

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

**Course:** ENGG2740      **Course ID:** 013399      **Eff Date:** 2022-07-01      **Crse Status:** Active      **Apprv. Status:** Approved      **【Course Rev】**  
Differential Equations for Engineers 微分方程及其工程應用

A first course in the theory and applications of ordinary and partial differential equations. Topics include classification of differential equations, linear ordinary differential equations, Fourier series, and partial differential equations.

本科教授常微分方程和偏微分方程的理論和應用。內容包括：微分方程之分類、線性常微分方程、傅里葉級數和偏微分方程。

**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 ordinary and partial differential equations
2. model simple engineering problems using differential equations and solve them

**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. William E. Boyce, Richard C. DiPrima, and Douglas B. Meade, Elementary Differential Equations and Boundary Value Problems, Wiley, 11th Edition, 2017

**OFFERINGS**

1. ENGG2740 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. ENGG2740 **Enrollment Requirement Group:**  
Not for students who have taken ENGG2420 or 2460 or ESTR2000 or 2010 or 2016

**CAF**

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

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