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ABSTRACT

This instructional guide provides materials for a program in the Department of Defense Dependents Schools designed to provide the high school student with the opportunity to explore graphic communications. Introductory materials include the philosophy of graphic communications, organization and numbering code, and use of symbols. The general and program objectives appear next. Instructional objectives are shown with recommended instructional level, including suggested entry point and level at which proficiency would be expected. An organizational pattern for graphic communications precedes course descriptions and time allocations for elementary graphic communications, exploratory graphic communications (grades 6-8), introduction to graphic communications, advanced graphic communications, graphic seminar, and photography. Requirements for graphic communications laboratories include functional zone, laboratory layout, suggested equipment list, and recommended safety and health procedures and practices. Information on mainstreaming covers individualized educational programs and a competency profile for vocational teachers instructing sensory and physically impaired students. Sample forms provided are student competency certificate and graphic communications self-assessment evaluation. A list of basic textbooks is appended. (YLB)

Graphic Communications Objectives

career education

FOREWORD

Graphic Communications in the Department of Defense Dependents Schools (DoDDS) is a career discipline which provides decision making experiences for all students. For students who will enter non-graphic arts careers, this program provides skills and knowledge to deal intelligently with the products and processes of the graphic communications industry.

Steve Motta
Deputy Director

ACKNOWLEDGEMENTS

The Graphic Communications Objectives Manual is a revised version of the 1978 document. We appreciate the efforts of the many DoDDS educators who helped prepare that original document.

During SY 1983-84, educators from four regions (Atlantic, Mediterranean, Germany, and Panama) were tasked to review and revise the Graphic Communications Objectives. DoDDS is indebted to the many persons throughout the system who contributed to this document and particularly to the following educators:

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PHILOSOPHY OF GRAPHIC COMMUNICATIONS

One of America's significant industries is that cluster dealing with graphic communications. This conglomerate of industries includes all facets of production from the creative planning stages through preparation of the original, conversion into image carriers, and, finally, printing and finishing. Regardless of the processes used, the outcome is the production and reproduction of ideas through meaningful symbols in a non-verbal manner: visual communications.

Since graphic communications is one of the largest industries in our society, a general knowledge would not only seem warranted, but very helpful in appreciating our surroundings. Almost everything we come in contact with has been affected by graphic communications industries. These industries are so vital that no community can exist without their associated occupations.

Graphic communications is a broad, encompassing field relating in many ways to the lives of all people. Its place in the school is relevant to the general needs of today's students preparing to live in our information society. At the same time, graphic communications serve the special and vocational needs of those students desiring preparation for any of the hundreds of careers directly or indirectly related to this field.

DEFINITION

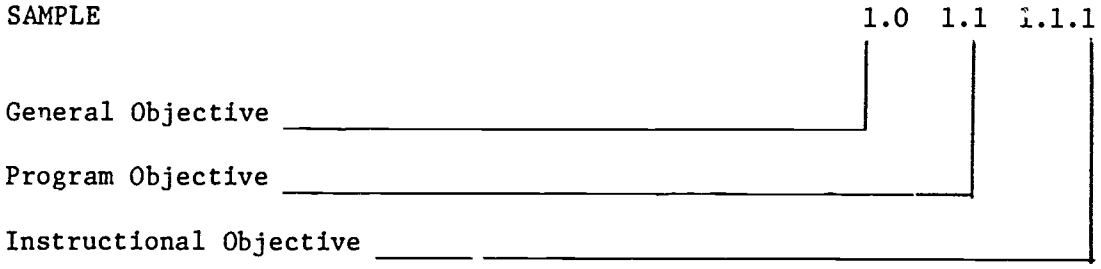
The program outlined in this manual is designed to provide the high school student the opportunity to explore graphic arts. In those schools with highly specialized graphic arts facilities the student can attain the necessary skills and information for an entry-level job in the graphic communications field.

The products of the Graphic Communications industry are countless and the list continues to grow. The industry itself is in a state of constant growth and change; witness the effect of computers on the industry. Techniques and processes continue to develop along with the demands placed upon this industry.

Although some of the processes of Graphic Arts are introduced in most of the DoDDS secondary schools, only those with specialized graphic arts facilities will be able to undertake the full graphic communications program outlined in this manual.

ORGANIZATION AND NUMBERING CODE

The numbering code is used to indicate the levels of the objective.



The first digit of the number of each statement refers to the general objective.

The second digit refers to the program objective.

The third digit refers to the instructional objective.

Instructional objectives are not to be considered inclusive, but are only presented as examples.

The numbering code is used to facilitate:

Identification of objectives.

Correlation of objectives with textbook and instructional materials.

Matching of test items to objectives.

USE OF SYMBOLS

Within the recommended instructional levels, the letter E represents the suggested entry point at which instruction begins.

The letter P indicates the level at which proficiency would normally be expected.

All General, Program, and Instructional Objectives should be read with the understanding that they are preceded by the phrase, "The learner should...."

Sample Objective:	RECOMMENDED INSTRUCTIONAL LEVELS		
	K - 5	6 - 8	9 - 12
2.1.2 Identify unsafe working conditions in the laboratory.	E		P

GENERAL AND PROGRAM OBJECTIVES

1.0 APPRECIATE THE GRAPHIC COMMUNICATIONS INDUSTRY AND ITS PLACE IN OUR CULTURE.

1.1 Summarize the historical developments of graphic communications.....6
1.2 Demonstrate awareness of career opportunities associated with graphic communications.....7

2.0 UNDERSTAND THE BASIC CONCEPTS AND PRINCIPLES OF GRAPHIC COMMUNICATIONS.

2.1 Practice proper safety procedures.....8
2.2 Use the basic principles of layout, design, and composition.....9
2.3 Practice the techniques used in copy preparation.....10
2.4 Apply the proper techniques of reproduction photography.....11
2.5 Practice the basic concepts of lithography.....12
2.6 Demonstrate the basic concepts of screen printing.....13
2.7 Recognize the basic principles of continuous-tone photography.....14
2.8 Apply the principles of relief printing.....15
2.9 Apply proper binding and finishing techniques.....16

3.0 DEVELOP PROBLEM SOLVING AND CREATIVE ABILITIES INVOLVING THE MATERIALS, PROCESSES, AND PRODUCTS OF THE GRAPHIC COMMUNICATIONS INDUSTRY.

3.1 Apply the principles of color separation.....17
3.2 Understand the uses of advance contact printing.....18

4.0 INTEGRATE SKILLS, ATTITUDES, AND KNOWLEDGE NECESSARY FOR SUCCESS AND ADVANCEMENT OF AN INDUSTRIAL-RELATED JOB OR EDUCATION.

4.1 Develop the generic skills necessary for success in life.....19

GENERAL OBJECTIVE: 1.0 APPRECIATE THE GRAPHIC COMMUNICATIONS INDUSTRY AND ITS PLACE IN OUR CULTURE.

PROGRAM OBJECTIVE: 1.1 Summarize the historical development of graphic communications.

INSTRUCTIONAL OBJECTIVE		RECOMMENDED INSTRUCTIONAL LEVELS K - 5	6 - 8	9 - 12
1.1.1	Identify the historical developments of graphic communications materials and processes.	E		P
1.1.2	Describe the historical events and people involved with their contributions to the development of graphic communications.	E		P
1.1.3	Identify samples of various reproduction processes with their image carrier.		E	P

PROGRAM OBJECTIVE: 1.2 Demonstrate awareness of career opportunities associated with graphic communications.

INSTRUCTIONAL OBJECTIVE		RECOMMENDED INSTRUCTIONAL LEVELS K - 5	6 - 8	9 - 12
1.2.1	Examine a variety of occupations associated with the graphic communications industry.	E		P
1.2.2	Know the required formal training or education needed for job entry into careers in graphic communications.		E	P

GENERAL OBJECTIVE: 2.0 UNDERSTAND THE BASIC CONCEPTS AND PRINCIPLES OF GRAPHIC COMMUNICATIONS.

PROGRAM OBJECTIVE: 2.1 Practice proper safety procedures.

		RECOMMENDED INSTRUCTIONAL LEVELS		
INSTRUCTIONAL OBJECTIVE		K - 5	6 - 8	9 - 12
2.1.1	Successfully complete a safety test.		E_____P	
2.1.2	Identify unsafe working conditions.		E_____P	
2.1.3	Demonstrate correct safety procedures.		E_____P	

PROGRAM OBJECTIVE: 2.2 Use the basic principles of layout, design, and composition.

INSTRUCTIONAL OBJECTIVE		RECOMMENDED INSTRUCTIONAL LEVELS K - 5	6 - 8	9 - 12
2.2.1	Describe the tools and materials used in layout and design.		E_____P	
2.2.2	Measure in inches, millimeters, and picas.	E_____P		
2.2.3	Explain the salient features of design principle.			E__P
2.2.4	Produce a thumbnail sketch.		E_____P	
2.2.5	Prepare a rough layout.		E_____P	
2.2.6	Prepare a comprehensive layout.		E_____P	
2.2.7	Identify various groups of type styles and their use.		E_____P	
2.2.8	Compute the scale for reduction and enlargement.			E__P
2.2.9	Use crop marks.			E__P
2.2.10	Recognize the differences between photo typesetting and line casting.			E__P
2.2.11	Identify errors in copy composition.			E__P

PROGRAM OBJECTIVE: 2.3 Practice the techniques used in copy preparation.

INSTRUCTIONAL OBJECTIVE		RECOMMENDED INSTRUCTIONAL LEVELS K - 5	6 - 8	9 - 12
2.3.1	Name the equipment, tools, and materials used in copy preparation.		E_____P	
2.3.2	Prepare a camera ready layout and paste-up for a single and multi-color line reproduction.		E_____P	
2.3.3	Produce a camera-ready copy containing half-tones, line/half-tones, reversed, or combinations of each.			E___P
2.3.4	Describe the use of computers in graphic communications.			E___P

PROGRAM OBJECTIVE: 2.4 Apply the proper techniques of reproduction photography.

INSTRUCTIONAL OBJECTIVE		RECOMMENDED INSTRUCTIONAL LEVELS K - 5	6 - 8	9 - 12
2.4.1	Set up, focus, and expose film using a copy camera and gray scale.		E_____P	
2.4.2	Arrange the dark room with chemicals and trays.		E_____P	
2.4.3	Process different types of film.		E_____P	
2.4.4	Describe the structure and light sensitive characteristics of film.			E__P
2.4.5	Prepare an acceptable line negative.		E_____P	
2.4.6	Prepare diffusion transfer materials using the copy camera or contact frame.		E_____P	

PROGRAM OBJECTIVE: 2.5 Practice the basic concepts of lithography.

INSTRUCTIONAL OBJECTIVE		RECOMMENDED INSTRUCTIONAL LEVELS K - 5	6 - 8	9 - 12
2.5.1	Follow the principles and uses of lithography (off-set) printing.		E_____P	
2.5.2	Use image carrier preparation procedures.		E_____P	
2.5.3	Use various types of litho plates.		E_____P	
2.5.4	Demonstrate a knowledge of the off-set press.		E_____P	
2.5.5	Prepare accurately registered flats for simple one-color line, multicolor, and half-tone jobs.		E_____P	
2.5.6	Explain the procedures to produce a duotone.			E___P
2.5.7	Follow the correct procedures used to incorporate screen tints.		E_____P	
2.5.8	Utilize registration marks and other control devices.		E_____P	

PROGRAM OBJECTIVE: 2.6 Demonstrate the basic concepts of screen printing.

INSTRUCTIONAL OBJECTIVE		RECOMMENDED INSTRUCTIONAL LEVELS K - 5	6 - 8	9 - 12
2.6.1	Identify printed matter employing screen printing.		E_____P	
2.6.2	Describe the screen printing techniques.		E_____P	
2.6.3	Describe the advantages and uses of the various screens.			E___P
2.6.4	Practice screen printing techniques.		E_____P	
2.6.5	Reproduce a single color print on paper, textile, wood, metal, glass, or other surface.			E___P
2.6.6	Reproduce a multi-color print using close registration.			E___P
2.6.7	Identify screen printing inks and their uses.			E___P
2.6.8	Display the procedures used to reclaim a screen.			E___P

PROGRAM OBJECTIVE: 2.7 Recognize the basic principles of continuous-tone photography.

INSTRUCTIONAL OBJECTIVE		RECOMMENDED INSTRUCTIONAL LEVELS K - 5	6 - 8	9 - 12
2.7.1	Identify different types of cameras.		E_____P	
2.7.2	Describe the uses, advantages, and disadvantages of the types of cameras.			E___P
2.7.3	Use light meters to determine exposure.			E___P
2.7.4	Name the parts of the camera.			E___P
2.7.5	Perform techniques to expose a role of film.		E_____P	
2.7.6	Complete processing steps to develop film.			E___P
2.7.7	Prepare a contact sheet from processed film.		E_____P	
2.7.8	Produce black and white enlargements using darkroom techniques.		E_____P	
2.7.9	Modify a print.			E___P

PROGRAM OBJECTIVE: 2.8 Apply principles of relief printing.

INSTRUCTIONAL OBJECTIVE		RECOMMENDED INSTRUCTIONAL LEVELS K - 5	6 - 8	9 - 12
2.8 1	Know the techniques concerning flexography in reproduction.		E_____P	
2.8.2	Recognize the uses of both rubber and thermoplastic image carriers.		E_____P	
2.8.3	Outline the commercial process involved in producing rubber image carriers used in flexographic printing.		E_____P	

PROGRAM OBJECTIVE: 2.9 Apply proper binding and finishing techniques.

INSTRUCTIONAL OBJECTIVE		RECOMMENDED INSTRUCTIONAL LEVELS K - 5	6 - 8	9 - 12
2.9.1	Determine the grain direction of types of paper.		E_____P	
2.9.2	Demonstrate proficiency in paper calculations, jogging, and paper cutting.		E_____P	
2.9.3	Perform standard finishing operations to include scoring, perforating, padding, die cutting, folding, binding, fastening, and finishing.		E_____P	

GENERAL OBJECTIVE: 3.0 DEVELOP PROBLEM SOLVING AND CREATIVE ABILITIES INVOLVING THE MATERIALS, PROCESSES, AND PRODUCTS OF THE GRAPHIC COMMUNICATIONS INDUSTRY.

PROGRAM OBJECTIVE: 3.1 Apply the principles of color separation.

INSTRUCTIONAL OBJECTIVE		RECOMMENDED INSTRUCTIONAL LEVELS K - 5	6 - 8	9 - 12
3.1.1	Describe the principles of additive and subtractive color processes.			E___P
3.1.2	Identify three primary and three subtractive colors.			E___P
3.1.3	Perform density readings on a densitometer.			E___P
3.1.4	Produce a four-color separation using film, screens, and filters.			E___P
3.1.5	Proof the separations to produce the full range of colors.			E___P
3.1.6	Strip flats and prepare plates for the four-color separation.			E___P
3.1.7	Print a four color run using registration marks and other control devices.			E___P

PROGRAM OBJECTIVE: 3.2 Understand the uses of advance contact printing.

INSTRUCTIONAL OBJECTIVE		RECOMMENDED INSTRUCTIONAL LEVELS		
		K - 5	6 - 8	9 - 12
3.2.1	Use common procedures for chokes and spreads.			E___P
3.2.2	Prepare a spread for improved image fit.			E___P

GENERAL OBJECTIVE: 4.0 INTEGRATE SKILLS, ATTITUDES, AND KNOWLEDGE NECESSARY FOR SUCCESS AND ADVANCEMENT OF AN INDUSTRIAL-RELATED JOB OR EDUCATION.

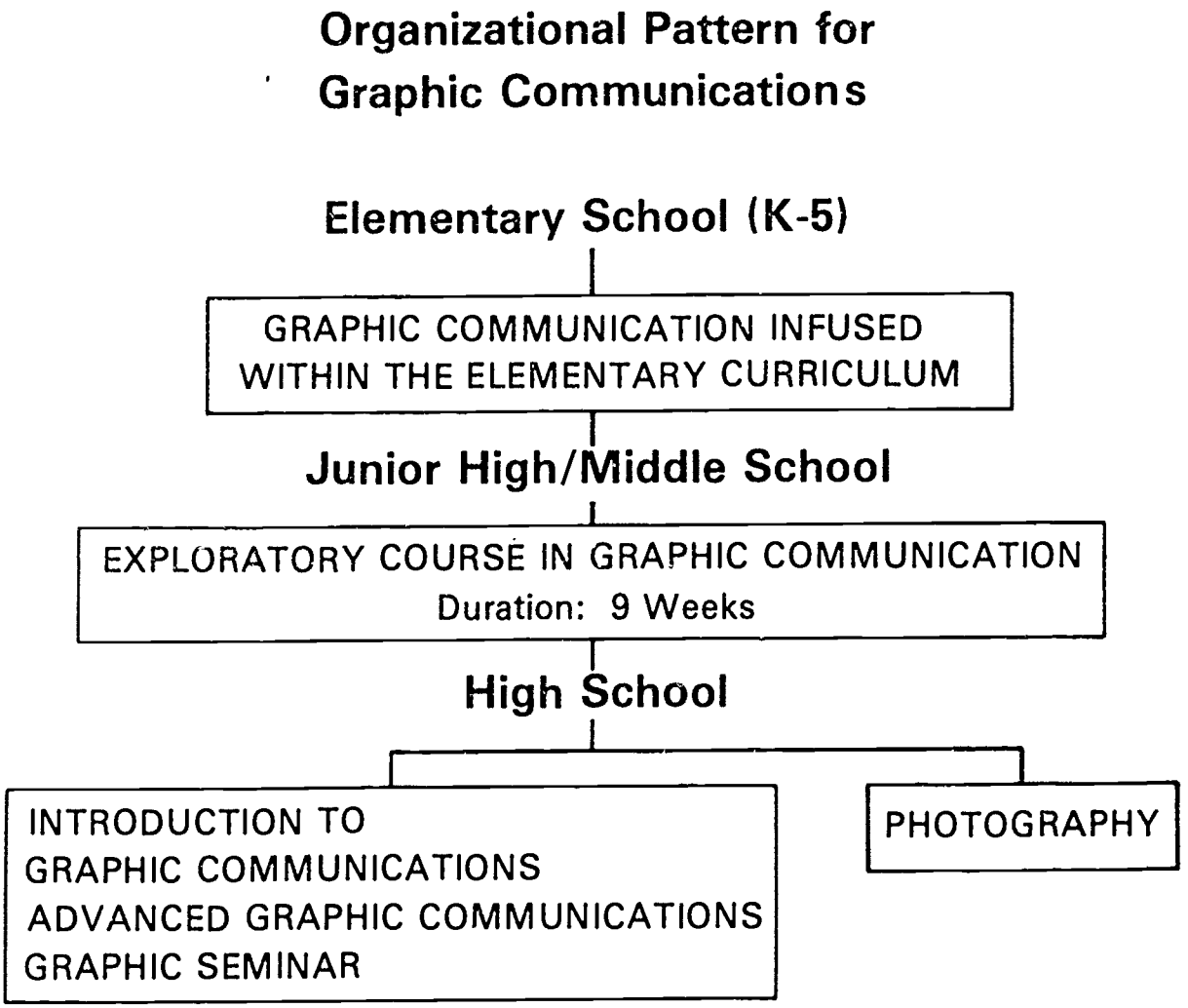
PROGRAM OBJECTIVE: 4.1 Develop the generic skills necessary for success in life.

INSTRUCTIONAL OBJECTIVES:	RECOMMENDED INSTRUCTIONAL LEVELS K - 5	6 - 8	9 - 12
4.1.1 Employ basic numerical, communication, and interpersonal skills generally used in the world of work.	E		P
4.1.2 Value the personal and social significance of work.	E		P
4.1.3 Appreciate the appropriate use of discretionary time.		E	P
4.1.4 Formulate a life plan in harmony with one's own ability, interests, and beliefs giving consideration to the ever-changing industrial society.		E	P

ORGANIZATIONAL PATTERN FOR
GRAPHIC COMMUNICATIONS

The unique functions and objectives for graphic communications are best achieved in DoDDS by an organization composed of one laboratory course in the junior high/middle school and four courses at the high school level: one introductory course, one advanced, a graphic seminar course, and a separate photography course.

The organizational chart follows:



COURSE DESCRIPTION AND TIME ALLOCATIONS

ELEMENTARY GRAPHIC COMMUNICATIONS

Graphic Communications at the elementary school level is usually incorporated into regular classroom to broaden and enrich the elementary program

This program is designed to familiarize students with various graphic occupations and the skill required for each. Students will develop an awareness of various industrial/technical-related occupations.

Emphasis is placed upon attitudes and values and the relationship of manipulative activities to the elementary curriculum. The activities reinforce concepts in reading, social studies, mathematics, science, and other subjects

EXPLORATORY GRAPHIC COMMUNICATIONS

This course is designed to provide grades 6 through 8 with exploratory and investigative activities in off-set lithography, photographic processes, bookbinding, pad binding, and paper making. (9-12-18 weeks)

INTRODUCTION TO GRAPHIC COMMUNICATIONS

This course involves the fundamental processes in graphic communications. Students will receive an orientation including history, the industry and its occupations, major equipment, and safety. Units include artwork, image assembly, photo-conversion, image carrier preparation, image transfer, and finishing procedures. (18-36 weeks)

ADVANCED GRAPHIC COMMUNICATIONS

This course is designed to develop problem-solving and creative abilities in students with an interest in Graphic Communications. Instruction is individualized. Introduction to Graphic Communications is a prerequisite. (18 weeks)

GRAPHIC SEMINAR

This seminar provides the student with valuable training in trade skills and printing experience in production off-set lithography. Students should pursue this course for career preparation or to acquire knowledge necessary for further technical education. (18 weeks)

PHOTOGRAPHY

This course is designed to meet the avocational needs of the student. Specific areas covered will vary according to available school equipment and facilities; however, it will be drawn from units dealing with equipment types, care and uses, film types and developing, black and white and color printing and enlarging, composition, and mounting and displaying of the product.

REQUIREMENTS FOR GRAPHIC COMMUNICATIONS LABORATORIES

The Graphic Communication laboratory will have industrial tools and machines that will provide basic entry-level experiences.

A total area of approximately 2,250 square feet is required.

The general laboratory area should have 110 and 220-volt electrical outlets on 8-foot centers on all walls and dropped from ceiling. There should be one master cut-off switch controlling all receptacles located in the laboratory.

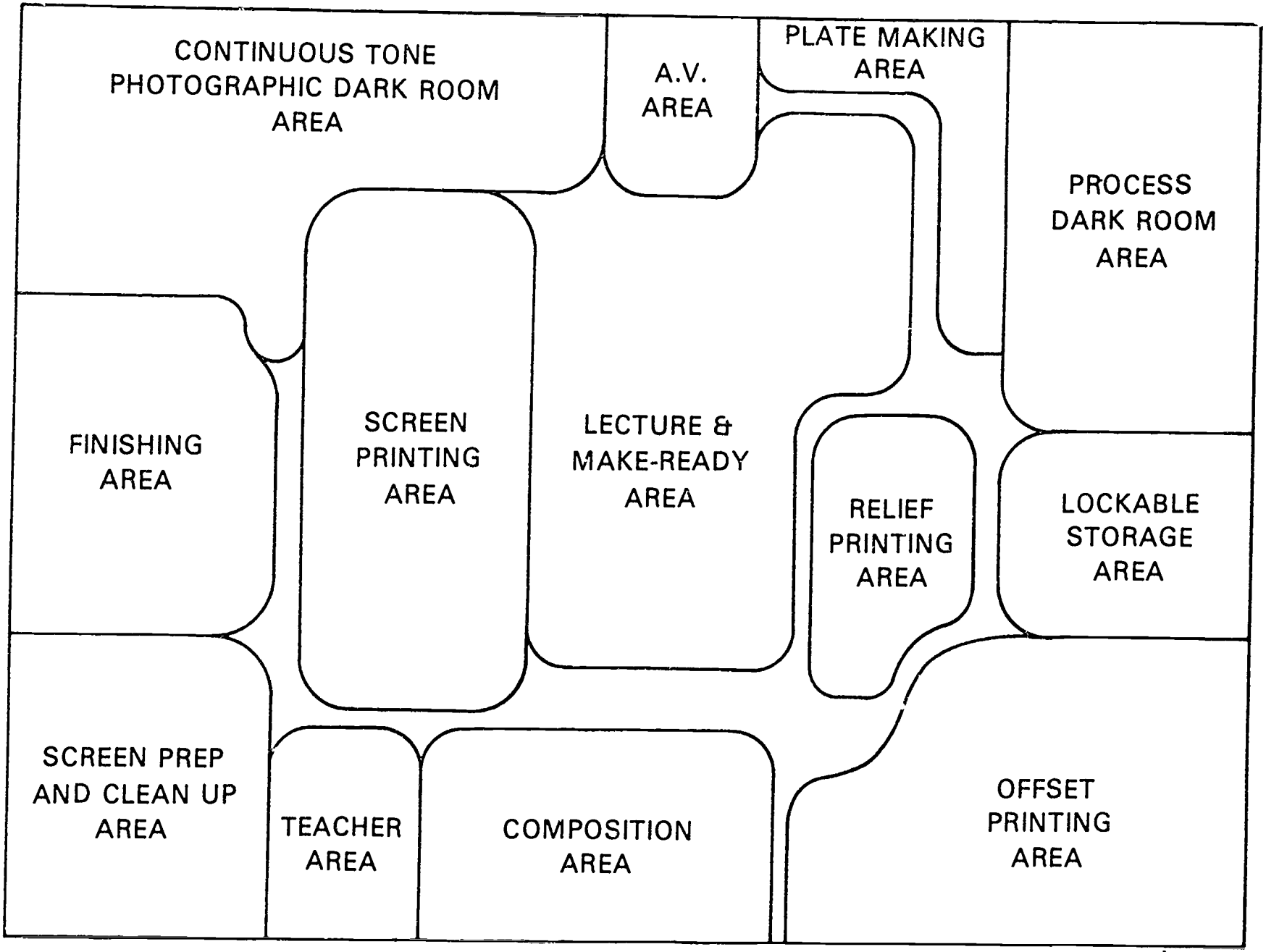
The general laboratory area should have a chalkboard, a tackboard, and a sink with hot and cold water.

A separate storage area of approximately 150 square feet should be provided.

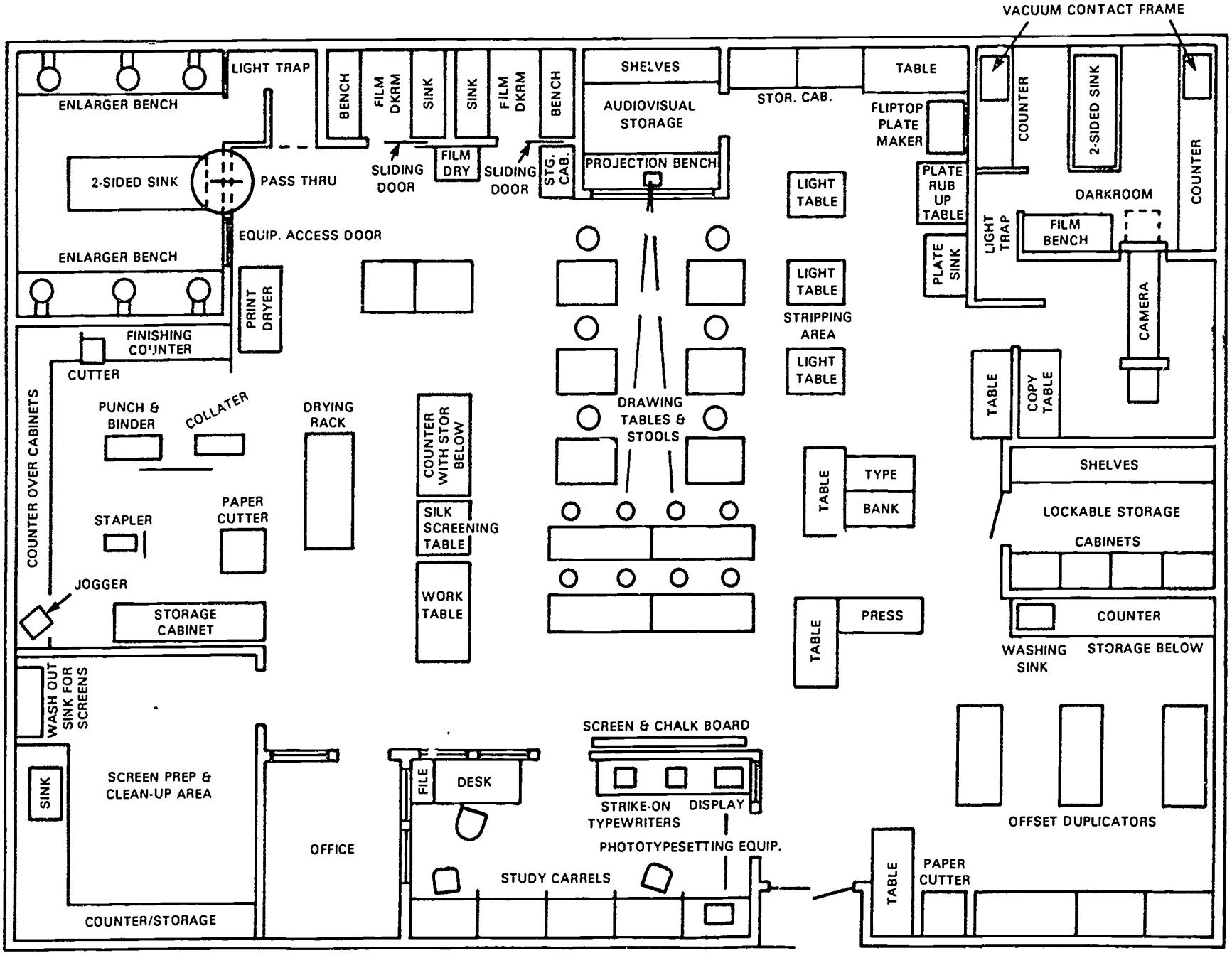
Industrial type ventilation to carry off fumes and provide fresh air should be provided.

The photo darkroom should have ventilation and hot and cold water.

Graphic Communication Laboratory-Functional Zones



Graphic Communications Laboratory Layout



GRAPHIC COMMUNICATIONS
SUGGESTED EQUIPMENT LIST

QUANTITY	NOMENCLATURE
1	Instructional Program, PICA Graphic Education Program
2	Offset Press, Table Model*
2	Offset Press, Floor Model*
1	Letter Press Hand Model
2	Light Meters
4	35mm Camera
1	Twin Lens Reflex 2.25 x 2.25
6	Timers, Photographic*
6	Enlargers*
1	Print Processor*
1	Diffusion Transfer Processor*
1	Washer/Print, Rotary Drum Print Washer*
	Process Camera, Vertical w/Light Integrater*
1	Process Camera, Horizontal w/Light Integrater*
1	Film Dryer Cabinet Wall*
1	Print Dryer Rotory Drum Photo*
4	Light Table, Floor*
1	Platemaker, Electrostatic*
1	Platemaker Exposure Unit, Floor Model, Instant Mercury w/Light Integrator*
1	Contact Printer Frame (Vacuum)*
1	Pin Point Light Source*
1	Guillotine (Paper Cutter) Industrial Type, Electric*
1	Collator*
1	Paper Drill*
1	Saddle Stapler*
1	Binder, Plastic Comb
1	Headliner, Dry Type*
1	Direct Entry Typesetter*
1	Rubber Stamp Maker Press w/Supplies
1	Laminater, Dry Mount*
1	Paper Folder*
1	Paper Jogger*
1	Thermographer*
1	High Pressure Screen Wash Out Unit*
1	Heat Transfer Press*
1	Button Making Machine
1	Copy Stand Outfit
1	Densitometer, Black and White Reflection
1	Litho Film Dryer*
1	Temperature Control Darkroom Sink
1	Plate Developing/Finishing Table
1	Silk Screen Drying Rack
1	Padding Press
1	Table Top Platemaker (Expose, Develop, and Process Plates.)*
1	Ringmaster Sound/Slide*
1	H lf-Tone Flash Lamp Kit*

* Electrical Specifications: Appropriate to site requirements.

SAFETY AND HEALTH*
RECOMMENDED PROCEDURES AND PRACTICES

. comprehensive safety and health program is essential to the success of a quality graphic communications program. The program provides for a safe environment and promotes lifelong attitudes and practices regarding safety and health.

PROGRAM - Learning experiences and activities are designed for the development of knowledge, skills, and attitudes concerning the safe use of tools, machines, materials, and processes.

1. Teachers should prepare a written plan for a comprehensive safety and health program.
2. Administrative personnel should provide input for and approval of the safety and health program.
3. Community resources should provide input to the safety and health program.
4. Safety and health information should be included in the instructions for all laboratory activities.
5. Teacher and student activities should reinforce safety and health instructions.
6. Safety and health instructions should be adapted to the individual student's needs.
7. Safety and health practices should be monitored continuously and reviewed annually by the teacher.
8. Local administrators should assess and make recommendations for the improvement of the safety and health program.
9. Proper authorities, external to the school, should inspect periodically and report on the safety and health program.
10. Teachers and administrators should review each recorded accident and all unsafe practices to correct deficiencies.

PHYSICAL ENVIRONMENT - The physical facilities and equipment are designed, constructed, and maintained to ensure a safe and healthful learning environment.

1. Laboratory facilities should meet appropriate safety and health laws and regulations.
2. Safety zones and aisles should be properly marked.
3. Proper exhaust systems equipment, which removes fumes, chips, and dust from the room, should be provided.
4. Proper equipment should be provided to heat, cool, and ventilate all instructional and ancillary zones.
5. Approved safe cabinets, containers, or rooms should be provided to store flammable and corrosive materials.
6. Special safety and health accommodations should be provided for students with special needs.

*Standards for Industrial Arts Programs Project, Virginia Polytechnic Institute and State University, November 1981. (Revised to reflect Graphic Communications.)

7. Floors and all other surfaces should be kept free of waste material, grease, and obstructions.
8. Floors should have non-skid surfaces, with special application on machine-operator work areas.
9. Each laboratory with powered equipment will have the equivalent of one easily accessible emergency disconnect switch (panic button).
10. Fire extinguishers of the correct class will be provided in appropriate locations.
11. A first-aid kit and related emergency supplies will be provide in accordance with local regulations.
12. Equipment will be selected on the basis of the ability to meet program objectives safely.
13. Machines and tools will be placed, mounted if necessary, and arranged in a safe and functional manner.
14. All machines and power tools will be provided with approved commercial guards and safety devices.
15. Safety guards will remain in place, except when the machine is disconnected for cleaning, repair, or adjustment.
16. Any machine or tool found to be unsafe will be removed from service until safety standards can be met.
17. Color-coding schemes for safety purposes will be used throughout the graphics communications laboratory.
18. Conveniently located magnetic control switches and/or control boxes and braking devices will be provided for appropriate machines.
19. Lockable master switch boxes will be located in each graphic communications laboratory.
20. Machines and work stations where dust or fumes are produced beyond acceptable health limits will be connected to an exhaust system.
21. Eye protection devices will be required of all persons exposed to conditions which may cause eye injury.
22. Ear protection devices will be required of all persons exposed to conditions which may cause ear damage.
23. Respiratory protection devices will be required of all persons exposed to conditions which may cause respiratory problems.
24. Head protection devices will be required of all persons exposed to conditions which may cause head injury.
25. Specially adapted personal protection devices will be available for and used by students with special needs.
26. Teachers and students will wear appropriate clothing when exposed to conditions which warrant such protection.
27. Personal protection devices requiring sanitation will be sanitized after each use.

RECORDS: Records are on file to document the existence of an effective safety and health program.

1. Lesson plans documenting provision for safety and health instructions should be on file.
2. Results of written and performance tests and observations documenting student safety and health knowledge, attitudes, and skills are on file.

3. Inspection, maintenance, repair, and replacement records will be current and on file.
4. Records of each accident and the follow-up procedures taken will be on file.
5. Emergency procedures for responding to accidents will be posted and on file.

MAINSTREAMING IN GRAPHIC COMMUNICATIONS
INDIVIDUALIZED EDUCATIONAL PROGRAMS
(IEP)*

Included in Public Law 94-142 is the concept of individualized educational programs for handicapped students. Each student is to have an individually prescribed program of studies, containing short- and long-term goals, based on the diagnosis of the student's learning abilities. The law states:

> "A written statement for each handicapped child developed in any meeting by a representative of the local educational agency or an intermediate educational unit who shall be qualified to provide, or supervise the provision of, specially designed instruction to meet the unique needs of handicapped children, the teacher, the parents or guardians of such child, and whenever appropriate, such child, which statement shall include (a) a statement of the present levels of educational performance of such child; (b) a statement of annual goals, including short-term instructional objectives; (c) a statement of the specific educational services to be provided to such child, and the extent to which such child will be able to participate in regular educational program., (d) the projected date for initiation and anticipated duration of such service and appropriate objective criteria and evaluation procedures and schedules for determining, on at least an annual basis, whether instructional objectives are being achieved."

Since the graphic communications teacher will be involved in the planning and implementation of the instructional program for the particular graphic communications course in which the handicapped students are enrolled, the instructor should make every effort to participate actively in the development of the IEPs. This active participation will help to ensure that unrealistic or unreachable goals are not established for those phases of the students' programs which include the graphic communications teacher's area of expertise. Furthermore, planning appropriate instruction is crucial if handicapped students are to achieve their highest level of skill in the graphic communications program. A side benefit of active participation in the writing of the IEP is the opportunity for working directly with the special education personnel, the students' parents, and the administration. Direct communication will help to prevent misunderstanding or confusion on the part of all parties involved.

One facet of the role of the graphic communications teacher, or any other teacher, is to provide information to appropriate persons for the identification of students with special needs. The major parts of the teacher's role, however, are those traditionally associated with helping students to learn - instructing and evaluating students. However, assisting students with special needs will probably require that the teacher reexamine methods, materials, motivational devices, and evaluation techniques.

*Courtesy of South-Western Publishing Company, Cincinnati, Ohio, Mainstreaming in Business Education, Monograph 135, March 1981. (Revised to reflect Graphic Communications.)

DIAGNOSIS

Two vitally important elements essential to the development of the IEP are those of diagnosis and task analysis. The task analysis is based upon the interpretation of the diagnostic reports pertaining to the handicapped student.

The individual with special needs must first be identified, tested, and evaluated for learning according to the diagnosis of the special need. Once the diagnostic reports are adequately interpreted, the development of an appropriate program begins. Acting cooperatively, the graphic communications teacher, special education resource persons, and other key professional staff members begin the process of planning the educational program for specific students. The basis for the planning is the development of the learner's profile which includes information about the student's learning strengths, weaknesses, and occupational interests.

TASK ANALYSIS

Inherent in the development of the IEP is the need for graphic communications teachers to realistically assess methods, media, and content pertinent to any given course or occupational cluster. For the first time, coordinators and teachers may realize that not every student needs to complete every part of one course.

A study should be made of available resources and the competencies required for work in today's society. Each individual program for a special needs learner is planned, implemented, and evaluated by a team composed of representatives from the areas of expertise mentioned earlier. Periodic assessment of the learner's progress is used to provide information not only of educational gains, but of the status of the handicapping condition.

A career cluster analysis is similar to a job or task analysis. The planners are identifying skills, knowledges, and basic competencies to be incorporated into the individualized instructional plans for the learner. Thus, the team must identify tasks and the essential knowledges and skills necessary for the performance of the task within designated occupational clusters and/or courses. Additionally, the team must determine the competencies and the levels of competency that can realistically be achieved by the special needs student.

COMPETENCY PROFILE FOR VOCATIONAL TEACHERS INSTRUCTING SENSORY AND PHYSICALLY IMPAIRED STUDENTS*

A. Develop a positive attitude toward working with sensory and physically impaired in the regular program.

1. Assess own attitude toward working with handicapped students.
2. Participate in activities simulating handicapped conditions.
3. Identify myths, misconceptions, and stereotypes.
4. Identify handicapping characteristics of students.
5. Identify economic indicators supporting hiring of the handicapped.
6. Consult with persons working successfully with the handicapped to determine why they are committed.
7. Observe the handicapped in successful roles (e.g., on the job).
8. Interact with handicapped students.
9. Review legislation concerning handicapped.
10. Persist in the face of seeming failure.

B. Implement modifications in the physical setting.

11. Identify architectural barriers.
12. Recommend needed changes in facility design.
13. Determine the special safety conditions that may be required by the handicapped students.
14. Modify work stations as needed.
15. Secure/adapt appropriate equipment as needed by students.

C. Modify curriculum and instruction.

16. Identify and verify vocational skills needed by each student to meet career goals.
17. Identify and verify related skills (reading, math).
18. Identify jobs on career hierarchy/ladder.
19. Match/modify jobs on career hierarchy/ladder to students' abilities.
20. Determine if texts/materials are appropriate to students' reading levels.
21. Adapt materials to individual learning styles.
22. Develop materials to meet individual learning styles.
23. Teach job-seeking skills.
24. Teach job-survival skills.
25. Modify length of training period to meet students' needs.
26. Promote use of open-entry/open-exit programming.
27. Use a competency-based grading system to supplement 'grade' with competency profile.
28. Employ alternative teaching practices (e.g., peer tutoring, small-group discussions).
29. Individualize teaching practices.

*Courtesy of South-Western Publishing Company, Cincinnati, Ohio, Mainstreaming in Business Education, Monograph 135, March 1981.

30. Use specialized language instruction techniques (e.g., to teach vocabulary).
31. Use a multisensory approach to instruction.
32. Adapt/use media for individual needs (e.g., captions).
33. Simplify instruction of essential tasks.
34. Identify instructional resources, materials, and techniques available to the teacher.
35. Use supportive instructional services.
36. Provide frequent reinforcement and success experiences.
37. Review effectiveness of curriculum and instruction regularly, and update as required.
38. Modify instructional evaluation techniques as needed.

D. Participate in ongoing evaluation concerning sensory and physically impaired.

39. Develop skills in recognizing students with handicaps.
40. Review any existing student records.
41. Devise informal measures for assessing students' abilities.
42. Identify student learning styles.
43. Assess students' motor skills in relation to occupational skills required.
44. Determine if the disability is, in fact, a vocational handicap.
45. Participate in development of individualized student plans (e.g., IEPs).
46. Involve students/parents on an ongoing basis.
47. Monitor and update student goals based on student progress.
48. Provide student with realistic picture of job skills needed and time required to reach career goal.

E. Develop effective communications.

49. Establish rapport with students.
50. Facilitate the productive integration of the disabled with their peers.
51. Assist students in developing realistic goal-setting skills.
52. Involve students in developing their own individual programs.
53. Provide assertiveness training for students.
54. Teach appropriate situational responses/discrimination skills.
55. Secure feedback from individual students on how well the program is meeting their needs.
56. Use student contracts (performance contracting, behavior contracting).
57. Relate self-awareness activities to career goals.
58. Develop functional means (e.g., sign language) to communicate with students having communication deficits.
59. Observe nonverbal behaviors as indicators of feelings.
60. Ensure that your communication patterns (verbal, nonverbal) do not single out handicapped students as different.
61. Use active listening techniques.
62. Work cooperatively with other support/resource persons (e.g., interpreter, itinerant teachers) in the classroom.

63. Maintain liaison with special education personnel as needed or required.
64. Communicate with guardians, employers, agencies, and all others affecting handicapped students.
65. Facilitate the placement of handicapped students by working with employer.
66. Encourage administrators to support creative/alternative instructional approaches.

F. Identify and utilize supportive services (on campus and in the community).

67. Identify needs students have.
68. Obtain or develop a directory of support services.
69. Participate in activities designed to increase your knowledge of what services do and how to use them.
70. Inform students of relevant services available to them.
71. Match students' needs with available services.
72. Identify appropriate contact persons for teachers.
73. Initiate referral process as appropriate (inform service, refer student).

G. Provide aid in emergencies.

74. Be alert to the types of emergencies that might occur for individual students.
75. Identify legal implications involved in giving aid.
76. Identify emergency procedures to be followed.
77. Obtain training in types of aid for individual students.
78. Identify/contact emergency resources.

H. Continue professional growth.

79. Work toward improving the climate for acceptance in yourself, in colleagues, and in employers.
80. Review related literature.
81. Participate in orientations and workshops.
82. Observe/interact with colleagues who are doing a model job in teaching handicapped students.
83. Participate in experiences that promote creative development and exchange (e.g., problem sharing with colleagues).
84. Participate in/support professional groups dealing with handicapped.
85. Include in your own professional development plans steps to acquire additional skills for teaching the handicapped.

CERTIFICATE OF PROFICIENCY

in *is awarded*

to

This Day of_____ 19_____

_____
Principal

_____
School, Country

_____
Instructor

LIST COMPETENCIES ON BACK OF CERTIFICATE AND INITIAL EACH ONE.

DOD DEPENDENTS SCHOOLS
GRAPHIC COMMUNICATIONS PROGRAM
SELF-ASSESSMENT EVALUATION

SCHOOL: _____ DATE: _____

INSTRUCTOR'S NAME: _____ TYPE OF LABORATORY: _____

INSTRUCTIONS: Below is a list of evaluative statements. The teacher should rate each item from 0 to 4. Four is the highest rating an item may receive, 0 is the lowest. Once the evaluation is completed, the ratings should be totaled. The total possible score is 100 points. This instrument is intended for the teacher's use in the program diagnosis. It is suggested that this instrument be used midway and at the end of the program.

PART I (Program):

Special concerns of the graphic communications program are common learnings needed by all persons to function effectively in our high technological society: attitudes, interests, abilities and skills, problem solving, and understanding the world of work.

Ratings		Statements
4 3 2 1 0	1.	The program (includes all courses) is designed to serve boys and girls providing hands-on activities interpreting the technology of our society.
4 3 2 1 0	2.	All levels of the program foster technological adaptability as an exit competency.
4 3 2 1 0	3.	Opportunity is offered each student to discover and to develop personal talents in the realm of technology.
4 3 2 1 0	4.	Courses enroll both boys and girls of all ability levels.

PART II (Curriculum):

Implementing a graphic communications program requires a division of services and responsibilities among the various levels, grades, facilities, and instructors.

4 3 2 1 0	5.	Individual courses are designed to be a part of a total program of instruction and are reviewed yearly for possible improvement.
4 3 2 1 0	6.	A written course of study is used to guide each class with activities designed to relate to the adaptability goal, the age, and the ability level of the students.

4 3 2 1 0	7.	The course of study lists exit competencies, i.e., what the student will have when he/she leaves the course.
4 3 2 1 0	8.	A student/personnel system is instituted for maintaining an orderly lab environment.
4 3 2 1 0	9.	A daily log or teacher plan book is maintained as a class instructional record.
4 3 2 1 0	10.	A record of pupil attendance in class is maintained.
4 3 2 1 0	11.	A record of individual student progress and activities is kept.
4 3 2 1 0	12.	A description of each course offered is included in a handbook of courses for use by students, parents, and guidance counselors.

PART III (Instruction):

Effective class instruction combines cognitive information and tactile activities designed to enable students to perform with ideas, tools, equipment, and materials.

4 3 2 1 0	13.	A lesson schedule, which includes 50 group presentations, is used with all classes.
4 3 2 1 0	14.	Teaching performance includes spontaneity, a relevant introduction, two-way communication, answerable questions, summation, and praise for participation.
4 3 2 1 0	15.	Students work without constant direction and/or questions.
4 3 2 1 0	16.	A variety of student project activities is evident.
4 3 2 1 0	17.	Provision is made for the display of student work.

PART IV (Facilities):

The presentation of instruction in graphic communications requires a laboratory environment with appropriate equipment/tools and an adequate supply of materials for student activity.

4 3 2 1 0	18.	Equipment represents a commitment to provide exploration in a wide variety of experiences rather than narrow, indepth training.
4 3 2 1 0	19.	Guests and visitors routinely are invited and escorted to the graphic communications department as it represents a "showcase" environment for instruction.
4 3 2 1 0	20.	Storage of tools, materials, and projects is organized to provide full use of all benches and equipment and security for student work.
4 3 2 1 0	21.	Student clean-up activities are an integral part of the graphic communications course of study.

PART V (Safety):

Provision for instruction in common safety practices, the development of student safety habits and the establishment of a safe work environment represent a necessary part of technological education.

4 3 2 1 0	22.	Safety considerations are an integral part of all class and individual instruction.
4 3 2 1 0	23.	Equipment is fully guarded and procedures are implemented to assure compliance with good safety practices.
4 3 2 1 0	24.	Eye safety devices are worn as a common practice when warranted.
4 3 2 1 0	25.	A record of all accidents is maintained.

*BASIC TEXTBOOKS FOR

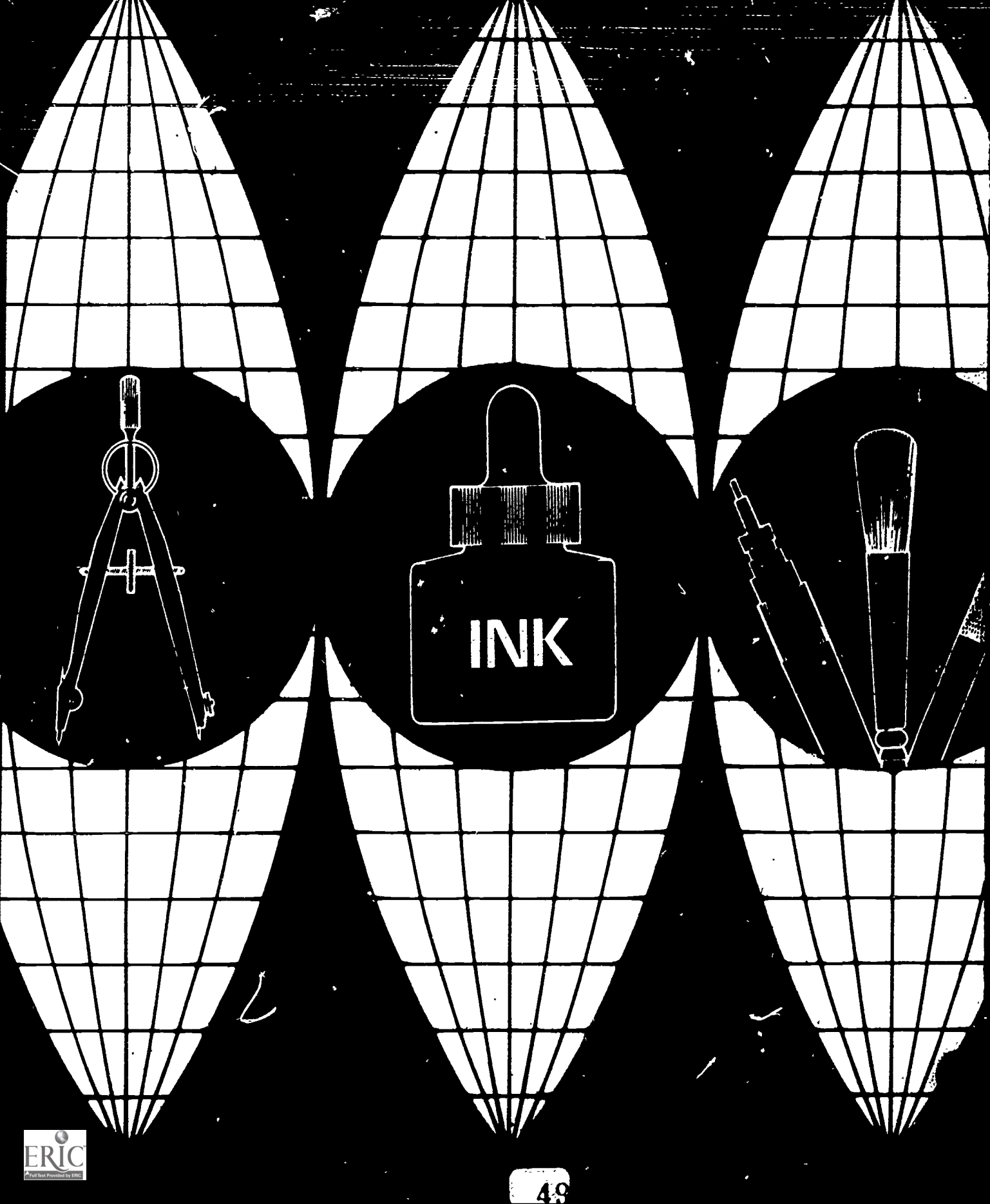
GRAPHIC COMMUNICATIONS

(Approved for Adoption April 6, 1984)

TITLE	AUTHOR	PUBLISHER	COPYRIGHT DATE
EXPLORATORY, 6-8			
Graphic Arts	Kagy	Goodheart-Wilcox Co.	1981
INTRODUCTION TO GRAPHIC COMMUNICATION, 9-12			
Graphic Arts Fundamentals	Walker	Goodheart-Wilcox Co.	1980
ADVANCED GRAPHIC COMMUNICATIONS, 9-12			
Step By Step Guide to Photo-Offset Lithography	Swerlow	Prentice-Hall, Inc.	1982
GRAPHIC SEMINAR, 9-12			
Paste-Up For Graphic Arts Reproduction	Hird	Prentice-Hall, Inc.	1983
PHOTOGRAPHY, 9-12			
Exploring Photography	Walker	Goodheart-Wilcox, Co.	1983
PACKAGED INSTRUCTIONAL PROGRAM			
Graphic Communications Education Program	Clemson U.	PICA	1981

* For ordering these basic textbooks and other supplementary materials, refer to the DoDDS BOSS catalog.

DISTRIBUTION: B, K, L, M, Q (as required to schools with this program)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