

課程中文名稱 Title of Course in Chinese : <b>Python會計應用</b>
課程英文名稱 Title of Course in English : <b>Python for Accounting Applications</b>
應修系級 Major : <b>會計學系2A , 會計學系2B ,</b>
授課教師 Instructor : <b>戴敏育</b>
選修類別 Required/Elective : <b>選</b>
全半學年 Whole or Half of the Academic Year : <b>半學年</b>
學 分 Credit(s) : <b>3</b> 學分
時 數 Hour(s) : <b>3</b> 小時
教師網址 Instructor's Website : <a href="http://http://web.ntpu.edu.tw/~myday/">http://http://web.ntpu.edu.tw/~myday/</a>
教師專長 Instructor's Specialty : 電子商務 (Electronic Commerce), 金融科技 (Financial Technology), 人工智慧 (Artificial Intelligence), 大數據分析 (Big Data Analytics), 資料探勘與文字探勘 (Data Mining and Text Mining)
課綱附檔 Attachments :
先修科目 : None
Prerequisites : None
教學目標 : 1. 瞭解Python 會計應用基本概念。 2. 具備Python 會計應用實務操作能力。
Course Objectives : 1. Understand the fundamental concepts of Python for Accounting Applications. 2. Equip with Hands-on practices of Python for Accounting Applications.
本課程包含永續發展(SDGs)目標(→ <a href="#">點此瞭解永續相關目標</a> ←) : SDG4   優質教育 (Quality Education) SDG8   尊嚴就業與經濟發展 (Decent Work and Economic Growth) SDG12   負責任的消費與生產 (Responsible Consumption and Production)
內容綱要 : [Python 會計應用 (Python for Accounting Applications)] 這是一門 EMI 全英語課程。 本課程介紹Python 會計應用基本概念與實務操作。課程內容包括Python 會計應用概論、Python程式設計與資料科學、Python程式設計基礎、資料結構、控制邏輯與迴圈、功能與模組、檔案與例外處理、Python數據分析與可視化、使用 Python 從 Web 獲取數據、Python統計分析、Python機器學習、Python大型語言模型 (LLMs) 文本分析、Python會計數據分析應用和Python永續數據分析應用。
Course Outline : [Python for Accounting Applications] This is an EMI Full English Course. This course introduces the fundamental concepts and hands-on practices of Python for Accounting Applications. Topics include Introduction to Python for Accounting Applications, Python Programming and Data Science, Foundations of Python Programming, Data Structures, Control Logic and Loops, Functions and Modules, Files and Exception Handling, Data Analytics and Visualization with Python, Obtaining Data From the Web with Python, Statistical Analysis with Python, Machine Learning with Python, Text Analytics with Python and Large Language Models (LLMs), Applications of Accounting Data Analytics with Python, and Applications of ESG Data Analytics with Python.
學生核心能力關連(Student's Core Competence) : (八大核心能力為百分比; 合計100%; Total 100%)
會計學系 112年 系核心能力 : 創意思考與問題解決 40 % 綜合統整 30 % 溝通協調 5 % 團隊合作 5 % 誠信正直 5 %

尊重自省 5 %  
 跨界宏觀 10 %  
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**校四大基本素養**  
**Four Fundamental Qualities**

專業 Professionalism		人際 Interpersonal Relationship		倫理 Ethics		國際觀 International Vision	
創意思考 與問題解 決 (Creative thinking and Problem- solving) 40 %	綜合統整 (Comprehensive Integration) 30 %	溝通協調 (Communication and Coordination) 5 %	團隊合作 (Teamwork) 5 %	誠信正直 (Honesty and Integrity) 5 %	尊重自省 (Self- Esteem and Self- reflection) 5 %	多元關懷 (Caring for Diversity) 5 %	跨界宏觀 (Interdisciplinary Vision) 5 %

商學院學習目標(College Learning Goals) :  
 Communication  
 Analytical and Critical Thinking  
 Ethics/Corporate Social Responsibility  
 Global Knowledge/Awareness

系所學習目標(Department Learning Goals) :  
 Ethical Accountancy  
 Discipline Proficiency

教學進度(Teaching Contents) :

週別 (Weekly Schedule)	日期 (Date)	教學預定進度 (Tentative teaching schedule) (若有調整，依教師實際授課為準; Adjustments are made according to instructor's actual teaching schedule)	教學方法與教學活動 (Teaching methods and activities)
Week 1	20230913	Introduction to Python for Accounting Applications	講授Lecture 討論Discussion
Week 2	20230920	Python Programming and Data Science	講授Lecture 討論Discussion 實習Practicum
Week 3	20230927	Foundations of Python Programming	講授Lecture 討論Discussion 實習Practicum
Week 4	20231004	Data Structures	講授Lecture 討論Discussion 實習Practicum
Week 5	20231011	Control Logic and Loops	講授Lecture 討論Discussion 實習Practicum
Week 6	20231018	Functions and Modules	講授Lecture 討論Discussion 實習Practicum
Week 7	20231025	Files and Exception Handling	講授Lecture 討論Discussion 實習Practicum
Week 8	20231101	Data Analytics and Visualization with Python	講授Lecture 討論Discussion 實習Practicum
Week 9	20231108	Midterm Project Report	討論Discussion

Week 10	20231115	Obtaining Data From the Web with Python	講授Lecture 討論Discussion 實習Practicum
Week 11	20231122	Statistical Analysis with Python	講授Lecture 討論Discussion 實習Practicum
Week 12	20231129	Machine Learning with Python	講授Lecture 討論Discussion 實習Practicum
Week 13	20231206	Text Analytics with Python and Large Language Models (LLMs)	講授Lecture 討論Discussion 實習Practicum
Week 14	20231213	Applications of Accounting Data Analytics with Python	講授Lecture 討論Discussion 實習Practicum
Week 15	20231220	Applications of ESG Data Analytics with Python	講授Lecture 討論Discussion 實習Practicum
Week 16	20231227	Final Project Report	討論Discussion
Week 17&18 : 彈性補充教學		Self-learning	

評量方式(Evaluation Methods) :

課堂之前測(Pre-test) 0 %

課堂之隨堂測驗(Quiz) 0 %

期中考-筆試(Mid-Term Exam) 0 %

期末考-筆試(Final Exam) 0 %

個案分析報告(Case Report) 20 %

課堂參與(Class Participation) 10 %

個人報告(Individual Presentation) 30 %

團體報告(Group Presentation) 30 %

作業(Assignment) 10 %

其他評量方式(Other Evaluation Methods)

指定用書(Required Texts) :

Allen B. Downey (2016), Think Python: How to Think Like a Computer Scientist, 2nd Edition, O'Reilly Media

參考書目(Reference Books) :

1. Frederick Kaefer and Paul Kaefer (2020), Introduction to Python Programming for Business and Social Science Applications, SAGE Publications

2. Abdullah Karasan (2021), Machine Learning for Financial Risk Management with Python: Algorithms for Modeling Risk, O'Reilly Media

3. Vic Anand, Khrystyna Bochkay, and Roman Chychyla (2020), Using Python for Text Analysis in Accounting Research, Now Publishers

4. Aurélien Géron (2022), Hands-On Machine Learning with Scikit-Learn, Keras, and TensorFlow: Concepts, Tools, and Techniques to Build Intelligent Systems, 3rd Edition, O'Reilly Media.

5. Yves Hilpisch (2018), Python for Finance: Mastering Data-Driven Finance, 2nd Edition, O'Reilly Media.

6. Yves Hilpisch (2020), Artificial Intelligence in Finance: A Python-Based Guide, O'Reilly Media.

其他參考資料(Other References) :

Python, <https://www.python.org/>

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