Course Name	Course Code	Contact Hours			Year	Level	Prerequisite
		Lectures	Sec/Lab	Credit Hours			
Differential Equations 1	**331MATH**	**3**	**-**	**3**	**3**	**5**	**212MATH**

Student's workload				
In-class activities	**Contact Hours**	**Self-learning/study**	**Hours**
Lectures	45	HW/Assignments	22
Laboratory		Study for exam	57
Exams and quizzes	5	Working for lab	
		Preparation for classes	35
Total	**50 ~42**	Total	**114**
Total Learning Hours **= 156**		Equivalent **ECTS points** = Total LH/28 = **5.57**	

(1) <u>Brief Course Description</u>

Differential Equations is an important course in Mathematics, studying this course enables the student to solve differential equations then use them in some applications by using different methods.

(2) <u>Course Objectives</u>

After finishing the course, the student is expected to be familiar with the following:
- Concepts and understanding of topics of the course
- Use of proper mathematical notation
- Use of deductive methods and critical thinking to solve problems

(3) <u>Course Contents</u>

- Some basic definitions.
- First-order differential equations and their applications.
- Higher-order differential equations with constant coefficients and their applications
- Laplace transformations and their applications.

(4) <u>Assessment Criteria</u>

- 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
-   Differential Equations, 3rd ed., P. Blanchard, R. Devaney and G. Hall, Thomson Brooks / Cole, Boston University, 2006.
-   Ordinary Differential Equations, D. K. Arrowsmith, C. M. Place, Chapman & Hall. (1982).