Course Name	Course Code	Contact Hours		Credit Hours	Year	Level	Prerequisite
		Lectures	Sec/Lab				
Partial Differential Equations	434MATH	3	-	3	4	7	331 MATH

Student's workload				
In-class activities	**Contact Hours**	**Self-learning/study**	**Hours**	
Lectures	45	HW/Assignments	22	
Laboratory		Study for exam	60	
Exams and quizzes	5	Working for lab		
		Preparation for classes	32	
Total	**50 ~42**	Total	**114**	
Total Learning Hours **= 156**		Equivalent **ECTS points** = Total LH/28 = **5.57**		

(1) Brief Course Description

Partial differential equations is an important course as a mathematical applications to various scientific fields, the course enables the student to solve partial differential equations of first and second order and solve Boundary -value problems.

(2) Course Objectives

After finishing the course, the student is expected to be familiar with the following:
- Methods for solving partial differential equations
- Fundamental concepts in partial differential equations theory
- Applications of partial differential equations

(3) Course Contents

- Solution of first order linear partial differential equations.
- Solution of second order linear partial differential equations..
- Boundary-value problems for linear second order partial differential equations.of hyperbolic type (wave equation), parabolic type (heat equation) and elliptic type (Laplace equation).
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(4) Assessment Criteria

- First mid-term exam   20%
- Second mid-term exam 20%
- Quizzes and home work 10%
- Final exam 50%

(5) Course Teaching Strategies
- Academic lectures
- Scientific discussions
- Home work
- Mini-model education
- Assignments to prepare scientific projects

(6) Text Book
- A First Course in Differential Equations, 8th edition, Dennis G. Zill, Copyright 2005,

(7) Reference Books
- Partial Differential Equations, 4th ed., Fritz John, Springer,1991.
- Partial Differential Equations, Evans, L.C. AMS, 1991.
- Partial Differential Equations, Methods and Applications. Mcowen, R. Prentice-Hall, 1996.