Course Information	
Course title	Machine Learning for Business Analytics
Semester	110-1
Designated for	COLLEGE OF MANAGEMENT DEPARTMENT OF BUSINESS ADMINISTRATION
Instructor	Shu-Jung Yang
Curriculum Number	MBA5090
Curriculum Identity Number	741 U0160
Class	
Credits	3.0
Full/Half Yr.	Half
Required/ Elective	Elective
Time	Thursday A,B,C(18:25~21:05)
Remarks	Restriction: within this department (including students taking minor and dual degree program) AND Restriction: sophomores and beyond The upper limit of the number of students: 60.
Course introduction video	
Table of Core Capabilities and Curriculum Planning	Table of Core Capabilities and Curriculum Planning
Course Syllabus	
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Course Description	In recent years, data science skills have become essential for those pursuing careers in business consulting and data-driven organisations. This course develops quantitative models and computer codes for business and management problems in descriptive, predictive and prescriptive analytics from an operations research (or management science) perspective and discusses their impact. Topics include

	linear algebra, numerical computing, orthogonal factorisation, clustering, data fitting, regularisation, cross-validation, and numerical optimisation. Applications include forecasting, control, finance, operations and supply chains, and/or marketing. We explain data science and business analytics from the first principle of constructing different learning models and understanding the role of hyperparameters in these models while building them up from scratch. We offer a concise coverage of the core knowledge needed to build new analytical (numerical linear algebra, convex optimisation, and computer programming) models for developing data-driven products and smart business models.
Course Objective	介紹資料科學 (Data Science) 的根基知識『線性代數』與『數值運算』在商業分析 (Business Analytics) 和數位轉型 (Digital Transformation) 之應用。此商業分析基石課程內容強調線性代數與數值運算在資料科學和商業分析的重要性並準備學生修習商業分析技法課程『多變量分析』所需之背景知識。此門課適合工管系學生、商研所碩博士生、商業資料分析學分學程學生、和管院學生對數量方法 (Operations Research, Statistics, and/or Machine Learning) 在營運、商業分析和量化行銷領域有興趣的學生。本課程理論與研究為主，商管應用為輔。適合對商管學術研究 (營運、商業分析和量化行銷領域) 和商管資料科學 (Dats Science for Business Analytics) 有興趣的學生。
Course Requirement	calculus, linear algebra, statistics, and computer programming. (具備大一微積分、大一/二線性代數、大二統計、和大一/二程式設計。)
Office Hours	Appointment required. Note: email the teaching team for the appointment.
References	Lauwens, B. A. Downey. 2019. Think Julia: How to Think Like a Computer Scientist. O'Reilly Media.
Designated reading	1) Linear Algebra 2) Numerical Computing
Grading	

Progress

Week	Date	Topic
No data		