**NEAR EAST UNİVERSİTY**

FACULTY OF ENGINEERING

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| *Course Code* | **ME308/EE324** | *Course Title* | **Control Systems** | |
| *Academic Year* | ***2015-20116*** | ***Spring*** | *Course Credit* | *3* |

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| *Assistant(s)* |  |  |  |  |

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| *Course objectives* | In this course students learn basic of modern control systems engineering such as the fundamental concepts of a Control System, Laplace transfer to find input-output relationship of control systems. The mathematical modeling of the electrical, liquid-level and mechanical systems, transfer transient functions and block diagram of control systems, analysis of stability and errors of a control system |
| *Weekly Schedule* | **Week** 1. Introduction to process control principles  **Week** 2. Modeling of the Control System.  **Week** 3. Modeling of Electrical Systems.  **Week** 4.The main characteristics of second order system. Transfer  function, impulse an transient functions.  **Week** 5. Laplace transform.  **Week** 6.Modeling of the liquid-level and Thermal systems  **Week** 7. Mechanical Systems.  **Week** 8.Modeling Mechanical Rotational and Electromechanical  systems  **Week** 9. Block Diagram Representation of Control Systems  **Week** 10. Analysis of the Control Systems. Routh-Hurwitz criterion.  **Week** 11. Nyquist Stability Criterion.  **Week** 12. Frequency Response Analysis.  **Week** 13.Steady-state Error Analysis  **Week** 14. Design of the control systems. |
| *Textbook(s)/*  *Required Reading* | Control systems engineering Prof. Dr Fakhreddın Mamedov  Nıcasıa 1999. |
| *Recommended Reading* | Control systems engineering Norman S.Nise California  State Polytechnic University,Pomona 1995 |
| *Grading Critersi* | *Midterm exam 35%*  *Quız 20%*  *Final exam 45%* |