

BEGINNING GRAPHIC ARTS

GRADE: 9-12  
PREREQUISITE: None  
LENGTH: One semester  
CREDIT: 5 units/semester of Practical Arts, Fine Arts, or  
elective

SYNOPSIS

✓ This course is for the beginning student to develop basic skills in graphic arts and to give students an overview of the world of graphic arts. This is a basic course and will stress the skills of paste-up/layout, composition, reproduction photography, stripping (image assembly), offset duplicator and all elements required to complete the course.

This course outline has been prepared in conjunction with the State of California Model Curriculum Standards, Program Framework, and Process Guide for Industrial and Technology Education in California.

The teacher of this course is directed to refer to the Framework for a more detailed explanation and analysis of the topics contained in this outline.

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GRADE: 9-12

PREREQUISITE: None

### INSTRUCTIONAL MATERIALS:

Textbook and Workbook  
Graphic Communications - The Printed Image, Dr.  
Zeke Prust; Goodheart-Willcox, Inc.; South  
Holland, IL; 1989.

### COURSE OBJECTIVES:

The student will be taught the skills and competencies of the course outline.

1. The student will be able to complete all assignments and procedures to demonstrate their proficiency with all related graphic design, composition, and production.

2. To prepare the student for advanced graphic arts classes.

#### I. INTRODUCTION

- A. Define the role of graphics in the free enterprise system
- B. Identify printing markets and types of printing businesses
- C. List printing's ranking among other industries
- D. Identify the major printing processes
- E. List the advantages of each major process
- F. List the disadvantages of each major process
- G. Identify the products produced by each major process
- H. List in order the business flow of printing from initial need to final product
- I. List in order the technical production flow from idea to finished product
- J. Identify major occupations in the graphic arts
- K. List the major responsibilities for each occupation
- L. Identify basic salary/wage expectation ranges for local area

#### II. PASTE-UP/LAYOUT

- A. Identify basic equipment and hand tools for paste-up
- B. Identify basic materials and supplies for paste-up
- C. Produce a simple paste-up using the correct procedures, equipment, tools and materials

#### III. COMPOSITION

- A. Identify basic equipment and hand tools for composition
- B. Identify basic materials and supplies for composition
- C. Produce headline and body type using the correct procedures

IV. REPRODUCTION PHOTOGRAPHY

- A. Identify basic darkroom equipment and hand tools
- B. Identify basic materials and supplies for line photography
- C. Produce a good quality line negative using sensitivity guide/scale
- D. Identify basic diffusion transfer exposure and processing equipment
- E. Identify basic diffusion transfer materials for making line prints
- F. Produce good quality line print using diffusion transfer process

V. STRIPPING (IMAGE ASSEMBLY)

- A. Identify basic stripping equipment and hand tools
- B. Identify basic stripping materials and supplies
- C. Produce a single color flat with correct dimensions and cut outs
- D. Make necessary corrections to flat (i.e. opaque/scribing)
- E. Identify platemaking equipment and tools for offset metal plates
- F. Identify plate material types and processing chemicals for making offset metal plates
- G. Produce a correctly exposed and processed metal plate for offset printing
- H. Identify direct and/or electrostatic platemaking equipment
- I. Identify direct and/or electrostatic plate and processing materials
- J. Produce a direct and/or electrostatic plate for offset printing

VI. OFFSET DUPLICATOR

- A. Identify basic offset duplicator parts and operations
- B. Identify basic safety and Operation procedures for an offset duplicator for single color printing
- C. Perform basic setup for printing a single color job
- D. Produce a printed single color job using an offset duplicator

VII. BINDERY

- A. Identify operational and safety parts of a paper cutter
- B. Identify grain direction of paper
- C. Calculate basic paper cuts from stock sheet
- D. Draw a master cutting diagram for making cuts
- E. Make accurate paper cuts using a mechanized paper cutter

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- F. Identify basic paper types, weights, grades and classifications used in the printing industry
- G. Identify padding equipment and tools
- H. Identify padding materials
- I. Produce correctly made pads of paper
- J. Identify stapling and stitching equipment and hand tools
- K. Identify stapling and stitching materials and supplies
- L. Produce side and saddle stitched/stapled products
- M. Identify punching/drilling equipment and hand tools
- N. Measure to drill 3 ring notebook pages
- O. Make holes for 3 ring notebook
- P. Identify folding equipment and hand tools
- Q. Identify basic folds for printed products
- R. Make a single fold using an automatic folding machine
- S. Identify collating equipment and hand tools
- T. Make sets of paper using collating equipment in proper sequence
- U. Hand collate sets in proper sequence
- V. Identify die cut products and the basic procedure for diecutting
- W. Identify hot foil stamped products, basic equipment materials and procedures for foil stamping

### VIII. MEASUREMENT

- A. Measure linear dimensions for printing materials in inches and fractions of inches
- B. Measure type in points and picas
- C. Measure volume for mixing chemicals for darkroom and pressroom operations
- D. Measure copy for reduction and enlargement using proportion wheel to determine percentage setting

### IX. SAFETY AND FIRST AID

- A. Identify locations(s) of fire safety equipment
- B. Describe proper use of fire safety equipment
- C. List safety rules involving flammable liquids
- D. List the steps to be taken in case of injury in the lab
- E. Identify locations(s) of first aid kit(s) and eye wash station(s)
- F. MSDS - Read and comprehend Material Safety Data Sheets
- G. Identify protective safety equipment where needed (gloves, goggles, ear plugs)
- H. Follow approved shop dress code for safe operation including necessary personal safety equipment
- I. Pass general lab safety test
- J. Pass safety test in individual specialty area(s)

- K. Use approved methods to dispose of waste materials
- L. Read, comprehend and follow instructions on warning labels
- M. Demonstrate common sense when working with others
- N. Demonstrate a working knowledge of the safety color code

X. BASIC MATH

- A. Solve addition of whole number problems - 2 and 3 digits
- B. Solve addition of fraction problems
- C. Solve addition of decimal problems - 2 and 3 digits
- D. Solve subtraction of whole number problems - 2 and 3 digits
- E. Solve subtraction of fraction problems
- F. Solve subtraction of decimal problems - 2 and 3 digits
- G. Solve multiplication of whole numbers - 2 and 3 digits
- H. Solve multiplication of fraction problems
- I. Solve multiplication of decimal problems - 2 and 3 digits
- J. Solve division of whole number problems - 2 and 3 digits
- K. Solve division of fraction problems
- L. Solve division of decimal problems - 2 and 3 digits
- M. Solve fraction to decimal conversion problems
- N. Solve decimal to fraction conversion problems
- O. Solve decimals to percent conversion problems
- P. Solve percent to decimals conversion problems
- Q. Solve basic ration and proportion problems
- R. Solve basic linear measurement problems
- S. Solve basic type calculation problems
- T. Solve basic liquid measurement problems
- U. Solve basic paper cutting calculations
- V. Solve basic points and picas measurement problems
- W. Solve inches to picas conversion problems
- X. Solve picas to inches conversion problems
- Y. Solve inches to points conversion problems
- Z. Solve points to inches conversion problems and calculating problems

XI. JOB APPLICATION SKILLS

- A. List means of locating job openings
- B. Read and comprehend want ads
- C. Write a personal resume
- D. Write a cover letter for obtaining a printing job
- E. Read and comprehend an employment application form

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- F. Complete a job employment application form
- G. Practice job interview skills
- H. Complete a telephone interview for a printing job
- I. Write a follow-up letter
- J. Make a follow-up phone call
- K. Evaluate benefit package for employment
- L. Compare job opportunities

BOARD APPROVAL: June 6, 1994