

Course Syllabus

Program of Study	Bachelor of Science (Computer Science)
Faculty/Institute/College	Mahidol University International College
Course Code ICCS 281	Course Title Advanced Mathematics for Computer Science
Number of Credits	4 (Lecture / Lab) (4-0)
Prerequisite (s)	none
Type of Course	Required Major courses
Trimester / Academic Year	2 trimesters every year

Course Description

First order differential equations and their applications, fundamental solutions of the homogeneous second order equation, linear independence, higher order linear equations.

Course Objective (s)

The course is designed to introduce the concepts of ordinary differential equations.

Course Outline

Week	Topic	Hour	Instructor
1	Basic Definitions and Terminology, Preliminary Theory	4	
2	First-Order Differential Equations: Separable variables	4	
3	First-Order Differential Equations: Homogeneous Equations	4	
4	Exact equations, linear equations	4	
5	Applications of First-Order Differential Equations	4	
6	Initial-value and boundary-value problems	4	
7	Linear dependence and linear independence	4	
8	Solutions of linear equations	4	
9	Solutions of linear equations	4	
10	Homogenous linear equations with constant coefficients	4	
11	Applications of second-order differential equations	4	
	Total	44	

Teaching Method (s)

Lectures

Teaching Media

Transparencies, handouts and lecturing from boards

Measurement and evaluation of student achievement

Assessment made from the set-forward criteria: student who gets 85% and above will have Grade A.

Course evaluation

A suggestive minimum of;

Midterm examination	40%
Final examination	50%
Quizzes	10%

Reference (s)

A First Course in Differential Equations with Applications. 2nd Ed. Dennis G. Zill, PWS Publishers

Instructor (s)

TBA

Course Coordinator

TBA