MS in Electrical Engineering
The curriculum outlined below is only a guide. All students must meet with their academic advisor each semester to develop and maintain a plan of graduate study.

All students are required to take the core courses listed below:

ENGR 5033 Probability and Random Processes
ENGR 5022 Engineering Analysis and Application

Listed below are elective courses offered by the Department. The courses are grouped according to the specializations. Students are encouraged to develop a plan of study with their advisor so that they can select the most appropriate course sequence to meet their objectives.

Digital Signal Processing and Digital Data Communication

ECE 5514 Digital Signal Processing Analysis
ECE 5516 Introduction to Communication Networks
ECE 8516 Design and Performance Analysis of Communication Networks
ECE 5512 Analog and Digital Communications
ECE 8514 Applications in Digital Signal Processing
ECE 8512 Signal Processing and Communication Theory
ECE8524 Speech Signal Processing
ECE8525 Fundamentals of Speech Recognition
ECE8526 Information Theory
ECE8527 Introduction to Machine Learning and Pattern Recognition
ECE 9514 Adaptive Signal Processing
ECE 9524 Digital Image Processing

Microelectronics and Computer Engineering

ECE 5612 Advanced Processor Systems
ECE 5622 Computer Architectures
ECE 5314 Microelectronics  
ECE 5324 VLSI Systems Design and Testing  

ECE 5732 Electric Machines and Drives  
ECE 8334 Nanotechnology Applications, MEMS and NEMS  
ECE 8622 Advanced Computer Architectures  
ECE 8324 Mixed Signal VLSI Design  
ECE 9622 Parallel Processing Architectures  
ECE 9324 VLSI Physical Design

Smart Systems, Control, and Optimization

ECE 5412 Control Systems Analysis and Design  
ECE 5712 Power Systems Engineering  
ECE 5732 Electric Machines and Drives  
ECE 5714 Introduction to Intelligent Systems Engineering  
ECE 8412 Optimal and Robust Control  
ECE 9514 Detection, Estimation, and Modulation Theory  
ECE 8414 Adaptive Control  
ECE 9412 Nonlinear Control System

Students completing the thesis option must complete 24 semester hours of course work and 6 semester hours of thesis. Students completing the project option must complete 27 semester hours of course work and 3 semester hours of a research project. Students completing the non-research option, with the permission of the Department, are required to take 30 semesters of course work.