tion of digital circuits using industry-standard digital integrated circuits. Employs VHDL and other S/W design tools.

Lecture: three hours.

ELEC 312 *Systems I* Three Credit Hours

Prerequisite: ELEC 309

Corequisite: ELEC 301

Required of electrical engineering juniors.

An introduction to feedback control systems, system representation, stability, root-locus and frequency response, and compensation.

Lecture: three hours.

ELEC 313 *Electronics Laboratory* One Credit Hour

Prerequisites: ELEC 202, ELEC 204, ELEC 206

Corequisite: ELEC 306

Required of electrical engineering juniors.

Experimental studies coordinated with the subjects introduced in ELEC 306.

Laboratory: two hours.

ELEC 316 *Electromechanical Energy Conversion* Three Credit Hours

Prerequisite: ELEC 309 or consent of the department head; prerequisite or corequisite: ELEC 302

Required of electrical engineering juniors.

Analysis of transformers; fundamentals of electromechanical energy conversion; and study of DC, induction, and synchronous machines.

Lecture: three hours.

ELEC 318 *Electromagnetic Fields* Three Credit Hours

Prerequisites: ELEC 202, ELEC 204, ELEC 206, PHYS 222/272, MATH 234, MATH 335.

Required of electrical engineering juniors.

Static and magnetic fields; experimental laws and their relation to Maxwell's equations; Laplace and Poisson's equations; boundary value problems; time varying fields and plane waves.

Lecture: three hours.

ELEC 330 *Digital Systems Engineering* Three Credit Hours

Prerequisite: ELEC 311

Required of electrical engineering juniors.

Characteristics, specifications, and design of digital systems; analysis and synthesis of sequential circuits; microcontroller interfacing.

Lecture: three hours.