by the Electrical Engineering Faculty. This course may be taken only once for credit.

Lecture: three hours.

ELEC 414 *System Simulation* Three Credit Hours

Prerequisite: ELEC 312

An introduction to system concepts, mathematical models of systems, and simulation methods applied to a broad range of systems. Design project required.

Lecture: three hours.

ELEC 415 *Electrical Measurements Laboratory* One Credit Hour

Prerequisite or corequisite: ELEC 405

A laboratory course to complement ELEC 405.

Laboratory: two hours.

ELEC 416 *Communications Engineering* Three Credit Hours

Prerequisites: ELEC 306, ELEC 312, ELEC 318, and ELEC 330

Principles of amplitude, frequency, phase, and pulse modulation; processing in communications systems; and analog and digital communication systems.

Lecture: three hours.

ELEC 418 *Advanced Digital Systems* Three Credit Hours

Prerequisites: ELEC 311, ELEC 330

Experience in advanced digital design techniques and exposure to the development tools used in the design of advanced digital systems. Topics include the design of digital systems using VHDL, industry standard FPGA devices and software, and microprocessor hardware components.

Lecture: three hours.

ELEC 419 *Computer Network Architecture* Three Credit Hours

Prerequisite: ELEC 311

This course will cover network architectures and protocols. Included are transmission technologies, encoding/decoding schemes, packet switching, frame relay, ISDN, ATM and performance modeling techniques.

Lecture: three hours.

ELEC 421 *Design I* Three Credit Hours

Prerequisites: ELEC 302, ELEC 306, ELEC 312, ELEC 316, ELEC 330, and ELEC 318, or consent of the department head.

Required of electrical engineering seniors.

Initiation, design, scheduling, documentation and reporting on a major design project. Normally accomplished by students working in small groups. All students will make written and oral presentations on their contributions to the