SCHOOL OF ENGINEERING, KMITL
01006717: Differential Equations

Credit Hours:	3 (3-0-6)
Instructors:	Ronnachai Tiyarattanachai, Ph.D.
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Line Group:

Course Description

Differential Equations and their solutions; first-order differential equations; applications of first-order differential equations; explicit method of solving higher-order linear differential equations; second-order linear differential equations; systems of linear equations

Course Evaluation
- Midterm examination (35%)
- Final Examination (35%)
- Quiz 1 (10%)
- Quiz 2 (10%)
- Attendance (10%)

Class Attendance
Students are required to have at least 80% class attendance to be eligible to take the final exam. Late attendance (20 mins or more) is considered to be an absence. The rule of class attendance described will be strictly enforced.

Course Reference
Stewart, J. (2008). *Single Variable Calculus, Early Transcendentals (6th Edition)*. Thomson Brooks/Cole, Canada.

Ricardo, H. (2009). *A Modern Introduction to Differential Equations (2nd Edition)*. Elsevier Academic Press, USA

Course Schedule and Outline

Week	Topic
1	Partial Derivatives; Applications of Partial Derivatives
2	Implicit Partial Differentiation; Higher-Order Partial Derivatives
3	Chain Rule
4	Maxim and Minima for Functions of Two Variables
5	Multiple Integrals
6	Double Integrals over General Regions
7	**Midterm exam**
8	Introduction to Differential Equations
9	First-Order Differential Equations
10	First-Order Differential Equations (cont.)
11	Modeling with First-Order Differential Equations
12	Higher-Order Differential Equations
13	Modeling with Higher-Order Differential Equations
14	The Laplace Transform
15	**Final exam**

Grading Criteria

85 – 100	A	80 – 84	B+
75 – 79	B	70 – 74	C+
65 – 69	C	60 – 64	D+
50 – 59	D	0 – 49	F

Academic Dishonesty

The issue of academic integrity is taken very seriously. Cheating on exams will not be tolerated. All persons involved in academic dishonesty will be disciplined in accordance to KMITL's academic integrity policy. Discipline will be subject to the maximum penalties.