實踐大學一一四學年度第一學期 教學計畫表
Course Syllabus, Academic Year 2025-2026(1st Semester)

（實際授課內容及成績評定，以教師上課時規定為準。）

科目名稱 Course Title	機器學習概論 Introduction to Machine Learning			課程代號 Course No.	ESSM-102-01-A1
開課系級 Department	智慧服務管理英語學士學位學程一年甲班 A-ESSM-1A	學分數 Credit(s)	3	時數 Hour(s)	3
選別 Required or Elective	4-系必	開課別 Duration	半年 第一學期 Required,1st Semester		
授課教師 Instructor	譚偉民				
缺曠課規定 Attendance Policy	缺曠課時數（含事 / 病假）達授課總時數三分之一（18 小時）以上者，學期成績以零分計。 Student will receive a semester grade of zero for a course if absences from class exceed one third （18 hrs）of total class hours.				
課程概要 Course Description	This course will introduce the essential topics of machine learning, including supervised learning, unsupervised learning, artificial neural network, and the practical application of machine learning cases. The application of machine learning will be covered to prepare students for future related job opportunities. Students will learn the concepts through teaching materials, discussion of assignments, and the preparation for final project. This course will introduce the essential topics of machine learning, including supervised learning, unsupervised learning, artificial neural network, and the practical application of machine learning cases. The application of machine learning will be covered to prepare students for future related job opportunities. Students will learn the concepts through teaching materials, discussion of assignments, and the preparation for final project.				
基本核心能力/系核心能力 Core Competency					
教學目標 Course Objectives	The objectives of the course are to ensure the students have a basic knowledge of the different areas of Machine Learning. The course also aims to enhance and develop students’ Machine Learning practical skills.				
授課方式 Approach to Instruction	Lecturing, Discussion, Problem-solving, Others				
課程授課語言 Course language	英語				
是否自編教材 Whether self-edited textbooks	是				
成績評定 Grading	◎平時評量 15%：Attendance ◎期中評量 30%：Mid-term Exam ◎期末評量 30%：Final Exam ◎其他評量 25%：Class participation				
教科書與參考書目 Textbooks and References	Oliver Theobald (2021). Machine Learning For Absolute Beginners (3rd Edn). Aurélien Géron (2019). Hands-on Machine Learning with Scikit-Learn, Keras & TensorFlow. O'reilly.				

聯絡方式 Contact Info		lawrence@g2.usc.edu.tw
備註 Remark		By the end of this course, students will: • Understand the basic concepts and different areas of Machine Learning. • Gain practical skills in Python Programming. • Gain practical experience in Machine Learning through hands-on activities.
週次 Weeks		進度內容 Syllabus
1	(09/07~09/13)	Introduction of Machine Learning Case Study Practice: Python CDIO Teaching Model (Conceive Phase)
2	(09/14~09/20)	Machine Learning Algorithms Case Study Practice: Python CDIO Teaching Model (Conceive Phase)
3	(09/21~09/27)	Machine Learning Process Case Study Practice: Python CDIO Teaching Model (Conceive Phase)
4	(09/28~10/04)	Supervised Learning: Linear Regression Case Study Practice: Python CDIO Teaching Model (Conceive Phase)
5	(10/05~10/11)	Supervised Learning: Logistic Regression Case Study Practice: Python CDIO Teaching Model (Conceive Phase)
6	(10/12~10/18)	Supervised Learning: Classification Case Study Practice: Python CDIO Teaching Model (Conceive Phase)
7	(10/19~10/25)	Unsupervised Learning Case Study Practice: Python CDIO Teaching Model (Conceive Phase)
8	(10/26~11/01)	Main Challenges of Machine Learning Case Study Practice: Python CDIO Teaching Model (Design Phase)
9	(11/02~11/08)	Mid-Term Exam
10	(11/09~11/15)	Support Vector Machines Case Study Practice: Python CDIO Teaching Model (Design Phase)

11	(11/16~11/22)	Decision Trees Case Study Practice: Python CDIO Teaching Model (Design Phase)
12	(11/23~11/29)	Ensemble Methods Case Study Practice: Python CDIO Teaching Model (Design Phase)
13	(11/30~12/06)	Neural Networks and Deep Learning Case Study Practice: Python CDIO Teaching Model (Design Phase)
14	(12/07~12/13)	Large Language Models (LLM) & Generative AI (GenAI) Case Study Practice: Python CDIO Teaching Model (Design Phase)
15	(12/14~12/20)	Ethics, Bias, and Interpretability in Machine Learning Case Study Practice: Python CDIO Teaching Model (Implementation Phase)
16	(12/21~12/27)	Machine Learning & Tourism Case Study Practice: Python CDIO Teaching Model (Implementation Phase)
17	(12/28~01/03)	Final Exam CDIO Teaching Model (Implementation Phase)
18	(01/04~01/10)	Flexible Time Class
19	(01/11~01/31)	