國立東華大學

課　綱　Course Outline

理工學院大數據科學國際學士班學士班

中文課程名稱 Course Name in Chinese	程式設計(二)				
英文課程名稱 Course Name in English	Introduction to Computer Programming (II)				
科目代碼 Course Code	DS__10030	班 別 Degree	學士班 Bachelor's		
修別 Type	學程 Program	學分數 Credit(s)	3.0	時 數 Hour(s)	3.0
先修課程 Prerequisite					

課程目標
Course Objectives

介紹程式設計基本觀念、方法與程式發展技術。
In this course, the teacher will introduce the basic concepts and methods of programming and its development techniques.

系教育目標
Dept.'s Education Objectives

1	訓練嚴謹思考與推理能力。 to provide a solid training in rigorous thinking and reasoning,
2	奠定資料科學理論與應用數學的基礎知識。 to establish well-founded background knowledge in data science and applied mathematics,
3	具備跨領域學習能力。 to prepare the students for interdisciplinary study in the future.

系專業能力 Basic Learning Outcomes	課程目標與系專業能力相關性 Correlation between Course Objectives and Dept.' s Education Objectives
A 具備基本資料科學知識及邏輯推理能力。 have well-founded background in data science and logical reasoning,	●
B 具備機率、統計、資料科學及相關領域的知識與應用能力。 have the knowledge of probability , statistics , data science and the related fields, and their applications,	●
C 具備資料科學應用技能與團隊合作，解決問題能力。 be able to utilize data scientific skills for problem solving through cooperation and teamworking.	○

圖示說明Illustration ：● 高度相關 Highly correlated ○中度相關 Moderately correlated

課程大綱 Course Outline
1.物件導向觀念Object-Oriented Concepts. 2.類別與資料抽象化Classes and Data Abstraction. 3.字串與陣列物件String and Array Objects. 4.動態陣列 Dynamic Arrays. 5.運算子重載 Operator Overloading. 6.繼承 Inheritance. 7.多形與虛擬函式 Polymorphism and Virtual Functions. 8.樣板與標準樣板程式庫 Templates and Standard Template Libraries. 9.友伴函式 Friends 10.例外處理 Exception Handling. 11.資料結構概念 Data Structures Concepts.

資源需求評估（師資專長之聘任、儀器設備的配合・・・等） Resources Required (e.g. qualifications and expertise, instrument and equipment, etc.)
Professional Instructors

課程要求和教學方式之建議 Course Requirements and Suggested Teaching Methods
Lecture and Program Implementation. The Maximum number of students is 40. Grading & Assessments: Midterm Exam, Final Exam, and Homework and Assignments.

其他 Miscellaneous
1130306訂定