



教學計劃表 Syllabus

| 課程名稱(中文) Course Name in Chinese | 微積分(二) | | 學年/學期 Academic Year/Semester | 114/2 |
|--|--|-----------------------------|---------------------------------|------------------------------------|
| 課程名稱(英文) Course Name in English | Calculus (II) | | | |
| 科目代碼 Course Code | DS_10050 | 系級 Department & Year | 學一 | 開課單位 Course-Offering Department |
| 修別 Type | 學程 Program | 學分數/時間 Credit(s)/Hour(s) | 3.0/3.0 | |
| 授課教師 Instructor | /胡鎔 | | | |
| 先修課程 Prerequisite | /#微積分(一) | | | |
| 課程描述 Course Description | | | | |
| This course introduces (1) techniques of integrations, (2) differential and integral calculus of multivariable functions and (3) Maclaurin series and Taylor series. | | | | |
| 課程目標 Course Objectives | | | | |
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| 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 | Sections: 8.1, 8.2, 8.3 Selected Exercises: Sec. 8.1 : 25, 31, 35, 39, 44, 46, 60, 61, 62, 63, 64, 65, 69; Sec. 8.2: 15, 19, 23, 29, 31, 33, 43, 45, 47, 49, 50, 65; Sec. 8.3: 3, 7, 13, 14, 22, 23, 28, 31, 33, 59, 61, 62 | | | |
| 2 | Sections: 8.3, 8.4, 8.5 Selected Exercises: Sec. 8.4: 19, 20, 21, 23, 25, 27, 28; Sec. 8.5 : 5, 7, 9, 11, 13, 15, 30 | | | |
| 3 | Sections: 8.5, 8.8, 10.2 Selected Exercises: ; Sec. 8.8 : 17, 19, 21, 23, 25, 27, 29, 31 | | | |
| 4 | Sections: 10.2, 10.3, 12.1 No exercises for Sections 10.2, 10.3 and 12.1 | | | |
| 5 | Sections: 12.2, 13.1, 13.2 No Exercises for Section 12.2 Selected Exercises: Sec. 13.1: 9, 17, 51, 53, 54 Sec. 13.2: 10, 23, 25, 27, 31, 43, 45, 47, 49, 71 | | | |
| 6 | Sections: 13.2, 13.3, 13.4 Selected Exercises: Sec. 13.3: 13, 19, 28, 33, 40, 45, 49, 51, 71, 75, 79, 93, 129; No exercises for Section 13.4 | | | |
| 7 | No class on the 7th of April. Sections: 13.5 Sec. 13.5: 15, 17, 23, 25, 29, 31, 32, 34 | | | |
| 8 | Sections: 13.5, 13.6, 13.7 Selected Exercises: Sec. 13.6: 3, 7, 9, 13, 17, 22, 28, 41, 45; Selected Exercises: Sec. 13.7: 11, 15, 16, 17, 18, 19, 21, 27 | | | |

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| 9 | 期中考試週 Midterm Exam Midterm exam: 15:10~17:00 on the 21st of April Section: 13.7, 13.8 Sec. 13.8: 9, 11, 13, 21 | |
| 10 | Sections: 13.8, 13.10, 14.1 Selected Exercises: Sec. 13.10: 5, 7, 9, 11, 15, 16, 17; Sec. 14.1: 11, 15, 17, 23, 61, 63, 65 | |
| 11 | Sections: 14.1, 14.2, 14.3 Selected Exercises: ; Sec. 14.2: 13, 15, 17, 23, 29, 31, 71, 72; Sec. 14.3: 11, 13, 15, 17, 19, 21 | |
| 12 | Sections: 14.3, 14.8, 9.1 Selected Exercises: Sec. 14.8: 3, 11, 17, 21, 23, 27; Sec. 9.1: 29, 31, 33, 35, 37, 39, 41, 43 | |
| 13 | Sections: 9.1, 9.2, 9.3 Selected Exercises: Sec. 9.2: 33, 38, 47, 49, 51, 53, 55, 57, 63, 64; Sec. 9.3: 69, 71, 73, 76, 77, 78, 79 | |
| 14 | Sections: 9.3, 9.6, 9.7 Selected Exercises: Sec. 9.6: 23, 31, 32, 39, 40, 51 (optional: 53~70); Sec. 9.7: 17, 19, 21, 23, 31 | |
| 15 | Sections: 9.7, 9.8, 9.9 Selected Exercises: Sec. 9.8: 9, 11, 13, 17, 19, 29, 49, 50, 51, 52; Sec. 9.9: 3, 15, 21, 23, 47, 51 | |
| 16 | Sections: 9.9, 9.10 Selected Exercises: Sec.9.10: find the power series, including the interval of convergence, of the 10 elementary functions on p. 674 of the textbook. | |
| 17 | 期末考試週 Final Exam Final exam: 15:10~17:00 on the 16th of June | |
| 18 | 自主學習週 (Week of flexible teaching and self-directed study) | |

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) | | | | | | | | | |
| 期中考成績 Midterm Exam | 50% | | | | | | | | |
| 期末考成績 Final Exam | 50% | | | | | | | | |
| 作業成績 Homework and/or Assignments | | | | | | | | | |
| 其他 Miscellaneous (_____) | | | | | | | | | |

評量方式補充說明

Grading & Assessments Supplemental instructions

Using any device with internet access during an exam. will be considered cheating and will result in a failing grade for the semester.

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)

Office Hours: 14:10~15:00 on Tuesday and 13:10~14:00 on Wednesday