Electrical Engineering Specializations

When choosing your 13 credits of upper level ENEE technical electives, you must make sure that two of those courses come from one of the specialization areas listed below. Please note that not all of the following courses are offered every semester, so you will have to plan accordingly.

**Communications and Signal Processing**
- ENEE408G Multimedia Signal Processing
- ENEE420 Communication Systems
- ENEE425 Digital Signal Processing
- ENEE426 Communication Networks
- ENEE428 Communication Design Lab
- ENEE434 Introduction to Neural Networks
- ENEE435 Introduction to Electrical Processes, Structures and Computing Models of the Brain

**Electrophysics**
- ENEE408E Optical System Design
- ENEE408J Filter Designs
- ENEE480 Fundamentals of Solid State Electronics
- ENEE482 Design of Active & Passive Microwave Devices
- ENEE486 Optoelectronics Lab
- ENEE489Q Quantum Phenomena in Electrical Engineering
- ENEE490 Physical Principles of Wireless Communications
- ENEE496 Lasers and Optics

**Computer Engineering**
- ENEE408A Microprocessor-Based Design
- ENEE408B Digital VLSI Design
- ENEE408C Modern Digital System Design
- ENEE408D Mixed Signal VLSI Design
- ENEE440 Microprocessors
- ENEE445 Microcomputer Lab
- ENEE446 Digital Computer Design
- ENEE459A CAD Tools
- ENEE459C Computer Security
- ENEE459D Security Data Science
- ENEE459K Hardware FPGA Design Using Verilog
- ENEE459M Machine Learning and Data Mining
- ENEE459P Parallel Algorithms
- ENEE459R Compilers

**Microelectronics**
- ENEE408D Mixed Signal VLSI Design
- ENEE408J Filter Designs
- ENEE416 Integrated Circuit Fabrication Lab
- ENEE417 Microelectronics Design Lab
- ENEE419A Analog and Digital Electronics II
- ENEE419R Renewable Energy
- ENEE419W Advanced Operational Amplifier Lab
- ENEE459J Consumer Electronics

**Power Systems**
- ENEE473 Electric Machines Lab
- ENEE474 Power Systems
- ENEE475 Power Electronics
- ENEE489I Solar Energy Conversion

**Electrophysics**

*Note: 499/499L courses cannot count towards a specialization*