

授課教師：項人宗

Instructor: Jen-Tsung Hsian

課程名稱：微積分(下)

Course Title : Calculus (II)

2026/5/6

課程代號： IC114B001 Course Code 學分數： 4 Credits	必選修：必修/全學年 Required/Elective: Required/Full Yr. 先修課程： Prerequisites
節次教室： M9(IB-408) R6(IB-408) R7(IB-408) T6(IB-408) T7(IB-408) Time/Location	
專業核心能力： Core Professional Competencies	
<ul style="list-style-type: none"> <li>■ 運用數學、科學及工程知識的能力。</li> <li>■ 具備程式設計能力與軟體開發基礎能力。</li> <li>■ 具備獨立思考、創新與解決問題能力</li> </ul>	
課程網址： Course Website	
<p>課程宗旨： Course Objectives</p> <ol style="list-style-type: none"> <li>1. Introduce fundamental concepts of calculus, including power series and integration, as well as more advanced topics such as differential equations.</li> <li>2. Apply these mathematical tools to physical systems of interest.</li> <li>3. Guide students to formulate physical problems using calculus, analyze them systematically, and derive possible solutions.</li> <li>4. Prepare students for the advanced mathematical techniques required in subsequent courses.</li> </ol>	
<p>課程大綱： Outline of Lectures</p> <ol style="list-style-type: none"> <li>1. 無窮數列與級數</li> <li>2. 積分理論</li> <li>3. 積分的應用</li> <li>4. 積分技巧</li> <li>5. 微分方程</li> </ol> <ol style="list-style-type: none"> <li>1. Infinite Sequences and Series</li> <li>2. Theory of integration</li> <li>3. Applications of integrals</li> <li>4. Techniques of integrations</li> <li>5. Differential equations</li> </ol>	
<p>授課方式： Method of Instruction</p> <p>講授 Lecture：75%</p> <p>分組討論 Group discussion：25%</p> <p>案例研討 Case study：0%</p> <p>操做練習 Practical exercises：0%</p> <p>講授 Lecture：%</p>	
<p>教科書： Textbooks</p> <ol style="list-style-type: none"> <li>1. Thomas' Calculus: early transcendentals (SI unit), 14th global edition,</li> <li>2. OpenStax Calculus, Vol 2 (it is free: <a href="https://assets.openstax.org/oscms-prodcms/media/documents/Calculus_Volume_2_-_WEB.pdf">https://assets.openstax.org/oscms-prodcms/media/documents/Calculus_Volume_2_-_WEB.pdf</a>)</li> <li>3. Lecture notes</li> </ol>	
<p>參考書目： References</p> <p>Publish or Perish - Calculus, 4th Edition, by Michael Spivak</p>	

修課須知： Notice	1. Meet every Tues: 01:20 AM~3:10 PM, and Thurs: 01:20 PM~03:10 PM 2. TA demo class: every Wed: 04:30 PM~05:20 PM -- (TA will make further announcement). TA will work out the additional examples, and Q&A for the homework problems.
評量方式： Grading	Homework: 30%, Presentations: 10%, Quiz: 10%, Exame: 50% (Final: 25%, Mid-term: 25%) no makeup exams!
備註說明： Notes	1. will have a quiz during the TA session roughly every two weeks 2. usually one HW per week 3. 60% of credits if the homework is past due