

# Graphic Arts (GRA)

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**GRA 110. Graphic Arts Orientation. 2.0 Credits.** Class-2.0. Clinical-0.0. Lab-0.0. Work-0.0

This course covers the history, development, and commercial applications of the major printing processes. Topics include offset lithography, screen printing, intaglio, relief printing, and emerging technologies. Upon completion, students should be able to demonstrate an understanding of the major characteristics, advantages, and disadvantages of each process.

**GRA 121. Graphic Arts I. 4.0 Credits.** Class-2.0. Clinical-0.0. Lab-4.0. Work-0.0

This course introduces terminology, tools and materials, procedures, and equipment used in graphic arts production. Topics include copy preparation and pre-press production relative to printing. Upon completion, students should be able to demonstrate an understanding of graphic arts production.

**GRA 140. Graphic Arts Imaging. 2.0 Credits.** Class-1.0. Clinical-0.0. Lab-2.0. Work-0.0

This course covers the use of photographic and electronic imaging techniques in the printing industry. Topics include exposure control and manipulation for a variety of process photography procedures and emerging electronic imaging techniques. Upon completion, students should be able to create line, special effect, and halftone images by both conventional and computer imaging methods.

**GRA 151. Computer Graphics I. 2.0 Credits.** Class-1.0. Clinical-0.0. Lab-3.0. Work-0.0

This course introduces the use of hardware and software for production and design in graphic arts. Topics include graphical user interface and current industry uses such as design, layout, typography, illustration, and imaging for production. Upon completion, students should be able to understand and use the computer as a fundamental design and production tool.

**GRA 152. Computer Graphics II. 2.0 Credits.** Class-1.0. Clinical-0.0. Lab-3.0. Work-0.0

This course covers advanced design and layout concepts utilizing illustration, page layout, and imaging software in graphic arts. Emphasis is placed on enhancing and developing the skills that were introduced in GRA 151. Upon completion, students should be able to select and utilize appropriate software for design and layout solutions.

Prerequisites: Take GRA 151

**GRA 153. Computer Graphics III. 2.0 Credits.** Class-1.0. Clinical-0.0. Lab-3.0. Work-0.0

This course is a continuation of GRA 152. Emphasis is placed on advanced computer graphics hardware and software applications. Upon completion, students should be able to demonstrate competence in selection and utilization of appropriate software for specialized applications.

Prerequisites: Take GRA 152

**GRA 154. Computer Graphics IV. 2.0 Credits.** Class-1.0. Clinical-0.0. Lab-3.0. Work-0.0

This course is a continuation of GRA 153. Emphasis is placed on advanced techniques using a variety of hardware and software applications to produce complex projects. Upon completion, students should be able to use electronic document production tools.

Prerequisites: Take GRA 153

**GRA 161. Computer Graphics Applications I. 1.0 Credit.** Class-0.0. Clinical-0.0. Lab-3.0. Work-0.0

This course is designed to provide additional hands-on training using computer software and hardware for production and design in graphic arts. Emphasis is placed on utilizing various computer software and hardware to produce simple graphic arts projects. Upon completion, students should be able to use the computer as a graphic arts production tool.

Corequisites: Take GRA 151

**GRA 162. Computer Graphics Applications II. 1.0 Credit.** Class-0.0. Clinical-0.0. Lab-3.0. Work-0.0

This course is designed to provide additional hands-on training using computer software and hardware for production and design in graphic arts. Emphasis is placed on utilizing various computer software and hardware to produce intermediate graphic arts projects. Upon completion, students should be able to effectively use the computer as a graphic arts production tool.

Corequisites: Take GRA 152

**GRA 163. Computer Graphics Applications III. 1.0 Credit.** Class-0.0. Clinical-0.0. Lab-3.0. Work-0.0

This course is designed to provide additional hands-on training using computer software and hardware for production and design in graphic arts. Emphasis is placed on utilizing various computer software and hardware to produce advanced graphic arts projects. Upon completion, students should be able to effectively use the computer as a graphic arts production tool.

Corequisites: Take GRA 153

**GRA 164. Computer Graphics Applications IV. 1.0 Credit.** Class-0.0. Clinical-0.0. Lab-3.0. Work-0.0

This course is designed to provide additional hands-on training using computer software and hardware for production and design in graphic arts. Emphasis is placed on utilizing various computer software and hardware to produce professional quality graphic arts projects. Upon completion, students should be able to effectively and efficiently use the computer as a graphic arts production tool.

Corequisites: Take GRA 154

**GRA 221. Graphic Arts II. 4.0 Credits.** Class-2.0. Clinical-0.0. Lab-4.0. Work-0.0

This course is a continuation of GRA 121. Topics include multi-color image preparation, pre-press production, control of close/hairline register in image assembly and press operation, and post-press procedures. Upon completion, students should be able to demonstrate competence in all phases of graphic arts production.

Prerequisites: Take All: GRA 121 and GRA 151

**GRA 222. Graphic Arts III. 4.0 Credits.** Class-2.0. Clinical-0.0. Lab-4.0. Work-0.0

This course is a continuation of GRA 221. Topics include advanced electronic pre-press, press operation, and post-press procedures. Upon completion, students should be able to demonstrate competence in all phases of advanced graphic arts production.

Prerequisites: Take All: GRA 221 and GRA 152

**GRA 230. Substrates & Ink. 2.0 Credits.** Class-2.0. Clinical-0.0. Lab-0.0. Work-0.0

This course covers the manufacture, purchase, and use of printing substrates and inks in the graphic arts industry. Topics include the history, development, testing, purchasing, and use of ink, paper, and specialty substrates used in printing, as well as problems associated with each. Upon completion, students should be able to demonstrate an understanding of ink and substrate relationships in the design, planning, purchase, and production of a printed job.

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**GRA 245. Printing Sales/Service. 3.0 Credits.** Class-3.0. Clinical-0.0.  
Lab-0.0. Work-0.0

This course covers the operation of a sales, marketing, and service program for a printing company or printing supplier. Topics include marketing, prospecting, telephone sales, customer service, order entry, closing the sale, and answering objections. Upon completion, students should be able to understand the operation of sales and service in printing and printing supply organizations.

**GRA 252. Imaging Techniques. 3.0 Credits.** Class-1.0. Clinical-0.0.  
Lab-4.0. Work-0.0

This course covers electronic imaging and transfer and display of digital images through various media. Topics include analysis of electronic imaging, including uses, medium, outcome, storage, and display hardware and software. Upon completion, students should be able to demonstrate an understanding of electronic imaging techniques and purposes and complete related assignments.

Prerequisites: Take One: GRA 151 or GRD 151

**GRA 255. Image Manipulation I. 2.0 Credits.** Class-1.0. Clinical-0.0.  
Lab-3.0. Work-0.0

This course covers applications associated with electronic image manipulation, including color correction, color separation, special effects, and image conversion. Topics include image-capturing hardware, image-processing software, and output options. Upon completion, students should be able to utilize hardware and software to acquire, manipulate, and output images to satisfy design and production.

Prerequisites: Take One: GRA 151 or GRD 151

**GRA 256. Image Manipulation II. 2.0 Credits.** Class-1.0. Clinical-0.0.  
Lab-3.0. Work-0.0

This course covers electronic color separation and its relationship to multi-color printing. Topics include color theory, separation, color matching, proofing, and output of process and spot color images. Upon completion, students should be able to use hardware and image processing software to produce color separations and proofs for various printing processes.

Prerequisites: Take GRA 255