

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	113/3
課程名稱(英文) Course Name in English	Calculus(I)				
科目代碼 Course Code	AM__10500	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	/張飛黃				
先修課程 Prerequisite					
課程描述 Course Description					
1. Limits and continuity of functions. 2. The derivative and its applications. 3. The definite integral and its applications. 4. Applications of the definite integral. 5. Exponential and logarithmic functions.					
課程目標 Course Objectives					
Calculus provides a tool for solving problems involving motion. The derivatives is useful in the study of rates of change of many entities. The definite integral also has many applications in the sciences.					
院基本素養與核心能力 College Basic Learning Outcomes					課程目標與院基本素養與核心能力 Correlation between Course Objectives and Basic Learning Outcomes
A	具備數理基本知識、邏輯推理、分析解決問題之能力。Basic math knowledge, logical reasoning, analytical and problem-solving skills.				●
B	具備中外語言表達溝通技巧，以養成團隊合作的能力。Ability to express ideas and communicate in Chinese and foreign languages and teamwork skills.				
C	具備終身學習的能力。Lifelong learning ability.				○
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	1.1, 1.2, 1.3				
2	1.3, 1.4 Exercises 1.2： 13, 15, 16, 17, 33, 35				
3	1.4, 1.5 Exercises 1.3： 7, 22, 25, 26, 29, 39, 47, 53, 55, 63, 65, 67, 73, 74				

4	1. 5, 2. 1, 2. 2 Exercises 1. 4 : 7, 9, 18, 20, 33, 38, 71, 72, 94	
5	2. 2, 2. 3 (1)Exercises 1. 5 : 7, 8, 10, 21, 22, 24, 25, 29, 40, 42, 45, 46, 48, 50 (2)Exercises 2. 1 : 11, 12, 14, 17, 55, 57, 87, 89, 99	
6	2. 3, 2. 4, 2. 5 Exercises 2. 2 : 17, 26, 37, 43, 45, 49, 52, 59, 66, 68, 111, 112	
7	2. 5, 3. 1, 3. 2 (1)Exercises 2. 3 : 8, 10, 14, 15, 16, 18, 19, 20, 22, 23, 30, 32, 34, 42, 44, 50, 53, 96, 100, 107--110 (2)Exercises 2. 4 : 13, 19, 26, 45, 46, 54, 79, 80	
8	3. 2, 3. 3, 3. 4 (1)Exercises 2. 5 : 8, 10, 12, 13, 14, 16, 19, 26, 30, 31, 32, 33, 35, 72 (2)Exercises 3. 1 : 8, 10, 12, 17, 18, 19, 20, 25, 26, 28, 30, 32, 34, 42, 43	
9	期中考試週 Midterm Exam 期中考; 3. 5 (1)Exercises 3. 2 : 7, 8, 9, 11, 12, 13, 80, 81, 82, 83, 84 (2)Exercises 3. 3 : 11, 12, , 23, 25, 27, 29, 31, 33, 35, 37 (3)Exercises 3. 4 : 7, 9, 13, 17, 19, 35, 37, 39, 41	
10	4. 1, 4. 2 Exercises 3. 5 : 11, 13, 15, 18, 19, 25, 27, 28	
11	4. 2, 4. 3, 4. 4, (1)Exercises 4. 1 : 15, 17, 19, 21, 25, 26, 27, 29, 32, 33, 34, 35, 37	
12	4. 5, 5. 1, 5. 2 (1)Exercises 4. 2: 5, 7, 9, 10, 11, 13, 15, 25, 27 (2)Exercises 4. 3 : 8, 11, 13, 15, 17, 19, 23, 25, 29, 39, 41, 42, 43, 44 (3)Exercises 4. 4 : 17, 19, 21, 25, 31, 36, 41, 45, 81, 83, 85, 114, 117	

13	5. 2, 5. 3, 5. 4 (1)Exercises 4. 5 : 15, 17, 20, 21, 25, 27, 29, 39, 41, 43, 45, 53, 55, 57, 59, 90, 91, 92 (2)Exercises 5. 1: 21, 23, 24, 27, 29, 32, 41, 47, 51, 55, 59, 73, 77, 79	
14	5. 5, 5. 6 (1)Exercises 5. 2: 9, 13, 19, 23, 27, 29, 31, 33, 39, 41, 51, 53, 55, 57, 62, 64, 82, 83, 84 (2)Exercises 5. 3: 5, 7, 9, 11, 29---32, 33, 34, 37, 67, 69, 71, 72, 95, 96 (3)Exercises 5. 4: 3, 7, 9, 15, 33, 39, 45, 51, 53, 54, 57, 60, 61, 63, 65, 66, 101, 103, 105	
15	5. 7, 5. 8 (1)Exercises 5. 5: 41, 43, 45, 49, 51, 57, 65, 66, 67, 68. 78. 80 (2)Exercises 5. 6: 7, 11, 15, 19, 23, 25, 35, 41, 45, 48, 49, 50, 51, 57	
16	7. 1~7. 4 (1)Exercises 5. 7: 7, 9, 11, 14, 37, 41, 43, 45, 48, 52, 57, 59, 60 (2)Exercises 5. 8: 17, 19, 23, 25, 27, 29, 31, 35, 37, 41, 43, 44, 49, 51	
17	期末考試週 Final Exam	
18	彈性教學、自主學習週	
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 Industry-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(含出缺席) General Performance (Attendance Record)	20%								
期中考成績 Midterm Exam	40%								
期末考成績 Final Exam	40%								
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.)									
Ron Larson and Bruce Edwards, Calculus 12e Metric version									
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)									