PhD Concentration Area Courses

BIOMEDICAL IMAGING
ECE 5213 Digital Signal Processing
ECE 5273 Digital Image Processing
ECE 5363 Optical Engineering
ECE 5403 Linear Systems Analysis
ECE 5523 Random Signals
ECE 5843 Medical Imaging Systems
ECE 5853 Biomedical Signals and Systems
ECE 5863 Bioinstrumentation
ECE 5973 Applied Statistics
ECE 5973 Fundamentals of Molecular Imaging
ECE 5973 Introduction to Computational Optics
ECE 5973 Medical Imaging Informatics
ECE 5973 Wave Phenomena

COMMUNICATIONS
ECE 5123 Wireless Communications
ECE 5403 Linear Systems Analysis
ECE 5513 Communication Theory
ECE 5523 Random Signals
ECE 5583 Information Theory

COMPUTERS
ECE 5213 Digital Signal Processing
ECE 5433 Measurement and Automation
ECE 5463 Advanced Computer Architecture
ECE 5523 Random Signals
ECE 5623 Computer Hardware Design
ECE 5833 VLSI Digital System Design
ECE 5873 Advanced VLSI Design & Applications
ECE 5973 AI Sys & Hardware Acceleration
ECE 5973 Artificial Neural Networks
ECE 5973 Computer Vision
ECE 5973 Cyber-Physical Systems
ECE 5973 Modern Optics and Quantum Optics

POWER & CONTROLS
ECE 5213 Digital Signal Processing
ECE 5223 Estimation and Identification
ECE 5403 Linear Systems Analysis
ECE 5413 Control Theory
ECE 5423 Power System Protection
ECE 5433 Measurement and Automation
ECE 5523 Random Signals
ECE 5583 Information Theory
ECE 5973 Energy Propagation in Electric Systems
ECE 5973 Inverter-Based Resources
ECE 5973 Power Electronics
ECE 5973 Power Quality and EMI
ECE 5973 Power System and Market Operation
ECE 5973 Power System Dynamics and Simulation
ECE 5973 Renewable Energy Systems
ECE 5973 State Estimation

SEMICONDUCTOR AND QUANTUM TECHNOLOGIES
ECE 5303 Semiconductor Materials and Devices
ECE 5323 Opto-electronics I
ECE 5343 Quantum Structures and Devices
ECE 5363 Optical Engineering
ECE 5383 Integrated Circuit Fabrication Technology I
ECE 5393 Integrated Circuit Fabrication Technology II
ECE 5973 Biosensor Lab
ECE 5973 Electron Transport Phenomena
ECE 5973 Modern Optics and Quantum Optics

RADAR
ECE 5213 Digital Signal Processing
ECE 5523 Random Signals
ECE 5603 Radar Imaging
ECE 5643 RF & Microwave Engineering
ECE 5653 Digital Radar Systems
ECE/METR 5663 Radar Engineering
ECE/METR 5673 Weather Radar Theory and Practice
ECE/METR 5683 Weather Radar Applications
ECE 5693 Antennas
ECE 5703 EM Fields and Wave Propagation
ECE 5723 Radar Signal Processing
ECE 5733 RF & Microwave Filters
ECE 5973 Phased Array Antennas
ECE 5973 Radar Cross Sect Engineering
ECE 5973 RF & Microwave Circuits
ECE 5973 RF & Microwave Systems
ECE 5973 State Estimation
ECE 6613 Weather Radar Polarimetry

SIGNAL PROCESSING
ECE 5213 Digital Signal Processing
ECE 5223 Estimation and Identification
ECE 5273 Digital Image Processing
ECE 5403 Linear Systems Analysis
ECE 5413 Control Theory
ECE 5433 Measurement and Automation
ECE 5513 Communication Theory
ECE 5523 Random Signals
ECE 5583 Information Theory
ECE 5723 Radar Signal Processing
ECE 5843 Medical Imaging Systems
ECE 5853 Biomedical Signals and Systems
ECE 5973 Artificial Neural Networks
ECE 5973 Biosensor Lab
ECE 5973 Computer Vision
ECE 5973 Introduction to Computational Optics
ECE 5973 Medical Imaging Informatics
ECE 5973 State Estimation

TELECOMMUNICATIONS
ECE 5123 Wireless Communications
ECE 5153 LTE Advanced and 5G
ECE 5213 Digital Signal Processing
ECE 5523 Random Signals
ECE 5553 Telecommunications Technology
ECE 5583 Information Theory
ECE 5970 Advanced Machine Learning
ECE 5970 Complex Systems and Networks
ECE 5970 Internet of Things
ECE 5970 Machine Learning for Engineers
ECE 5973 Artificial Neural Networks
ECE 5973 Deep Learning
ECE 5973 Emerging Topics in LTE-A and 5G
ECE 5973 Modern Optics and Quantum Optics
ECE 5973 PCB Design Principles and Practices
ECE 5973 RF Microelectronics
ECE 5973 Wireless Networks and Standard