

Obuda University John von Neumann Faculty of Informatics		Institute of Applied Informatics		
Name and code: <i>Control engineering (NAIT0SEND)</i>		Credits: 3		
<i>Computer Science Engineering BSc specialty</i>		<i>2014/15 year II. semester</i>		
Subject instructors: Dr. Levente Kovács				
Prerequisites (with code):				
Weekly hours:	Lecture: 2	Seminar.: 0	Lab. hours: 1	Consultation: 0
Way of assessment:	Practice exam & theoretical test			
Course description:				
<i>Goal:</i> The aim of the lecture is to familiarize students with the basics of control theory.				
<i>Course description:</i> Open vs closed loop systems, linear time-invariant continuous systems. Modeling, Laplace transform. Transfer function. First and second order systems. Steady state error, pole-zero location, stability. Frequency Domain Analysis. Bode plots, stability and loop transfer function. PI control.				

Lecture schedule	
<i>Education week</i>	<i>Topic</i>
1.	Introductory lecture (02.10.2015)
2.	Description of signals and systems (02.17.2015)
3.	Regulation and control (02.24.2015)
4.	Analysis of the control loop, linearization (03.03.2015)
5.	Typical test functions (03.10.2015)
6.	Laplace transformations (03.17.2015)
7.	Basic structures (03.24.2015)
8.	Stability methods in the frequency domain (03.31.2015)
9.	Bode plot, Amplitude and phase (04.07.2015)
10.	Hurwitz stability, Steady state (04.14.2015)
11.	Analysis of the control loop (04.21.2015)
12.	Designing of continuous linear controllers (04.28.2015)
13.	Different control examples (05.05.2015)
14.	Summary and Consultation (05.12.2015)
Midterm requirements	
Student participation in the lectures and labs is required. Successful theoretical test and practical exam.	
Final grade calculation methods	
Final grade = 0.5*theoretical test + 0.5*practice exam A minimum of 50% must be achieved in each part.	
Type of exam	
- (Midterm grade)	
Type of replacement	
Last week + According to neptun system	

References
Obligatory: Lecture notes (download form https://elearning.uni-obuda.hu/)
Recommended:
Other materials: Given by the lecturer