

Academic Org: Fac Office of Engineering – Subject: Courses offered by Fac of Erg

Course: ENGG2720 **Course ID:** 013397 **Eff Date:** 2022-07-01 **Crse Status:** Active **Apprv. Status:** Approved **【Course Rev】**
Complex Variables for Engineers 複變量及其工程應用

A first course in complex numbers and the calculus of functions of one complex variable. Topics include complex numbers, complex differentiation, analytic functions and Cauchy – Riemann equations, elementary complex functions, complex integration, series, and residues integration.

本科教授複數和單複變量函數的微積分。內容包括：複數、複積分、解析函數及柯西 – 黎曼方程、基本複變函數、複積分、級數和留數積分。

Grade Descriptor: A

EXCELLENT – exceptionally good performance and far exceeding expectation in all or most of the course learning outcomes; demonstration of superior understanding of the subject matter, the ability to analyze problems and apply extensive knowledge, and skillful use of concepts and materials to derive proper solutions.

有關等級說明的資料，請參閱英文版本。

B

GOOD – good performance in all course learning outcomes and exceeding expectation in some of them; demonstration of good understanding of the subject matter and the ability to use proper concepts and materials to solve most of the problems encountered.

有關等級說明的資料，請參閱英文版本。

C

FAIR – adequate performance and meeting expectation in all course learning outcomes; demonstration of adequate understanding of the subject matter and the ability to solve simple problems.

有關等級說明的資料，請參閱英文版本。

D

MARGINAL – performance barely meets the expectation in the essential course learning outcomes; demonstration of partial understanding of the subject matter and the ability to solve simple problems.

有關等級說明的資料，請參閱英文版本。

F

FAILURE – performance does not meet the expectation in the essential course learning outcomes; demonstration of serious deficiencies and the need to retake the course.

有關等級說明的資料，請參閱英文版本。

Equivalent Offering:

Units: 2 (Min) / 2 (Max) / 2 (Acad Progress)

Grading Basis: Graded

Repeat for Credit: N

Multiple Enroll: N

Course Attributes:

Topics:

COURSE OUTCOMES

Learning Outcomes:

- At the conclusion of the course, students should be able to
1. demonstrate knowledge and understanding of the basic elements of complex analysis
 2. identify simple engineering problems that can be formulated and solved using complex analytic techniques

Course Syllabus:

Provided by the course teacher(s) in the respective teaching term.

Assessment Type:

Essay test or exam	: 65%
Homework or assignment	: 25%
Others	: 10%

Feedback for Evaluation:

Students may provide their feedback through office hours and course evaluation.

Required Readings:

To be provided by course teacher

Recommended Readings:

1. Erwin Kreyszig, Advanced Engineering Mathematics, Wiley, 10th Edition, 2011
2. James Ward Brown and Ruel V. Churchill, Complex Variables and Applications, McGraw-Hill, 8th Edition, 2009

OFFERINGS

1. ENGG2720 Acad Organization=ENO; Acad Career=UG

COMPONENTS

LEC : Size=80; Final Exam=Y; Contact=2
TUT : Size=80; Final Exam=N; Contact=2

ENROLMENT REQUIREMENTS

1. ENGG2720 **Enrollment Requirement Group:**
Not for students who have taken ENGG2420 or 2460 or ESTR2000 or 2010 or 2014

CAF

eLearning hrs for blended cls 0
No. of micro-modules 0
Research components (UG) 0%

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