Name of the subject: **Control Engineering**	*NEPTUN-code:* *BMXIRE4BNE*	Credits: 4 ECTS: 6
Subject leader:Dr. Róbert Szabolcsi	*Title: full professor*	

Course description:
Basics of automatic control theory. Modern control theory. Mathematical models of dynamical systems. Laplace-transformation used in control theory. State-space representation of dynamical systems. Block diagrams, signal flow charts. Basic terms and theirs analysis. Time domain responses. Frequency domain responses. Open loop system analysis. Closed loop system analyis. Reference signal tracking problems. Disturbance rejection and sensor noise attenuation probtems, and theirs solution in control engineering. Stability problems of the closed loop control systems. Main elements of the control engineering, and theirs dynamical description. Dynamic performances used in control engineering. Control system preliminary design: pole placement, LQ-based design methods. Solution of control problems of control engineering using MATLAB. Analogue and digital devices used in control engineering. Basics of PLC-technology. PLC compact controllers used in control engineering.