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# ②國玄東華大學

## 課 網 Course Outline

### 應用數學系數學科學組

中文課程名稱 Course Name in Chinese		複變函數論					
英文課程名稱 Course Name in English		Complex Analysis					
科目代碼 Course Code		AM31800	班 別 Degree				
修別 Type		學程 Program	學分數 Credit(s)	3. 0	時 數 Hour(s)	3. 0	
先修課程 Prerequisite		高等微積分〈一〉、〈二〉。 Advanced Calculus I and II					
課程目標 Course Objectives							
本課程目的主要幫助學生以直觀的方式了解複變函數論。 The purpose of this course is to help students to gain an intuitive understanding of the subject.							
系教育目標 Dept.'s Education Objectives							
1	訓練嚴謹思考與推理能力。 To provide a solid training in rigorous thinking and reasoning ability.						
2		定理論與應用數學的基礎知識。 establish well-founded background knowledge in pure and applied mathematics.					
3	具備跨領域學習能力。 To prepare the students for interdisciplinary study in the future.						
系專業能力 Basic Learning Outcomes				力相關性 Correlat between Objective Dept.'s	課程目標與系專業能 力相關性 Correlation between Course Objectives and Dept.'s Education Objectives		
A	具備基本數學知識及邏輯推理能力 A Have well-founded background in mathematics and be capable of logical reasoning.					•	
В	具備學習數學相關領域的預備知識。 Be knowledgeable about fields related to mathematics.						
С	具備軟體應用與科學計算能力。 Be able to use mathematics software and scientific computation skill in problem-solving.						
圖方	示說明Illustration	n :● 高度相關 Highly		○中度相關 Mo	oderately cor	related	
		į	課程大綱				

### Course Outline

- 1. Introduction to complex numbers
- 2. Properties of complex numbers
- 3. Analytic functions
- 4. Contour integrals
- 5. Cauchy's theorem and Cauchy's integral formula
- 6. Maximum modulus theorem
- 7. Power series and Taylor's theorem

資源需求評估 (師資專長之聘任、儀器設備的配合・・・等)

Resources Required (e.g. qualifications and expertise, instrument and equipment, etc.)

#### 本系專任教師與助教

The faculties of Applied Mathematics Department

課程要求和教學方式之建議

Course Requirements and Suggested Teaching Methods

演講、習題、考試

Lecture, homework and exams

其他

Miscellaneous

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