

**171. Legal Aspects of Engineering (2)**

Prerequisite: senior standing in engineering. Development of law, canons of ethics, torts, principles of contracts, contracting procedure and specifications, property, negotiable instruments, sales, agency and patents; preparation of reports.

**172. Senior Project (2)**

Prerequisite: senior standing in engineering. Study of a problem by student under supervision of a staff member; final written report to the engineering staff. The project subject must be approved during the semester prior to enrollment. (Individual project except by special permission)

**173. Analog Computation (2)**

Prerequisite: Phys 4B, Math 77 (or concurrently). Introduction to electronic analog computer programming. (1 lecture, 3 lab hours)

**180. Electrical Power Systems (3)**

Prerequisite: Engr 151, 151L, 153, 153L, 156, 156L. Electrical power equipment and systems, operation and design, commercial practice and regulations; high voltage, lightning and surge phenomena; control and protection schemes; fault and stability calculations; introduction to nuclear power engineering.

**180L. Electrical Power Systems Laboratory (1)**

Experiments and computations on high-voltage and electrical power equipment and systems and associated apparatus; electrical design of power systems, commercial practice. (3 lab hours; field trips)

**181. Automatic Control (2)**

Prerequisite: Engr 151, 151L, Math 81. Theory and application of automatic control techniques; including hydraulic, pneumatic, electrical and electronic, inertial guidance, and nonlinear devices and systems; design, response, and stability of control systems.

**181L. Automatic Control Laboratory (1)**

Experiments and computations on automatic control devices and systems. (3 lab hours)

**190. Independent Study (1-3; max see reference)**

*See Regulations and Procedures—Independent Study.*

**IN-SERVICE COURSES**

*Note: In-service courses (300 series) are not intended for use on degrees except by special, prior approval. See Extension and Summer Session Bulletins for course descriptions.*

**311. Professional Examination Review (2; may be repeated in different fields)****321. Professional Engineering Seminar (1-3; may be repeated in different fields)**