaw Oxford Rule; (7)Terms and Conditions of Trade; (8)Negotiation for Trade; (9)Offer and Acceptance; (10)Contract; (11)Import permit; (12)Letter of credit ; (13)Import Negotiation ; (14)Import-Customs, Inspection; (15)Export-Customs and Inspection; (16)Export Settlement ; (17)Conference Vessel; (18)Non-conference Vessel; (19)Bill of Landing; (20)Insurance; (21)Export Insurance; (22)Draft; (23)Claim and Dispute; (24)Arbitration; (25)Triangle trade.

502013 財務管理 3 必 蔡月香 上

本課程以探討農企業之財務政策與金融系統（市場、機構、工具）為主。授課內容包括:(1)代理問題與公司目標(2)金融市場(3)貨幣時間價值(4)風險報酬分析(5)長期融資管理(6)營運資金管理(7)資本預算程序(8)財務規劃(9)合併與併購(10)農企業財務管理之實例介紹。

502013 Financial Management 3 R **G.Y.H. Tsai,** F

The major goal of this course is to investigate financial policy of Agribusiness and financial environment (markets, institutions and instruments). The contents of this course are:(1)Agency Problem and Corporate Goals; (2)Financial Markets; (3)Time Value of Money; (4)Risks & Returns; (5)Long Term Financing Management; (6)Working Capital Management; (7)Capital Budget Process; (8)Financial Planning ; (9)Mergers and Acquisition; (10)Financial Case Studies for Agribusiness.

502014 策略管理 3 必 陳淑恩 上

本課程旨在使學生了解，管理者在面臨快速變遷及競爭劇烈的環境中，如何採取有效的管理策略。內容包括：(1)策略管理概論(2)內外部環境分析(3)競爭策略(4)策略的執行與控制(5)農企業經營策略管理。

502014 Strategic Management 3 R **S.E.Chen,** F

This course gives students the knowledge of business strategic management. It includes: (1) the concept and structure of strategic management, (2) the analysis of internal and external environments, (3) competitive strategy, (4) strategic implementation and control, and (5) agribusiness strategic management.

5020015 農業經營組織管理 3 必 陳淑恩 上

本課程旨在探討農業組織行為，幫助學生瞭解、預測和控制農業組織中，個人、群體（團體）、組織系統的行為。授課內容包含：(1)農業經營組織組織行為之基本概念與特質 (2)個體行為：個體價值觀、態度、性格、知覺、學習、激勵、工作壓力、創造力與創新，及個體差異 (3)群體行為：群體結構、決策與任務、凝聚力、領導與溝通、權力與政治、衝突管理 (4)組織系統：組織結構與設計，績效評估與酬償制度，組織文化，組織變革與發展。

5020015 Agribusiness Organization 3 R **S.E.Chen,** F

The objective of this course is to discuss agribusiness organizational behavior and to teach students how to understand, to predict and to control individual, group, and organizational system behavior. The contents of this course are as follows: (1) the basic concepts and characteristics of agribusiness organizational behavior; (2) the individual behavior: value, attitude, personality, perception, learning, motivation, job pressure, creativity and innovation, and individual difference; (3) the group behavior: group structure, group decision making and tasks, communication and leadership, power and politics, conflict management; (4) the organizational system: organizational structure and design, performance

evaluation and reward systems, organizational culture, organizational change and development.

502016 農用資材企業經營實務　　2　必　　鄭秋桂 下

本課程目的主要讓學生了解農用資材企業經營所據為何？及農用資材企業經營的重要性。1.緒論：農用資材企業經營包含的範圍、特色及定位 2.農用資材企業經營的ＳＷＯＴ分析：針對農藥業、肥料業、飼料業、種苗與種畜禽業、農機業等農用資材企業經營之優劣勢、威脅與機會等，作一綜合性的分析 3.農用資材企業經營的經營管理：著重農用資材企業經營的組織、生產規劃與決策、原料的進口、產品製造及加工等作業管理、產品行銷投資報酬、資訊與預測等方面 4.國內外農用資材企業經營成功與失敗之個案分析。

502016 Management of Agricultural Input Sector Practice　　2　R　　C.K. Cheng, S

The purpose of this course is to let students understand what's Agri-Material Business: 1.Introduction to Agri-Material Business: It' Sperialty and Role; 2.SWOT analysis for Agribusiness; 3.Agri-Material Business Management; ①Organization ② Planning and Decision ③ Staple Import ④ Production, Manufacture, and Processing Management ⑤ Marketing ⑥ Investment Analysis ⑦ Information and Forecast; 4.Case Studies.

502017 農企業研究法　　3　必　　蔡月香 下

本課程之教學目的在於使學生具有從事農企業研究的基本程序概念與知識，以培養學生日後有獨立進行研究之能力。為達本課程之教學目的，課程內容之安排如下：1.農企業研究之科學基礎 2.研究的基本要素與研究程序 3.研究問題與假設 4.文獻參考與研究變數 5.測量 6.研究設計 7.資料收集方法 8.資料分析與解釋 9.研究報告之撰寫。

502017 Agribusiness Research Methods　3　R　　G. Y.H. Tsai, S

1.The Scientific Foundation of Agribusiness Research; 2.Elements of Research & Research Process; 3.Research Problems & Hypotheses; 4.Literature Review & Variable of Research; 5.Measurement; 6.Research Design; 7.Data Collecting; 8.Data Analysis & Interpretation; 9.Reporting the Results.

502018 農企業法規　　3　必　　陳淑恩 下

本課程主要目的在使學生認識農企業的相關法規，以配合農企業在經營管理上可能面臨的法律規範。授課內容包括：(1)法學緒論(2)農業發展條例(3)農產品市場交易法(4)農會法(5)休閒農業相關法規(6)世界貿易組織之相關規定。

502018 Agribusiness Law　　3　R　　S.E. Chen, S

The major objective of this course is to teach students the associated agribusiness

regulations which an agribusiness owner or manager will need to deal with. It includes: 1. juristic introduction; 2. Act of Agricultural Developments; 3. Act of Agricultural Market Exchange; 4. Act of Farmers' Association; 5. regulations of leisure agriculture; 6. regulations of WTO.

502019 農企業投資管理實務　　2　必　　陳淑恩 下

本課程主要包括實質資本投資與證券投資，授課內容有： 1.農企業投資概說 2.企業投資計畫形成之過程 3.投資可行性分析 4.資本預算 5.投資規畫 6.證券與市場 7.風險與報酬 8.投資組合概念 9.資本資產訂價模式 10.證券報價 11.國際投資管理概念。

502019 Agribusiness Investment Management Practice　　2　R　　S.E. Chen, S

This course contains both real capital investment and security investment. The major contents are as follows: 1. introduction to agribusiness investment; 2. the formation of investment plan; 3. investment feasibility analysis; 4. capital budgeting; 5. investment plan; 6. securities and security markets; 7. risks and returns; 8. the concept of portfolio management; 9. capital asset pricing models; 10. security evaluation; 11. the introduction to international investment management.

502020 農企業管理資訊系統　　3　必　　黃文琪　上

農企業管理資訊系統是使農企業能以有系統的方式，有效收集相關資料，以提供管理決策的依據。本課程從農企業資源規劃的觀點介紹其管理資訊系統的系統架構、基本功能、系統的建立，以及決策資訊的提供。課程內容包含：(1)緒論 (2)資訊系統的組織架構(3)資訊系統之建立(4)現代農企業管理資訊系統。

502020 Agribusiness Management Information Systems　　3　R　　W.C. Huang, F

The purpose of agribusiness management information systems is to systematically and effectively collects relevant information for agribusiness management decision-making. From the integrated enterprise information planning perspective, this course introduces the architecture, functions, and establishment of agribusiness management information systems to provide decision information.

The focus of this course is on the information technologies and the resources that organizations provide and alternative approaches to managing them; and what the user-manager needs to know to make effective use of these technologies. It contains:(1) Introduction; (2) Organization of Information Systems; (3) Buildup of the Information Systems; (4) Modern Management Information Systems for Agribusiness.

502021 農企業社會責任與倫理　　3　必　　洪惠貞　下

企業所獲得的利潤，不僅是企業經營的結果，而且是公眾消費及企業所處的社會環境、文化、政治等因素互動的結果。要塑造一個生生不息、永續經營的現

代農企業，經營者不但得從「利己」的社會責任做起，更要從「利己」的責任提昇到「利他」的倫理層次。本課程主要內容涵蓋如下：（1）倫理道德觀念與社會責任的意義；（2）倫理議題與決策環境關係；（3）社會責任的分類與作法；（4）企業倫理與社會責任的關係；（5）農企業經理人的倫理原則；（6）企業倫理的應用與養成。

502021 Agribusiness Ethics 3 R **H.J. Hong, S**

What the business earned is not just come from the business's effort, but also from the results that customers consumed and the environmental factors such as culture, political, interacted. As a modern manager hoped to run an agribusiness vigorously and perpetually, he should begin the responsibility on "egoism", then, sublimate "egoism" into "altruism" an ethical level. The main content of this course including:（1）the basic concept of ethics and social responsibility;（2）the relationship between ethic issues and decision environment;（3）the category and methods about social responsibility（4）the relationship between agribusiness ethics and social responsibility;（5）the ethic rules for agribusiness managers; （6）the application and cultivation of agribusiness ethics.

502022 國際農企業實務 2 必 **林永順 上**

本課程係為使小型農企業發展成為跨國性農企業，具經營管理上的必要途徑考量，其目的有 1.充分利用國際資源：原料、人才、資金、機器、管理。2.擴大市場：台灣只有二千三百萬人口，唯有跨國性企業才具規模經濟，以提昇競爭力。其重點包括：1.跨國性農企業的基本概念 2.跨國性農企業的理論及環境 3.跨國性農企業的策略 4.跨國性農企業的組織、領導及文化 5.跨國性農企業的管理。

502022International Agribusiness Practice 2 **R** **Y.S. Lin, F**

The purpose of Transnational Agribusiness is to fully use of informational resources and market. It includes: 1.Transnational Agribusiness basic concepts; 2.Transnational Agribusiness theories and environment; 3.Transnational Agribusiness strategy; 4.Transnational Agribusiness organization, leadership and culture; 5.Transnational Agribusiness management.

502023 農企業管理實習 2 必 **指導老師 上**

本課程目的在使學生了解農企業實際的營運狀況，學習經營管理的實際技能，以求理論與實務的結合。實施方式是由學生實務專題的指導老師依據專題的性質，選擇適當的農企業機構，分派學生前往實習。實習期間至少一個月，老師與實習單位共同負責輔導並考評。

502023 Practice of Agribusiness Management 2 R **Major Advisor, F**

The purpose of this course is to understand the practical affairs of agribusiness management, in order to integrating the theory and practice of agribusiness management. The main learning way of the course is to go to the agribusiness to practice in the fields at

least one month.

502024 農企業營運計畫撰寫實務　　2　必　　洪惠貞 下

本課程主要在教導學生如何撰擬「農企業營運計畫書」；藉由「營運計畫書」管理者可檢視其創業目標、產品、定位、市場分析等是否詳實；更攸關其創業的可行性與成功機率。課程內容包括下列主題之撰寫：（1）摘要（2）營運動機與產業背景（3）農產品或服務之經營概況；（4）市場研究與分析（5）行銷計畫（6）營運計畫（7）管理團隊（8）財務規劃（9）結論與願景。

502024 Writing for Agribusiness　　2　R　　H.J. Hong, S

Operate Prospectus Practice

This course is teaching students how to write an operating plan for an agribusiness. By 'operate prospectus', administrator can look over their goal, products, making a reservation, market analysis, etc. are full and accurate to start an undertaking; Concern feasibility that start an undertaking its and succeed in probability even more. The course content includes the writing of the following themes: (1) Summary (2) Operation motive and industry's background (3) Management overview of agricultural products or the service; (4) Market survey and analyzing (5) Marketing plan (6) Operation plan (7) Management group (8) The financial affairs planning (9) The conclusion and scene of wishing.

二、選修科目 Elective Courses

502025 鄉村社會學　　3　選　　林豐瑞　下

先介紹農村社會學之特質與其研究方法，接而講述有關農村家族生活、村落社會、鄉村政治等之社會結構與教育、經濟、宗教、家庭等社會制度，社會組織、人際關係、社會階層等等介紹，最後說明如何建立一現代化之農村社會，其應有之作法與方向。

502025 Rural sociology　　3　E　　F.J. Lin, S

First, introduces the characteristics and research method of rural sociology. Then, describes social structure related with rural family living, village society and country politics, social system of education, economics, religion and family, social organization, human relation, social rand, and so on. Lastly, explains how to build a modern rural society and the way and direction to achieve it.

502026 商事法　　3　選　　洪惠貞　上

本課程教授的目的在使學生熟悉商事法知識及應用，以配合農企業經營上可能面臨的商事法規。包括：(1)公司法 (2)票據法(3)海商法(4)保險法。

502026 Business Law　　3　E　　H.J. Hong, F

This course is to teach business law, which an agribusiness owner or manager will need to deal with. It includes:1.Company Law; 2.Law of Negotiable Instruments; 3.Marine Commerce Law; 4.Insurance Law.

502027 生物科技產業概論　　3　選　　蔡青園　下

課程目標：1.生物科技產業在國內外發展之現況 2.各種產業特性 3.關鍵技術之專利 4.生技產品開發及投資所面臨的問題。課程內容：1.生物技術概論 2.生物技術在產業之發展與應用 3.先進國家及我國生技產業在技術研發之現況及展望 4.生技產業的商業行為 5.生技產品開發及市場需求。

502027 Introduction to Biotechnology industry　3　E　C.Y. Tsai, S

Course objectives：1.To discuss the development of Bioindustry in Taiwan and advanced countries in the world; 2.The characteristics of Bioindustry in differents kind of domain; 3.The special technology in Bioindustry for patent; 4.The problems of exploitation in Bioindustry product and investment for Biotechnology. Course contents：1.Outline of this Bioindustry; 2.The development and application of biotechnology in Bioindustry; 3.The current situation and perspective of Biotechnology industry exploitation in Taiwan and advanced countries in the world; 4.Business behavior in Bioindustry; 5.Market demand and development of Bioindustry products.

502028 商業軟體之應用　　3　選　　黃文琪　下

本課程主要在提昇學生對目前在農企業管理相關領域使用之商用軟體的能力，講授內容如下： (1)統計分析軟體（SPSS）(2)進出口貿易系統(3)產銷班經營管理系統(4)POS 系統。

502028 Business Software Applications　3　E　W.C. Huang, S

The major goal of this course is to enhance the students' capability on using business software in the area agribusiness management. Four sections are included in this course:(1) Statistical Software (SPSS) ; (2) Export and Import System Software; (3) Management System for the P&M Team; (4) POS system.

502029 市場調查與分析　　3　選　　黃文琪　上

本課程的目的在於介紹進行市場調查與分析的原理及方法。學習者可以透過實際進行資料收集、問卷設計及調查、資料回收、進行資料整理、分析，並利用各種不同統計的方法以及統計軟體輔助資料分析。本課程的主要內容包含：1.緒論 2.市場調查之範圍 3.市場調查方法與技巧 4.資料的整理與分析 5.市場調查報告。

502029 Market Survey and Analysis　3　E　W.C. Huang, F

The purpose of this course is to provide technique of market survey to the undergraduate students. The principle of market survey and procedure will be introduced in this course. In

addition, technique for data processing and analysis as well as preparation for final survey report will also be introduced. Common spreadsheet software and other statistical software will be used in this course. Outline of the course includes: 1.Introduction; 2.The scopes of market survey; 3.Methods and technique for market survey; 4.Data processing and analysis; 5.Market survey report.

502030 休閒農場經營　　3　選　　段兆麟　下

本課程目的在讓學生了解休閒農場的規劃和經營管理實務。內容包括：1.休閒農場的規劃 2.生產管理 3.行銷管理 4.人力資源管理 5.財務管理 6.教育宣導 7.民宿經營 8.田園餐飲管理 9.環境管理 10.安全管理 11.經營診斷 12.觀摩休閒農場實務。

502030 Leisure Farm Management　　3　E　　C.L.Tuan, S

The purpose of this course is to let students understand the planning and Management of leisure farm. The contents include:1.The planning of leisure farm; 2.Production management; 3.Marketing management; 4.Human resource management; 5.Finance management; 6.Education; 7.Housing management; 8.Restaurant management; 9.Environmental management; 10.Safety management; 11.Managerial diagnosis; 12.Visiting leisure farms.

502031 生鮮物流管理　　3　選　　陳淑恩　上

本課程旨在學習於供應鏈的跨組織中，如何管理農企業生鮮產（商）品之物流活動內容。主要內容如下：1 生鮮供應鏈 2 顧客服務 3 物流資訊管理 4 生鮮處理 5 存貨管理 6 運輸管理 7 物流委外管理 8 全球運籌。

502031 Fresh-Product Logistics Management　　3　E　　S.E. Chen, F

The purposes of this course focus on how to manage logistics activities of raw and fresh products within and across companies. This course will discuss the following topics for raw and fresh products: 1. supply chain of raw and fresh products; 2. customer service; 3. logistics information systems; 4. raw and fresh product process; 5. inventory and warehousing management; 6. transportation management; 7. outsourcing management; 8. global logistics management.

502032 食品企業經營　　3　選　　林永順　下

本課程主要在提昇學生對農產加工企業之管理能力。就農、林、漁、牧四類農產加工企業，分別講授下述內容：(1)企業環境與現況(2)企業特質與未來(3)企業的企業功能如何運作(4)企業的管理功能如何運作。

502032 Food Business Management　　3　E　　Y.S. Lin, S

The major goal of this course is to enhance the students' capability on managing food processing of agribusiness. Four sections are included in this course: (1)Business Environment; (2)Business Characteristics & It's Future Insight; (3)How to Operating the Business Function; (4)How to Operating the Management Function.

502033 休閒農場規劃與體驗設計　　3　選　　段兆麟　上

休閒農場規劃，完成經營計畫書，是休閒農場申請登記的必要步驟；而體驗活動是休閒遊憩最主要的部份，是遊客能否獲得滿足的關鍵。因此休閒農業經營必須特別注重整體規劃與體驗活動的設計。本課程目的在講授休閒農場規劃的原理，及體驗活動設計的知識與能力。課程內容包含下列單元：休閒農場規劃的方法、籌設與登記的程序、體驗經濟理論、體驗活動的資源、體驗活動設計的方法、休閒農業體驗活動觀摩等。

502033 Planning and Experience Activities 3 E C.L.Tuan, F

Designing of Leisure Farm

The contents of the course are as follows：the skill of planning of leisure farm, the process of applying for allowance, the theory of experience economy, the resources of experience activities designing, the skill of experience activities designing, leisure farms visiting etc..