

**IA 158. Principles of Electrical Wiring (3) (Former IA 111D)**

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

**GRAPHIC ARTS AREA****IA 60. Basic Graphic Arts (3) (Former IA 26)**

Introduction to the graphic arts; hand composition, paper making, stereotype, rubber-stamp, thermography, marbling; experiences in relief printing methods; overview of entire printing industry. (lecture-demonstration; student projects, field trips)

**IA 160. Advanced Graphic Arts (3) (Former IA 127)**

Prerequisite: IA 60 or permission of instructor. Typographic layout and design; problems of book manufacture; principles of advertising layouts; hand, machine, and photographic typesetting methods; experience in running automatic printing press and typesetting machine. Field trips.

**IA 162. Graphic Arts Crafts (2) (Former IA 128)**

Various processes and media used in the graphic arts industry; creative and recreational aspect for the student; silk screen, linoleum block, flexography, intaglio, stereotype, papermaking, thermography, marbling, student projects. Field trips.

**IA 164. Bookbinding (2) (Former IA 142)**

Historical development of the book and its influence on our society; preparation for publication, methods of reproduction and materials used; projects in binding and rebinding; yearbook and textbook problems. Field trips.

**IA 166. Publications Production Management (3) (Former IA 145)**

Prerequisite: upper division student. For persons interested in the field of buying, selling or producing printed material. Processes of reproduction; types of publications; media, materials and equipment; technical problems in layout; legal problems; yearbook and in-plant publication reproduction. Field trips.

**METALS AREA****General Metalworking****IA 70. Basic Metalworking (3) (Former IA 40)**

Introduction to and exploration in various metal areas including sheet metal, bench metal, art metal, wrought iron foundry and forging.

**IA 170. Advanced Principles of Metalworking (3) (Former IA 119)**

Prerequisite: IA 70 or equivalent. Study and experience in nonferrous metal casting, core-making, forging; principles of metal spinning.

**Welding****IA 71. Basic Welding (2) (Former IA 6)**

Fundamentals of oxyacetylene and shielded metallic arc welding processes; oxyacetylene flame in brazing and flame cutting; familiarization with commonly welded joints; types, uses, and classification of electrodes and equipment. (lecture-lab)

**IA 171. Advanced Welding (2) (Former IA 106)**

Prerequisite: IA 71. Major welding processes and fields of application; weldability of ferrous and nonferrous metals and alloys; fundamentals of welding metallurgy; welding symbols; introduction to destructive and nondestructive testing methods. (lecture-lab)