MECHATRONICS ENGINEERING DEPARTMENT
MKT 4828 - PROCESS CONTROL

Course Name

MKT 4828 - Process Control

Course and Office Hours

Class Hours: Monday 16:00-18:50 Classroom: A-211 Office Hours: Mon. 15:00-16:00

Instructor

Dr. Salih Obut, (Office E2-213), sobut@yildiz.edu.tr, http://avesis.yildiz.edu.tr/sobut

Teaching Assistant

Res. Assist. Talha Burak Akça, tbakca@yildiz.edu.tr

Attendance

Minimum 70% of class attendance is required. Otherwise, student will take F0.

Course Objectives

The aim of the course is to familiarize the students about the dynamics, control and instrumentation of the processes employed in industry.

Course Content

Introduction to process control, Piping and Instrumentation Diagrams (P&ID), concepts of automatic control and digital control systems, single and multi-variable process control, common process control elements: mixing tank, heat exchanger, distillation columns, frequency domain analysis, PID control systems, and illustration process control applications.

Recommended or Required Reading

Smith, Carlos A. / Corripio, Armando B. Principles and Practices of Automatic Process Control 3rd Edition (or 2nd Edition) August 2005 580 Pages, Hardcover ISBN 978-0-471-43190-9 - John Wiley

Grading Policy

The evaluation will be based on the Activities listed below.

ACTIVITIES	PERCENTAGES
Mid-term (face to face)	40%
Homework and/or project	20%
Final Exam (face to face)	40%

Additional Tools

MATLAB/Simulink (campus license available) **may** be used as an additional tool during the course. Students should have basic proficiency with MATLAB

Course Slides and Materials**

All course materials, assignments will be accessed via https://online.yildiz.edu.tr infrastructure. Announcements will be available on http://avesis.yildiz.edu.tr/sobut/dokumanlar.

It is the responsibility of students registered for the course to follow the announcement page for course-related announcements.

** Course topics may change due to announcements by our University Senate or due to Public Holidays.

Calendar**

Week	Date	Subjects	Related Preparation from textbook
1	2024/02/19	Introduction and P&ID diagrams	Ch. 01
2	2024/02/26	Mathematical tools for control systems analysis	Ch. 02
3	2024/03/04	Sensors, transmitters, and control valves	Appendix C
4	2024/03/11	Basic components of control systems	Ch. 05
5	2024/03/18	Design of single-loop feedback control systems	Ch. 06
6	2024/03/25	Tuning feedback controllers	Ch. 07
7	2024/04/01	Cascade and successive loop control	Ch. 10
8	2024/04/08	Public Holiday, See Academic Calendar (may be updated)	
9	2024/04/15-...	Midterm week 1 (may be updated)	
10	2024/04/22	Frequency domain analysis	Ch. 08-09
11	2024/04/29	Compensators	Ch. 12
12	2024/05/06	Multivariable process control	Ch. 13
13	2024/05/13	Mathematical tools for digital control systems	Ch. 14
14	2024/05/20	Design of digital control systems	Ch. 15
15	2024/05/27 -...	Final Exam	

Letter Grades

Letter grades are defined as follows:

Percentage Points	Letter Grade
90-100	AA
80-89.99	BA
70-79.99	BB
60-69.99	CB
50-59.99	CC
40-49.99	DC
25-39.99	DD
10-24.99	FD
0-9.99	FF
NA	F0

Code of ethics

Academic Ethics (http://www.aek.yildiz.edu.tr/frameset1.htm)

Make-up exams

Students should act according to the directives of YTU. Applications for the make-up exam are made to the department secretariat NOT to instructor.

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