國立東華大學
教學計劃表　Syllabus

課程名稱(中文) Course Name in Chinese	微積分(一)			學年/學期 Academic Year/Semester		113/1
課程名稱(英文) Course Name in English	Calculus(I)					
科目代碼 Course Code	MSF_10110	系級 Department & Year	學一	開課單位 Course-Offering Department		應用數學系
修別 Type	學程 Program	學分數/時間 Credit(s)/Hour(s)		3.0/3.0		
授課教師 Instructor	/黃灝勻					
先修課程 Prerequisite						

課程描述　Course Description

In this course, students will be expected to be familiar with:
(1) Functions, Graphs, and Limits
(2) Differentiation
(3) Applications of the Derivative
(4) Exponential and Logarithmic Functions
(5) Integration and Its Applications
*** This course will be taught in English ***

課程目標　Course Objectives

The purpose is to facilitate the students with tools in higher mathematics for later use in finance courses.

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

授 課 進 度 表 Teaching Schedule & Content

週次Week	內容 Subject/Topics	備註Remarks
1	Chapter 1: Functions, Graphs, and Limits Limits Continuity	
2	Moon Festival Holiday	
3	Chapter 2: Differentiation The Derivative and the Slope of a Graph Some Rules for Differentiation Quiz	
4	Rates of Change: Velocity and Marginals The Product and Quotient Rules The Chain Rule	
5	Higher-Order Derivatives Implicit Differentiation Related Rates	
6	Chapter 3: Applications of the Derivative Increasing and Decreasing Functions Extrema and the First-Derivative Test Concavity and the Second-Derivative Test Quiz	
7	Optimization Problems Business and Economics Applications Asymptotes	

8	Curve Sketching: A Summary Differentials and Marginal Analysis Quiz	
9	期中考試週 Midterm Exam	
10	Midterm Exam Review	
11	Chapter 4: Exponential and Logarithmic Functions Exponential Functions Natural Exponential Functions Derivatives of Exponential Functions	
12	Logarithmic Functions Derivatives of Logarithmic Functions Exponential Growth and Decay	
13	Quiz	
14	Chapter 5: Integration and Its Applications Antiderivatives and Indefinite Integrals Integration by Substitution and the General Power Rule Exponential and Logarithmic Integrals	
15	Quiz	
16	Area and the Fundamental Theorem of Calculus Area of a Region Bounded by Two Graphs The Definite Integral as the Limit of a Sum	
17	期末考試週 Final Exam	
18		

教 學 策 略 Teaching Strategies

☐ 課堂講授 Lecture ☐ 分組討論Group Discussion ☐ 參觀實習 Field Trip

☐ 其他Miscellaneous:

教 學 創 新 自 評 Teaching Self-Evaluation

創新教學(Innovative Teaching)

☐ 問題導向學習(PBL) ☐ 團體合作學習(TBL) ☐ 解決導向學習(SBL)

☐ 翻轉教室 Flipped Classroom ☐ 磨課師 Moocs

社會責任(Social Responsibility)

☐ 在地實踐Community Practice ☐ 產學合作 Industy-Academia Cooperation

跨域合作(Transdisciplinary Projects)

☐ 跨界教學Transdisciplinary Teaching ☐ 跨院系教學Inter-collegiate Teaching

☐ 業師合授 Courses Co-taught with Industry Practitioners

其它 other:

學期成績計算及多元評量方式 Grading & Assessments

配分項目 Items	配分比例 Percentage	多元評量方式 Assessments							
		測驗會考	實作觀察	口頭發表	專題研究	創作展演	卷宗評量	證照檢定	其他
平時成績 General Performance	30%	✓							
期中考成績 Midterm Exam	35%	✓							
期末考成績 Final Exam	35%	✓							
作業成績 Homework and/or Assignments									
其他 Miscellaneous (_____)									

評量方式補充說明
Grading & Assessments Supplemental instructions

教科書與參考書目（書名、作者、書局、代理商、說明）
Textbook & Other References (Title, Author, Publisher, Agents, Remarks, etc.)

Larson／Calculus: An Applied Approach (Metric Edition)／10e

課程教材網址(含線上教學資訊,教師個人網址請列位於本校內之網址)
Teaching Aids & Teacher's Website(Including online teaching information. Personal website can be listed here.)

其他補充說明（Supplemental instructions）