MAT2171 Differential Equations I

Fall 2021

Group 1				
Instructor:	Murat Sari	**Time:**	Monday-Thursday	
Office:	E-2003		16:00 - 17:50 / 11:00 - 12:50	
Email:	sarim@yildiz.edu.tr			
Group 2				
Instructor:	Özgür Yıldırım	**Time:**	Monday-Thursday	
Office:	E-2015		11:00 - 12:50 / 11:00 - 12:50	
Email:	ozgury@yildiz.edu.tr			
Teaching Assistant:	Hande Uslu			
Office:	E-2038			
Email:	usluh@yildiz.edu.tr			

Course Announcements:

Gr.1 http://avesis.yildiz.edu.tr/sarim/dokumanlar

Gr.2 https://avesis.yildiz.edu.tr/ozgury/dokumanlar

Office Hours: Will be announced

Main References: This is a restricted list of various interesting and useful books that will be touched during the course. You need to consult them occasionally.

- William E. Boyce and Richard C. Diprima, *Elementary Differential Equations and Boundary Value Problems*,11*th* Edition, John-Wiley, 2017.

- M. Braun, *Differential Equations and Their Applications*, 4*th* Edition, Springer, 1993.

- Shepley L.Ross, *Differenttial Equations*, John Wiley and Sons Inc., 1984.

Objectives: This course aims to develop mathematical thinking to solve the problems encountered in mathematics, physics and engineering.

Tentative Course Outline:

> The existence and uniqueness of first-order differential equations and solution of them, Solution methods and applications for several first-order differential equations, High-order differential equations and basic theorems, Method of reduction of order, Undetermined coefficients method for the equations with constant coefficients, Variation of parameters method, Operator method, High-order exact differential equations, High-order nonlinear equations, Cauchy-Euler differential equations, Systems of linear equations.

Grading Policy: The grading will be based on the following:

- Midterm 1 exam (30%)

- Two Quizzes (30%) (There will be three quizzes, each one will be out of 50 points, then the sum of your two highest scores from the three will be your Midterm 2 score)

  Tentative Quiz Dates:

    - 1st → November 4, 2021
    - 2nd → December 2, 2021
    - 3rd → December 30, 2021

- Final exam (40%)

Class Policy:

- Regular attendance is compulsory.

Academic Honesty: Lack of knowledge of the academic honesty policy is not a reasonable explanation for a violation.