EEPE 6357 - Control, Modeling and Simulation in Power Electronics

EEPE 6357 Control, Modeling and Simulation in Power Electronics (3 semester credit hours)
Principles of modeling and fundamentals of controller design for inverters, and switching dc-dc power converters will be discussed with an emphasis on generalized averaging methods. Special attention will be given to analysis and design of regulated power supplies for low power and medium power level supplies. An introduction to nonlinear phenomenon in power electronic systems and adjustable speed motor drives will be included. Finally analysis and design of multi-converter systems will be discussed and the use of advanced control methods such as Feedback linearization and sliding mode control in such systems will be explored. Prerequisite: EEPE 6354. (3-0) Y