

國立中山大學 110學年度第2學期 課程教學大綱

National Sun Yat-sen University 110Academic year Course syllabus

中文名稱 Course name(Chinese)	微積分(二)		課號 Course Code	EE1004A
英文名稱 Course name(English)	CALCULUS(II)			
課程類別 Type of the course	講授類	必選修 Required/Selected	必修	系所 Dept./faculty
授課教師 Instructor	鍾思齊		學分 Credit	3

因應嚴重特殊傳染性肺炎(武漢肺炎)，倘若後續需實施遠距授課，授課方式調整如下：Since COVID-19, if distance learning is necessary, the teaching methods would adjust as follows:

尚未建立傳染性肺炎(武漢肺炎)授課方式調整

因應嚴重特殊傳染性肺炎(武漢肺炎)，倘若後續需實施遠距授課，評分方式調整如下：Since COVID-19, if distance learning is necessary, the evaluation would adjust as follows:

- 1.平時成績(包含作業、出席率、上課表現)：30%
- 2.期中考：30%
- 3.期末考：40%

課程大綱 Course syllabus

1. Infinite Series
2. Parametric Equations and Polar Coordinates
3. Vectors and the Geometry of Space
4. Vector-Valued Functions
5. Functions of Several Variables
6. Multiple Integration

課程目標 Objectives

In this course we will study the basic knowledge and techniques of calculus for real valued functions of multiple variables.

授課方式 Teaching methods

投影片為主，板書為輔。

修課注意事項：

- (1)請遵照防疫政策，上課時須戴上口罩並保持安全社交距離，且課程進度可能會有所調整，如有調整將於課堂上宣布。
- (2)成績計算可能會因課程進度做調整，如有更改將於課堂上公佈。
- (3)欲選本課程同學請注意，本課程將出席率將納入計分。15次上課中(扣除期中、期末考及彈性學習)每次都會簽到，每次出席為0.5分，上限為5分，亦即出席10次即達5分。然出席率會做為期末調分判斷，因此還是鼓勵大家盡量出席。
- (4)將會有小考，佔總成績5分。
- (5)本課程有建立臉書社團，請登入網路大學 <https://cu.nsysu.edu.tw/mooc/index.php> 查看網址。

評分方式〔評分標準及比例〕Evaluation (Criteria and ratio)等第制單科成績對照表 letter grading reference

- 1.平時成績(包含作業、出席率、上課表現)：30%
- 2.期中考：30%
- 3.期末考：40%

參考書/教科書/閱讀文獻 Reference book/ textbook/ documents

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序號	作者	書名	出版社	出版年	出版地	ISBN#
No.	Author	Title	Publisher	Year of publish	Publisher place	ISBN#
1	Larson, Ron and Edwards, Bruce H	Calculus, 11th Ed (Metric Version)	Cengage Learning	2018		978-1-337-61619-5

每週課程內容及預計進度 Weekly scheduled progress

週次	日期	授課內容及主題
Week	Date	Content and topic
1	2022/02/13~2022/02/19	Infinite Series
2	2022/02/20~2022/02/26	Infinite Series
3	2022/02/27~2022/03/05	Infinite Series
4	2022/03/06~2022/03/12	Infinite Series, Parametric Equations, Polar Coordinates
5	2022/03/13~2022/03/19	Parametric Equations, Polar Coordinates, Vectors and the Geometry of Space
6	2022/03/20~2022/03/26	Vectors and the Geometry of Space
7	2022/03/27~2022/04/02	Vector-Valued Functions
8	2022/04/03~2022/04/09	調整進度或復習
9	2022/04/10~2022/04/16	期中考試
10	2022/04/17~2022/04/23	Functions of several variables
11	2022/04/24~2022/04/30	Functions of several variables
12	2022/05/01~2022/05/07	Functions of several variables
13	2022/05/08~2022/05/14	Multiple integration
14	2022/05/15~2022/05/21	Multiple integration
15	2022/05/22~2022/05/28	Multiple integration
16	2022/05/29~2022/06/04	調整進度或復習
17	2022/06/05~2022/06/11	期末考試
18	2022/06/12~2022/06/18	彈性學習

課業討論時間 Office hours

時段1 Time period 1: 時間 Time : 星期一16:10~18:10 地點 Office/Laboratory : 理2002-4 時段2 Time period 2 : 時間 Time : 星期三16:10~18:10 地點 Office/Laboratory : 理2002-4

系所學生專業能力/全校學生基本素養與核心能力 basic disciplines and core capabilities of the department and the university

系所學生專業能力/全校學生基本素養與核心能力 basic disciplines and core capabilities of the department and the university	課堂活動與評量方式 Class activities and evaluation										
	本課程欲培養之能力與素養 This course enables students to achieve.	紙筆考試或測驗 Test.	課堂討論(含個案討論) Group discussion (case analysis).	個人書面報告、作業、作品、實驗 Individual paper report/ assignment/ work or experiment.	群組書面報告、作業、作品、實驗 Group report/ assignment/ work or experiment.	個人口頭報告 Individual oral presentation.	群組口頭報告 Group oral presentation.	課程規劃之校外參訪及實習 Off-campus visit and intership.	證照/檢定 License.	參與課程規劃之校內外活動及競賽 Participate in off-campus/on-campus activities and competitions.	課外閱讀 Outside reading.
※系所學生專業能力 Basic disciplines and core capabilities of the department											
1.能夠整合、組織電機專業理論來分析、表達問題之能力。1. Be able to analyze, express and solve problems by integrating Electrical Engineering knowledge.	V	V		V							
2.能夠運用電機專業知識解決及實作電機工程問題之能力。2. Be able to organize Electrical Engineering knowledge.	V	V		V							

3.具備分工、協調、重視團隊合作精神、遵守工程倫理以達成工作目標之能力。3. Be able to achieve the goal by working with team and following engineering ethics.											
4.能夠激發自己潛能、融合他人智慧，具備獨立思考以及研究創新之能力。4. Be able to find out his/her own potential, think independently and innovatively.	V	V		V							
5.具備吸收電機新知、掌握國際發展趨勢，隨時接受競爭挑戰之能力。5. Be able to take new knowledge, be sensitive to international trends, and be able to take challenge any time.											
※全校學生基本素養與核心能力 Basic disciplines and core capabilities of the university											
1.表達與溝通能力。1. Articulation and communication skills	V	V		V							
2.探究與批判思考能力。2. Inquisitive and critical thinking abilities	V	V		V							
3.終身學習能力。3. Lifelong learning	V	V		V							
4.倫理與社會責任。4. Ethics and social responsibility											
5.美感品味。5. Aesthetic appreciation											
6.創造力。6. Creativity											
7.全球視野。7. Global perspective											

8.合作與領導能力。8. Team work and leadership											
9.山海胸襟與自然情懷。9. Broad-mindedness and the embrace of nature											

本課程與SDGs相關項目：The course relates to SDGs items:

尚未建立SDGS資料

本課程校外實習資訊: This course is relevant to internship:

本課程無註記包含校外實習

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