126. Electromagnetic Theory and Applications I (3)
Prerequisite: Engr 110 (or concurrently). Electrostatic and magnetostatic fields, time-varying fields, Maxwell's equations, plane waves.

128. Electronic Devices and Circuits (3)
Prerequisite: Engr 110 (or concurrently). Physical electronics, characteristics and properties of electronic devices, both thermionic and solid state; theory and analysis of electronic circuits.

128L. Electronic Devices and Circuits Laboratory (1)
Prerequisite: E E 128 (concurrently). Experiments on static and dynamic characteristics of electron tubes and solid-state devices, and on electronic circuits. (3 lab hours)

133. Digital Systems and Computer Organization (2)
Prerequisite: EE 85. Architectural organization of digital computers and digital systems including minicomputers and microprocessors; assembly language programming; real-time and on-line processors and controllers; computer networks and data transmission; computer graphics processors.

134. Information Transmission (3)
Prerequisite: E E 124, 124L. Mathematical modeling of signals and noise; information theory; modulation techniques; communications; information loss due to noise; digital communications; statistical communications theory.

136. Electromagnetic Theory and Applications II (3)
Prerequisite: E E 124, 124L, or concurrently, 126. Principles of transmission of electromagnetic energy over wires at power and communication frequencies and through wave guides and space at ultra-high frequencies, filter circuits and antennas; design of transmission systems; methods for computer solution.

136L. Electromagnetic Theory and Applications Laboratory (1)
Prerequisite: E E 136 (concurrently). Experiments on the transmission of electromagnetic energy through wires, wave guides, and space; filters and antennas; impedance matching; cross-over networks; location of faults on lines. (3 lab hours)

140. Pulse and Digital Circuits Design (3)
Prerequisite: E E 124 (or concurrently), 128, 128L. Design and analysis of wave-shaping, linear-sweep, electronic-gate, multistable, and negative-resistance circuits; Boolean algebra and digital logic design.

140L. Pulse and Digital Circuits Design Laboratory (1)
Prerequisite: E E 140 (concurrently). Experiments on wave-shaping, switching, pulse, and digital circuits. (3 lab hours; field trips required)

151. Electrical Power Systems (3)
Prerequisite: E E 121, 121L, 128, 128L, 136, 136L (or concurrently). Power system networks and equipment, steady-state operation, short-circuit analysis, power system stability analysis by digital computation, synchronous generator excitation and governor systems, system load representation, numerical analysis techniques.

151L. Electrical Power Systems Laboratory (1)
Prerequisite: E E 151 (concurrently). Experiments and demonstrations on power system apparatus; power system network analysis by digital computation; synchronous generator stability and control. (3 lab hours; field trips required)

155. Control Systems (3)
Prerequisite: Engr 110, 110L or permission of instructor. Computerized analysis, design, and synthesis of linear feedback control systems; non-linear systems; sampled-data and optimal control systems; stability.

155L. Control Systems Laboratory (1)
Prerequisite: E E 155 (concurrently). Experiments and demonstrations on control systems, including response, design, and stability criteria. (3 lab hours; field trips required)