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②國玄東華大學

| 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 | AM10500 | 系級 Department 學一 & Year | | 開課單位 Course-Offering Department | 應用數學系 | | | |
| 修別 Type | 學程 Program | 學分數/時 Credit(s)/Hou | | | 3.0/3.0 | | | |
| 授課教師 Instructor | /張飛黃 | | | | | | | |
| 先修課程 Prerequisite | | | | | | | | |
| 課程描述 Course Description | | | | | | | | |
| Limits and continuity of functions. The derivative and its applications. The definite integral and its applications. Applications of the definite integral. | | | | | | | | |

- 5. Exponential and logarithmic functions.

Course Objectives 課程目標

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. | • |
| В | 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. | |
| С | 具備終身學習的能力。Lifelong learning ability. | 0 |

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 |
| | 2. 2, 2. 3 |
| | |
| | (1)Exercises 1.5: |
| 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 |
| | 2. 3, 2. 4, 2. 5 |
| 6 | Exercises 2.2: |
| | 17, 26, 37, 43, 45, 49, 52, 59, 66, 68, 111, 112 |
| | 2. 5, 3. 1, 3. 2 |
| | 2. 0, 0. 1, 0. 2 |
| | (1)Exercises 2.3: |
| 7 | 8, 10, 14, 15, 16, 18, 19, 20, 22, 23, 30, 32, 34, 42, 44, 50, 53, 96, 100, 107110 |
| | |
| | (2)Exercises 2.4: |
| | 13, 19, 26, 45, 46, 54, 79, 80 |
| | 3. 2, 3. 3, 3. 4 |
| | (1)Exercises 2.5: |
| 8 | 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 |
| | 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 |
| 9 | , |
| | (2)Exercises 3.3: |
| | 11, 12, , 23, 25, 27, 29, 31, 33, 35, 37 |
| | (2) Francisco 2 4 |
| | (3)Exercises 3.4: 7,9,13,17,19,35,37,39,41 |
| | 4. 1, 4. 2 |
| 1.0 | 7. 1, 7. 2 |
| 10 | Exercises 3.5: |
| | 11, 13, 15, 18, 19, 25, 27, 28 |
| | 4. 2, 4. 3, 4. 4, |
| 11 | |
| | (1)Exercises 4.1: 15, 17, 19, 21, 25, 26, 27, 29, 32, 33, 34, 35, 37 |
| | 15, 17, 19, 21, 25, 26, 27, 29, 32, 35, 34, 35, 37 4. 5, 5. 1, 5. 2 |
| 12 | 4. 0, 0. 1, 0. 4 |
| | (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 |
| | |

| | 5. 2, 5. 3, 5. 4 | | | | | |
|---------|---|------------|--|--|--|--|
| 13 | (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 | | | | | |
| | 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 | | | | | |
| 14 | (2)Exercises 5.3: 5,7,9,11,2932,33,34,37,67,69,71,72,95,96 | | | | | |
| | (3)Exercises 5.4: 3, 7, 9, 15, 33, 39, 45, 51, 53, 54, 57, 60, 61, 63, 65, 66, 101, 103, 105 5.7, 5.8 | | | | | |
| | | | | | | |
| 15 | (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 | | | | | |
| | 7. 1~7. 4 | | | | | |
| 16 | (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 | Field Trip | | | | |
| 其他Mi | scellaneous: | | | | | |
| | 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) 解決導向導 | 基習(SBL) | | | | |
| 翻轉教 | 室 Flipped Classroom | | | | | |
| 社會責任(| Social Responsibility) | | | | | |
| 在地實 | 踐Community Practice | on | | | | |
| 跨域合作(| Transdisciplinary Projects) | | | | | |
| | 學Transdisciplinary Teaching 跨院系教學Inter-collegiate Teaching | 5 | | | | |
| 業師合 | 授 Courses Co-taught with Industry Practitioners | | | | | |
| 其它 othe | r: | | | | | |
| | | | | | | |
| 1 | | | | | | |

| 學期成績計算及多元評量方式 Grading & Assessments | | | | | | | | | |
|--|------------|-------------------------|----------|----------|----------|----------|----------|----------|----|
| 配分項目 | 配分比例 | 配分比例 多元評量方式 Assessments | | | | | | | |
| Items | Percentage | 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)