
Code	ECE 608
Name	Theory of Field Orientation Control
Hour per week	3 (3+0)
Credit	3
ECTS	10
Level/Year	Graduate / Master, Ph.D.
Semester	Fall
Type	Elective
Prerequisites	ECE 550 Advanced Theory of Electrical Machines
Content	Vector Control and Field Orientation in Synchronous Machines. Current and Torque Control via CSI and PWM Drives. Torque Control via Current Regulated PWM Drive. Vector Control and Field Orientation in Induction Machines. Independent Flux and Torque Control. Induction Machine Flux and Torque Control via CSI, PWM, and CRPWM Drives. Slip Calculator and Its Errors. Direct and Indirect Field Orientation. DQ Model of Induction Machines. Stator, Rotor, Synchronous and Arbitrary Reference Frames and Induction Machine Models in Various Reference Frames. Complex Vector Notation. Complex Vector Models of Induction Machine. Digital Computer Simulation and Analysis of Induction Machines by means of Developed Models. Paper Reviews on the Subject. Evaluation of Selected Studies Carried on Reviewed Papers by means of Software Simulations.
