Tárgytematika / Course Description

Control Theory

GKNB_AUTA016

Tárgyfelelős neve / Teacher's name: dr. Ballagi Áron

Félév / Semester: 2022/23/2

Beszámolási forma / Assesment: Vizsga

Tárgy heti óraszáma / Teaching hours(week): 2/1/0

Tárgy féléves óraszáma / Teaching hours(sem.): 0/0/0

OKTATÁS CÉLJA / AIM OF THE COURSE

Introduction to the basics of system theory and control.

The students will understand the basics of system theory, the mathematical modeling of physical systems, and they will be able to design and analyze control systems.

TANTÁRGY TARTALMA / DESCRIPTION

Introduction to control engineering via examples.
The framework of control.

Mathematical models of engineering problems, ordinary differential equations, solution.
Introduction to system identification.

Signal and systems. Signal representation and System analysis in time domain, frequency domain and complex frequency domain.

PID controller design.

Introduction to state space controller design.

SZÁMONKÉRÉSI ÉS ÉRTÉKELÉSI RENDSZERE / ASSESMENT'S METHOD

Written exam in the exam period.

KÖTELEZŐ IRODALOM / OBLIGATORY MATERIAL

Handwritten lecture notes.

Keviczky László, Control Engineering, Universitas-Győr Kht, Győr, 2011.

Hangos Katalin, Bokor József, Szederkényi Gábor, Computer Controlled Systems, Veszprémi Egyetemi Kiadó, 2002.

Karl Astrom, Feedback Systems, 2006.

Katsuhiko Ogata, Modern Control Engineering, Pearson Education International, 2002.