開課班級: 碩專農企一B **授課老師: 劉芳怡** **學分數: 3**

課程大綱:

The course focuses on leveraging modern data analysis techniques and artificial intelligence (AI) to enhance decision-making in the agricultural sector. Students will learn to employ Excel's advanced functions and AI tools to process large datasets, identify trends, and make informed business decisions. The course aims to equip students with hands-on skills in data analysis, emphasizing real-world case studies in agribusiness. Topics include data visualization, predictive modeling, and the application of AI to optimize business operations and strategies in agriculture.

outline:

1. Introduction to Business Intelligence in Agriculture - Overview of data-driven decision-making in agribusiness - Introduction to business intelligence tools and their relevance in the agricultural market 2. Excel for Advanced Data Analysis - Advanced functions in Excel for data processing - Practical exercises using Excel for agricultural market data analysis - Introduction to AI-enhanced features in Excel 3. Data Visualization Techniques - Creating charts, graphs, and dashboards for effective data presentation - Customizing visualizations to reflect agricultural business trends 4. AI in Agricultural Business - Overview of AI applications in agribusiness - Using AI tools in Excel to enhance data analysis - Predictive modeling and trend forecasting using AI 5. Case Studies in Agricultural Data Analysis - Analysis of real-world agricultural market data - Identifying key insights and making data-driven business decisions - Discussion of successful AI applications in agribusiness 6. Big Data Analysis for Agribusiness - Understanding the role of big data in agriculture - Techniques for analyzing large datasets relevant to agricultural business - Applying AI to extract actionable insights from complex data sets 7. Implementing Business Intelligence Strategies - Developing data-driven strategies for agricultural businesses - Case study-based strategy development using Excel and AI tools 8. Course Project: Developing an Agribusiness Intelligence Plan - Students will apply learned concepts to create a comprehensive business intelligence plan using Excel and AI tools - Presentation and discussion of project findings Learning Outcomes: - Master advanced Excel functions and AI tools for agribusiness data analysis - Develop data visualization skills to present agricultural market insights - Apply AI for predictive modeling in agricultural business contexts - Create data-driven strategies for optimizing agribusiness operations and decision-making

教學型態:

課堂教學

成績考核方式:

平時成績:50%
期中考:25%
期末考:25%
其它:出席率未足1/2出席率，扣考。%

本科目教學目標:

1. Understand Business Intelligence in Agribusiness - Introduce students to the concept of business intelligence and its significance in agricultural markets, enabling them to appreciate data-driven decision-making. 2. Develop Advanced Excel Skills - Equip students with the knowledge of advanced

Excel functions and AI-enhanced features, enabling them to efficiently process and analyze agricultural market data. 3. Master Data Visualization Techniques - Teach students how to create and customize visual representations of data to effectively communicate insights and trends in the agribusiness sector. 4. Apply AI in Data Analysis - Provide practical knowledge of using AI tools within Excel to perform predictive modeling and forecasting, enhancing the ability to anticipate market changes. 5. Analyze Real-World Agricultural Market Data - Engage students in case studies to practice analyzing large agricultural datasets, extracting meaningful insights, and making informed business decisions. 6. Explore Big Data in Agribusiness - Introduce the concept of big data in agriculture, demonstrating how to handle complex datasets and apply AI for extracting actionable business insights. 7. Formulate Data-Driven Strategies - Enable students to develop effective business intelligence strategies tailored for agribusinesses, using data analysis and AI tools. 8. Apply Knowledge in a Comprehensive Project - Provide an opportunity for students to apply their skills in a capstone project, where they will create a business intelligence plan for an agricultural enterprise, fostering practical application of course concepts. 9. Promote Critical Thinking and Problem-Solving - Encourage students to critically analyze market data and use evidence-based decision-making to solve real-world agribusiness challenges. 10. Enhance Presentation and Communication Skills - Develop students ’ ability to present data findings and business strategies clearly, effectively communicating their insights to stakeholders in the agricultural industry.

參考書目:

商務大數據分析：案例分析與AI應用趨勢。全華圖書。

課程進度表：

週次	起訖月日	授課單元(內容)	備註
第1週	9.09~9.16	Introduction to Agribusiness Intelligence	8日正式上課。8~12日課程加退選，轉學(系)生、復學生及延修生選課，雙主修、輔系申請，12日申辦抵免學分截止日
第2週	9.16~9.23	Overview of Excel Tools	
第3週	9.23~9.30	Advanced Excel Functions	28日(日)孔子誕辰紀念日/教師節(放假),29日(一)補假
第4週	9.30~10.07	Data Collection Techniques	29日成績優異提前畢業者提出申請截止日
第5週	10.07~10.14	Data Processing in Excel	6日(一)中秋節(放假)，10日(五)國慶日(放假)
第6週	10.14~10.21	Introduction to AI in Excel	14日學生宿舍安全輔導暨複合式防災疏散演練。18日多益測驗
第7週	10.21~10.28	Data Visualization Basics	24日(五)補假，25日(六)光復暨古寧頭大捷日(放假)。
第8週	10.28~11.04	Creating Dashboards in Excel	30日校課程委員會
第9週	11.04~11.11	Midterm Project Planning	3~9日期中考試
第10週	11.11~11.18	Predictive Modeling Concepts	13日教務會議,16日教師期中成績上網登錄截止日
第11週	11.18~11.25	AI-Powered Data Analysis	
第12週	11.25~12.02	Big Data in Agribusiness	24~28體育運動週。24日校園路跑。27日運動大會夜間開幕，28日運動大會活動，29日101週年校慶活動日，照常上班
第13週	12.02~12.09	Case Study: Market Analysis	
第14週	12.09~12.16	Strategy Development Workshop	12日申請停修課程截止日
第15週	12.16~12.23	Building Business Intelligence Plans	
第16週	12.23~12.30	Project Work and Feedback	22日校務會議。25日行憲紀念日(放假)
第17週	12.30~1.06	Presentation of Projects	1日(四)開國紀念日(放假)
第18週	1.06~1.13	Course Review and Evaluation	5~11日期末考試，10~11日學生退宿