

**IA 42. Architectural Drawing (3) (Former IA 22)**

Architectural drafting techniques and standards; progress from fundamentals to completing light construction working drawings, floor plans, elevations, details; application of city and county codes.

**IA 140. Machine Drawing (3) (Former IA 121)**

Prerequisite: IA 41 or permission of instructor. Detail working drawings of machine parts, precision dimensions, limits and tolerances, threads, shop notes, parts lists, fasteners, assembly drawings, exploded views.

**IA 143. Architectural Drawing (3) (Former IA 122)**

Prerequisite: IA 41 or permission of instructor. Mechanical perspective, its theory and practical application to architectural and industrial problems.

**IA 146. Materials of Product Design (2) (Former IA 150)**

Prerequisite: IA 41 or permission of instructor. Selection and use of materials in industrial arts design; organization and experimentation in two- and three-dimensional problems using varied media in industrial arts projects.

**IA 148. Product Design (2) (Former IA 151)**

Prerequisite: IA 41 or permission of instructor. New scientific developments related to design problems and industrial products; relationship of two- and three-dimensional expression in space, form and function techniques, skills of the craftsman.

**ELECTRICITY-ELECTRONICS AREA****IA 52. Basic Electricity (3) (Former IA 11)**

Introduction to electricity including fundamentals of electrostatics, alternating and direct current electrical circuits, electrical calculations, magnetics, circuit applications, electrical measuring and test equipment. (lecture-lab)

**IA 152. Fundamentals of Electronics (3) (Former IA 111B)**

Prerequisite: IA 52. Basic electronic components and circuits including inductors, capacitors, alternating current circuits; resonance and filters; vacuum tubes and transistors; power supplies; measuring devices; oscillators; amplifiers. (lecture-lab)

**IA 153. Advanced Electronics (3) (Former IA 111C)**

Prerequisite: IA 152. Electronic systems and applications including basic transmitters, amplitude and frequency modulation transmitters and receivers; transistor applications; antennas; television. (lecture-lab; field trips)

**IA 154. Industrial Electronics (3)**

Prerequisite: IA 153. Industrial electronics systems analysis; applications of electronic circuits and devices to industrial process and machine control. (lecture-lab; field trips)

**IA 156. Fundamentals of Electrical Machines (3) (Former IA 111A)**

Prerequisite: IA 52. Power generation; energy conversion equipment; alternating and direct current motors and generators. (lecture-lab; field trips)

**IA 158. Fundamentals of Electrical Power Distribution and Wiring (3) (Former IA 111D)**

Prerequisite: IA 52. Electrical power distribution equipment and systems; industrial and residential wiring circuits, devices and systems; local and national electrical codes. (lecture-lab; field trips)