

GRAPHIC COMMUNICATIONS TECHNOLOGY (GRFX)

GRFX 010 INTRODUCTION TO GRAPHIC COMMUNICATIONS TECHNOLOGY

2 unit

Transfer Credit: CSU

Introduction to printing and graphic arts. History of printing. Orientation to typesetting, camera, stripping and plates, presswork and bindery operations. Evaluation of printing processes: letterpress, gravure, screen printing, flexography, plateless printing and lithography. Required instructional trips. Total of 36 hours lecture.

Grade Mode: *Audit, Letter Grade*

GRFX 013 SCREEN PRINTING - PLASTICS

3 unit

Transfer Credit: CSU

Hands-on training in screen meshes, tensioning and selection; direct emulsion stencil and exposure; printing and registration techniques for one, two and three color graphics for a variety of decal and adhesive materials. Right-reading, wrong-reading and front/back reading decals on a variety of substrates. Safety issues for water-based and solvent-based inks. Planning and organization of production- individually and in teams. High-quality graphic printing and techniques for small business sales and marketing. Required instructional trips. Total of 27 hours lecture and 81 hours laboratory.

Grade Mode: *Audit, Letter Grade*

GRFX 021 PRINTING MANAGEMENT-PRODUCTION

3 unit

Transfer Credit: CSU

Prerequisite(s): *GRFX 105*

Theory and practical experience in production and quality control methods in a printing plant manufacturing situation. Projects in plant and department layout and organization. Maintenance and inventory control systems. Safety procedures. Applied organizational and management theory. New developments in the graphics arts industry. Required instructional trips. Total of 54 hours lecture.

Grade Mode: *Audit, Letter Grade*

GRFX 030 BASIC COMPOSITION AND IMAGING

6 unit

Transfer Credit: CSU

Introduction to document production methods and digital imaging techniques required in the graphic communications technology industry. Introduction to system operations and typographic principles. Graphic computer systems operation, terminology, system components, and principles. Emphasis on document production using text and image components. Use of industry standard Postscript electronic publishing systems. Required instructional trips. Total of 54 hours lecture and 162 hours laboratory.

Grade Mode: *Audit, Letter Grade*

GRFX 031 ADVANCED COMPOSITION AND IMAGING

6 unit

Transfer Credit: CSU

Prerequisite(s): *GRFX 030 or 220*

Advanced document production methods and digital imaging techniques. Use of electronic publishing systems and software applications for image capture and manipulation as practiced in the graphic communications technology industry. Advanced system operation and typographic principles. Emphasis on document development using image processing systems. Required instructional trips. Total of 54 hours lecture and 162 hours laboratory.

Grade Mode: *Audit, Letter Grade*

GRFX 035 INTRODUCTION TO ELECTRONIC PREPRESS

2 unit

Transfer Credit: CSU

Recommended Preparation: *GRFX 199*

Proper use of document layout, illustration, and image editing software necessary to prepare files for transfer or digital imaging. Terminology, materials, and methods used in electronic prepress. Introduction to preflighting, imposing, trapping, and correcting files used in electronic prepress operation. Strategies for font and color management, re-purposing images for the production of plates and proofs suitable for use in various printing operations. Required instructional trips. Total of 27 hours lecture and 36 hours laboratory.

Grade Mode: *Audit, Letter Grade*

GRFX 036 ELECTRONIC IMAGE ASSEMBLY

1 unit

Transfer Credit: CSU

Prerequisite(s): *GRFX 035*

Procedures using electronic prepress applications to eliminate or repair errors in digital files. Skills in multiple page document construction, imposition and trapping required in modern digital workflows. Advanced study in Postscript imaging requirements for document output or transfer required in the graphic communications field. Required instructional trips. Total of 18 hours lecture and 36 hours laboratory.

Grade Mode: *Audit, Letter Grade*

GRFX 080 GRAPHIC REPRODUCTION FUNDAMENTALS

2 unit

Transfer Credit: CSU

Graphic art skills, design, composition, printing and photographic processes. Total of 18 hours lecture and 54 hours laboratory.

Grade Mode: *Audit, Letter Grade*

GRFX 102 TYPOGRAPHY

2 unit

Terminologies of the typesetting/typography of the lithographic trade; exchange values and appropriate applications of numerical systems. Basic characteristics of type: styles, classifications, compatibilities, uses for emphasis, copyfitting, proofreading, spacing and design considerations. Required instructional trips. Total of 36 hours lecture.

Grade Mode: *Audit, Letter Grade*

GRFX 103 INK, PAPER AND QUALITY CONTROL**2 unit**

Classification of papers, common paper terms and calculation of press sheet cuts. Manufacture and uses of lithographic inks. Common quality control devices. Required instructional trips. Total of 36 hours lecture.

Grade Mode: *Audit, Letter Grade*

GRFX 104 BINDERY AND FINISHING OPERATIONS**2 unit**

Theory and demonstration of bindery and finishing operations: paper cutting, folding devices, assembling processes, including gathering, collating and inserting. Common binding processes: adhesive binding, side binding, saddle binding, self covers, soft covers and case bound covers. Required instructional trips. Total of 36 hours lecture.

Grade Mode: *Audit, Letter Grade*

GRFX 105 INTRODUCTION TO PRINTING MANAGEMENT**2 unit**

Printing plant supervision and management techniques. Principles of sales, manufacturing, finance, trade customs, organizational patterns, personnel practices and estimating procedures. Safety procedures, quality control, production scheduling, computer applications and technical developments. Required instructional trips. Recommended enrollment in or completion of GRFX 010. Total of 36 hours lecture.

Grade Mode: *Audit, Letter Grade*

GRFX 113 INTERMEDIATE SCREEN PRINTING**3 unit**

Prerequisite(s): *GRFX 013*

History and industry overview. Safe use of inks, solvents and equipment. Process camera operation and photographic techniques for screen printing. Preparation of mechanicals using tight registration and printing on standard and unusual surfaces. Required instructional trips. No credit if taken after GRFX 132B or 134B. Total of 27 hours lecture and 81 hours laboratory.

Grade Mode: *Audit, Letter Grade*

GRFX 114A PRODUCTION SCREEN PRINTING**3 unit**

Prerequisite(s): *GRFX 113*

Advanced work with color and design for commercial screen printing. Halftones and other advanced camera projects. Posters and ads. Required instructional trips. Total of 27 hours lecture and 81 hours laboratory.

Grade Mode: *Audit, Letter Grade*

GRFX 114B ADVANCED SCREEN PRINTING**3 unit**

Prerequisite(s): *GRFX 114A*

Production of screen printing using the semi-automatic press and one-arm squeegee. Advanced work incorporating several stencil and/or ink systems. Principles of setup and operation of the small screen printing business. Required instructional trips. Total of 27 hours lecture and 81 hours laboratory.

Grade Mode: *Audit, Letter Grade*

GRFX 115 BEGINNING SCREEN PRINTING FOR TEXTILE APPLICATIONS**2 unit**

A basic course for the beginning screen printing student. Emphasis on artwork preparation, registration systems for multiple colors, screen selection and preparation for simple textile applications. Use of four-color rotary press, flash and belt dryers, pin systems for accuracy of registration. Safe use of materials and equipment. Required instructional trips. Total of 18 hours lecture and 54 hours laboratory.

Grade Mode: *Audit, Letter Grade*

GRFX 116 ADVANCED SCREEN PRINTING FOR TEXTILE APPLICATIONS**2 unit**

Prerequisite(s): *GRFX 115*

Advanced screen printing. Mesh selection, press set-up, registration and printing of exceedingly complex graphics, with four-color process on textiles; four-to six-color spot and index printing; special effects inks and sublimation dyes. Advanced use of heat press, dye sub printer. Planning and organization of all aspects of production individually and in teams. High-end and commercial printing on textile substrates. Required instructional trips. Total of 18 hours lecture and 54 hours laboratory.

Grade Mode: *Audit, Letter Grade*

GRFX 132A INTRODUCTORY SCREEN PRINTING**4 unit**

Basic commercial production skills: hands-on training in screen meshes, tensioning and selection; direct emulsion stencil techniques and exposure; printing and registration techniques for one, two and three color graphics; single color halftone printing with water-based inks on paper and board substrates, some plastics. Planning and organization of all aspects of production individually and in teams. Point-of-purchase graphics, posters, flyers for advertising. Required instructional trips. Total of 36 hours lecture and 108 hours laboratory.

Grade Mode: *Audit, Letter Grade*

GRFX 132B INTERMEDIATE SCREEN PRINTING**4 unit**

Prerequisite(s): *GRFX 132A*

Advanced production skills: in-depth work with halftone printing, including duotones and four-color process printing; four- to six-color spot printing; use of water-based and solvent-based vinyl and enamel inks. Emphasis on registration techniques for more complex printing work, including set-up and use of semi-automatic press. Planning and organization of all aspects of production individually and in teams. Point-of-purchase graphics, posters, flyers for advertising. Required instructional trips. Total of 36 hours lecture and 108 hours laboratory.

Grade Mode: *Audit, Letter Grade*

GRFX 133A ADVANCED SCREEN PRINTING FOR PLASTICS AND RIGID SUBSTRATES**4 unit**

Prerequisite(s): *GRFX 132B*

Advanced printing techniques for plastics, including electrostatic vinyl, adhesive vinyl, rigid plastics, glass and wood. Four-color process, sublimation dye printing, subsurface printing, etching for commercial signage and graphics; table printing and use of semi-automatic press. Safety issues for use of water-based and solvent-based inks. Planning and organization of all aspects of production individually and in teams. Required instructional trips. Total of 36 hours lecture and 108 hours laboratory.

Grade Mode: *Audit, Letter Grade*

GRFX 133B PRODUCTION SCREEN PRINTING**5 unit****Prerequisite(s):** GRFX 133A

Production, using the semi-automatic press and one-arm squeegee. Printing modular design advanced work incorporating several stencil and/or ink systems. Discussions on setting up and operation of a small screen printing business. Required instructional trips. Total of 54 hours lecture and 108 hours laboratory.

Grade Mode: *Audit, Letter Grade***GRFX 134A SCREEN PRINTING FUNDAMENTALS FOR SALES AND MARKETING****3 unit**

Basic entrepreneur/printing class: hands-on training in screen meshes, tension and selection; conventional and non-conventional techniques for stencil application and exposure; printing and registration of one-, two- and three-color graphics; single-color halftone printing. Water-based and solvent-based inks on traditional and non-traditional two- and three-dimensional surfaces. Planning and organization of all aspects of production individually and in teams. Graphic printing for commercial sales and marketing. Required instructional trips. Total of 27 hours lecture and 81 hours laboratory.

Grade Mode: *Audit, Letter Grade***GRFX 134B SCREEN PRINTING FOR SALES AND MARKETING****3 unit****Prerequisite(s):** GRFX 134A

Advanced entrepreneurial: high-end printing of duotones and four-color process printing; four-to six- spot color printing; wide variety of substrates using water-based, vinyl and enamel inks. Establishing a web sales presence. Planning and organization of all aspects of production individually and in teams. High-quality graphic printing and techniques for small business sales and marketing. Required instructional trips. Total of 27 hours lecture and 81 hours laboratory.

Grade Mode: *Audit, Letter Grade***GRFX 134C SCREEN PRINTING - TWO AND THREE COLORS****2 unit****Prerequisite(s):** GRFX 134B

Design, layout and preparation of film and mechanicals for production printing. Correct selection and preparation of screens for commercial work. Establish proper printing procedures for a variety of substrates and ink systems used in the fine arts or industrial setting. Emphasis on proper registration of multiple colors and quality of printed goods. Safe use of materials and equipment. Required instructional trips. Total of 18 hours lecture and 54 hours laboratory.

Grade Mode: *Audit, Letter Grade***GRFX 134D SCREEN PRINTING - FOUR AND SIX COLORS****2 unit****Prerequisite(s):** GRFX 134C

Advanced concepts of layout and design as applied to preparation of mechanicals and screens for advanced production printing. Emphasis on precise registration of multiple colors, quality of ink application to substrate and printing of fine detail. Discussion of current trends in the industry. Use of the 4-color rotary textile printer, belt dryer and semi-automatic press for high quality production. Safe use of materials and equipment. Required instructional trips. Total of 18 hours lecture and 54 hours laboratory.

Grade Mode: *Audit, Letter Grade***GRFX 135 INTRO TO ELECTRONIC PREPRESS TECHNIQUES FOR SCREEN PRINTING****2 unit****Prerequisite(s):** *One of the following: GRFX 013, GRFX 115, GRFX 132A, or GRFX 134A*

Beginning computer techniques class: evaluation, importing, scanning and correction of images for screen printing. Line art; basic single color halftones in positive and negative; making and trapping of spot colors; appropriate use of lettering and fonts for textile and flatstock printing applications. Effective use of output devices and substrates for screen transfer. Required instructional trips. Total of 18 hours lecture and 54 hours laboratory.

Grade Mode: *Audit, Letter Grade***GRFX 137 SCREEN PRINTING TECHNIQUES FOR FLAT STOCK****2 unit****Recommended Preparation:** GRFX 135

A specialized course designed to prepare students for screen printing careers in the production of posters, signs, and other flat stock. Techniques and procedures for printing by hand on tables and on a semi-automatic press. Use of letterpress equipment for poster production. Advanced techniques in design for impact, volume production, and accurate registration of multiple color work. Safe use of materials and equipment. Required instructional trips. Total of 27 hours lecture and 45 hours laboratory.

Grade Mode: *Audit, Letter Grade***GRFX 161 INTRODUCTION TO OFFSET PRESS OPERATIONS****2 unit****Prerequisite(s):** GRFX 010

Evaluation of photo offset lithography from press to bindery. History of printing, types of sheet-fed duplicators/presses and configurations of web-fed equipment. Characteristics of fountain solutions, feeding, dampening, inking and delivery systems. Paper and ink considerations for offset lithography. Common bindery procedures related to offset printing. Required interviews, demonstrations and instructional trips. No credit if taken after GRFX 162 or 260. Total of 36 hours lecture.

Grade Mode: *Audit, Letter Grade*

GRFX 165 ON-DEMAND PRINTING AND PUBLISHING SYSTEMS**1 unit**

The proper use and functions of on-demand printing systems. Operation, programming and running of the DocuTech and digital color publishing systems. Overview of the size, scope and career opportunities found in the printing and publishing industry. Use and selection of papers, bindery methods, computers, safety practices and finishing operations required in the on-demand publishing field. Training in customer service techniques, job planning and quality aspects used in this segment of the printing field. Required instructional trips. Total of 18 hours lecture and 18 hours laboratory.

Grade Mode: *Audit, Letter Grade*

GRFX 190 IMAGING TECHNIQUES FOR LARGE FORMAT PRINTING**2 unit**

Prerequisite(s): *GRFX 030 or GRFX 220*

Digital imaging techniques for production of large format graphics, including banners and vehicle wraps. File preparation, troubleshooting, Raster Imaging Processor issues, work flow concepts. Estimating, production planning, and material selection are also covered. Required field trips. Total of 18 hours lecture and 54 hours laboratory.

Grade Mode: *Audit, Letter Grade*

GRFX 199 INTRODUCTION TO DESKTOP PUBLISHING**3 unit**

Introduction to desktop publishing. Basic DTP components. Written, visual and computer skills used to create and produce original documents specific to the student's major. Overview of career opportunities by faculty from various disciplines. May not be taken concurrently with or after JOUR 199. Total of 36 hours lecture and 54 hours laboratory.

Grade Mode: *Audit, Letter Grade*

GRFX 202 PRINTING MANAGEMENT-ESTIMATING**5 unit**

Theory and practice in planning for print production. Estimating for printing including art preparation, photographic procedures, image assembly, press selection and finishing methods. Analysis of printing orders from sales through invoicing, use of trade customs, computers in estimating and sales management for the printing industry. Proper uses of forms, pricing books and estimating standards for the printing industry. Total of 90 hours lecture.

Grade Mode: *Audit, Letter Grade*

GRFX 220 BASIC DIGITAL IMAGING**3 unit**

Introduction to document creation for print, web, or other final product. Image acquisition, assessment, editing, correction using programs such as Adobe Photoshop. Creation of digital documents using programs such as Adobe InDesign and Dreamweaver. Exposure to client, production team, and outside vendor relationships. Required instructional trips. Total of 36 hours lecture and 54 hours laboratory.

Grade Mode: *Audit, Letter Grade*

GRFX 221 ADVANCED DIGITAL IMAGING -WEB**3 unit**

Prerequisite(s): *GRFX 220*

Intermediate digital document production. Image acquisition, assessment, editing and correction using programs such as Adobe Photoshop. Automated photo processing and editing techniques. Creation of digital documents using programs such as Adobe InDesign for print and e-publication, including interactive documents. Exposure to client, production team and outside vendor issues. Required instructional trips. Total of 36 hours lecture and 54 hours laboratory.

Grade Mode: *Audit, Letter Grade*

GRFX 222 INTERMEDIATE DIGITAL IMAGING-PRINT**3 unit**

Prerequisite(s): *GRFX 220*

Intermediate digital document production for print, or other final product. Image acquisition, assessment, editing, and correction using programs such as Adobe Photoshop. Automated photo processing and editing techniques. Creation of digital documents using programs such as Adobe InDesign for print and e-publication, including interactive documents. Working with client, production team and outside vendors. Required instructional trips. Total of 36 hours lecture and 54 hours laboratory.

Grade Mode: *Audit, Letter Grade*

GRFX 244 COLOR SEPARATION THEORY AND PRINTING PRODUCTION**3 unit**

Prerequisite(s): *GRFX 240 or 146*

An introduction to color theory, separation methods and productions techniques using the electronic scanner, desktop technology and photo-manipulation software. Principles of analog and digital color proofing. Examination of color vision, color calibration, evaluation, color originals, correction methods and printing production standards employed in the printing field. Review of scanner formats, digital color systems, and imagesetting for the color service bureau and printing industry. Required instructional trips. Total of 54 hours lecture.

Grade Mode: *Audit, Letter Grade*

GRFX 245A BASIC PHOTOSHOP TECHNIQUES FOR GRAPHIC COMMUNICATIONS TECHNOLOGY**3 unit**

Prerequisite(s): *GRFX 030 or 035 or 220*

Recommended Preparation: *GRFX 244*

Training in the proper techniques to adjust and modify images based upon the workflow and output requirements using PhotoShop software tools. Study of color theory models, separation requirements, resolution issues, proofing methods and file formats necessary in a digital workflow. Correct techniques in the operation of both the hardware and software of a flatbed scanners. Practice in the correction for quality reproduction of scanned images. Instruction in the electronic masking techniques in conjunction with the use of channels, masks and layers for image-editing, special effects and color correction as required in the printing industry. Required instructional trips. Total of 18 hours lecture and 108 hours laboratory.

Grade Mode: *Audit, Letter Grade*

GRFX 245B ADVANCED PHOTOSHOP TECHNIQUES FOR GRAPHIC COMMUNICATIONS TECHNOLOGY**3 unit****Prerequisite(s):** GRFX 245A

Advanced techniques focusing on color correction, image editing and image preparation using PhotoShop application software. Instruction on digital editing methods to achieve color enhancements required in the production of printing images. Training in advanced PhotoShop applications for masking, the use of channels or layers as required by various digital-imaging systems. Use of color management systems and the evaluation of digital color proofing systems. Required instructional trips. Total of 18 hours lecture and 108 hours laboratory.

Grade Mode: Audit, Letter Grade**GRFX 300A PRODUCTION PRINTING****2 unit****Prerequisite(s):** One of the following: GRFX 113, 121, 132B, 134B, or 163

Production experience working with a wide variety of jobs. Individualized production training on live printing jobs. Deadlines, quality levels and production responsibilities expected from employees outside of the educational environment. Total of 18 hours lecture and 54 hours laboratory.

Grade Mode: Audit, Letter Grade**GRFX 300B PRODUCTION PRINTING****2 unit****Prerequisite(s):** One of the following: GRFX 113, 121, 132B, 134B, or 163

Production experience working with a wide variety of jobs. Individualized production training on live printing jobs. Deadlines, quality levels and production responsibilities expected from employees outside of the educational environment. Total of 18 hours lecture and 54 hours laboratory.

Grade Mode: Audit, Letter Grade**GRFX 300C PRODUCTION PRINTING****2 unit****Prerequisite(s):** One of the following: GRFX 113, 121, 132B, 134B, or 163

Production experience working with a wide variety of jobs. Individualized production training on live printing jobs. Deadlines, quality levels and production responsibilities expected from employees outside of the educational environment. Total of 18 hours lecture and 54 hours laboratory.

Grade Mode: Audit, Letter Grade**GRFX 300D PRODUCTION PRINTING****2 unit****Prerequisite(s):** One of the following: GRFX 113, 121, 132B, 134B, or 163

Production experience working with a wide variety of jobs. Individualized production training on live printing jobs. Deadlines, quality levels and production responsibilities expected from employees outside of the educational environment. Total of 18 hours lecture and 54 hours laboratory.

Grade Mode: Audit, Letter Grade**GRFX 300E PRODUCTION PRINTING****2 unit****Prerequisite(s):** One of the following: GRFX 113, 121, 132B, 134B, or 163

Production experience working with a wide variety of jobs. Individualized production training on live printing jobs. Deadlines, quality levels and production responsibilities expected from employees outside of the educational environment. Total of 18 hours lecture and 54 hours laboratory.

Grade Mode: Audit, Letter Grade**GRFX 300F PRODUCTION PRINTING****2 unit****Prerequisite(s):** One of the following: GRFX 113, 121, 132B, 134B, or 163

Production experience working with a wide variety of jobs. Individualized production training on live printing jobs. Deadlines, quality levels and production responsibilities expected from employees outside of the educational environment. Total of 18 hours lecture and 54 hours laboratory.

Grade Mode: Audit, Letter Grade**GRFX 300G PRODUCTION PRINTING****2 unit****Prerequisite(s):** One of the following: GRFX 113, 121, 132B, 134B, or 163

Production experience working with a wide variety of jobs. Individualized production training on live printing jobs. Deadlines, quality levels and production responsibilities expected from employees outside of the educational environment. Total of 18 hours lecture and 54 hours laboratory.

Grade Mode: Audit, Letter Grade