

61. Typography (1)

For journalism students only. Printing processes, printing equipment, type faces, hand composition, paper, color printing, and format. (field trips)

160. Advanced Graphic Arts (3)

Prerequisite: Ind A 60. Advanced techniques in letterpress and offset printing. Completion of printed booklet, involving copyfitting, composition, layout, printing and bookbinding. Bookbinding projects, including hand-sewn case-bound books will be completed. (field trips)

161. Advanced Photo Offset Lithography (3)

Prerequisite: Ind A 60. Photo offset lithography techniques and processes: design, layout, cold type composition, and paste-up, line, and half-tone copy, multicolor printing, photographic screen printing. (field trips)

162. Graphic Arts Crafts (3)

Various processes and media used in graphic arts; creative and recreational aspects for the student; silk screen, linoleum block, intaglio, papermaking, thermographs, marbling, bookbinding, student projects. (field trips)

165. Typographical Layout (3)

Theory and practice utilized by the printing industry in designing, producing, and selling printed matter. Typographical principles, properties, elements, techniques, processes, and media, with aesthetic and psychological implications. (field trips)

166. Reproduction Techniques (3)

Prerequisite: upper division student. Survey of all reproduction methods found in business and graphic reproduction industries. Methods discussed are: microfilm, C.R.T., holography, xographs, photographic, electrostatic, thermographic, xerographic and up-to-the-minute advancements. Technical publishing and yearbook production. (field trips)

168. Photography for Industry and Technology (3)

Prerequisite: upper division standing. Introduction to basic black and white photography with emphasis on industrial and technical applications, including microphotography, photogrammetry and engineering drawing reproduction. Films and papers, tray and tank developing, enlarging and contact printing. (field trips)

METALS AREA**General Metalworking****70. Basic Metalworking (3)**

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

170. Advanced Principles of Metalworking (3)

Prerequisite: Ind A 70. Study and experience in the technological, scientific, and historical aspects of nonferrous metal casting, core-making; forging; principles of metal spinning.

Welding**71. Metallurgical Processes (3)**

Fundamentals of metallurgy; properties and characteristics of metals; survey of metal welding processes, equipment, and procedures; theory-discussion and laboratory experience in oxygen-fuel welding, cutting, brazing, and shielded metallic arc welding.

171. Advanced Metallurgical Processes (3)

Prerequisite: Ind A 71. Lecture-discussion and laboratory experiences in advanced shielded metallic arc welding, gas tungsten arc welding, gas metal arc welding, plasma arc cutting, air arc cutting, and automated oxygen-fuel cutting; weld specimen preparation, testing (destructive/non-destructive), and welding metallurgy.