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ABSTRACT

This report provides results of Phase I of a project that researched the occupational area of commercial photography, established appropriate committees, and conducted task verification. These results are intended to guide development of a program designed to train photographic technicians. Section 1 contains general information: purpose of Phase I; description of the occupation, including nature of work, working conditions, and related occupations; direction of the occupation, including employment, training and other qualifications, advancement, job outlook, and earnings; program development committee; areas of concern; and State Technical Committee developmental recommendations. Section 2 presents research findings: accreditation and certification; list of typical job titles; and appropriate trade resources, including references and textbooks, curriculum materials, audiovisuals, trade and professional association journals, safety manuals, safety equipment, and sources of additional information. A verified occupational duty and task list is comprised of 17 duties: monochromatic laboratory skills; exposure controls; basic photographs; various format cameras; studio photographs; location photographs; photographic presentation and enhancement; lighting techniques; photographic media reproduction; color film processing; color photographic print production; media presentations; business management; photojournalism; quality control; safety; and photography: past and present. Other contents include a tools and equipment list and staff and facilities recommendations. (YLB)

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COMMERCIAL PHOTOGRAPHY

PROJECT REPORT

PHASE I

WITH

RESEARCH FINDINGS

COMMERCIAL PHOTOGRAPHY CONTRACT

PROJECT REPORT

PHASE I

WITH

RESEARCH FINDINGS

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Athens, Georgia

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SECTION ONE

GENERAL INFORMATION

PURPOSE OF PHASE I

Phase I focused on researching the occupation, establishing appropriate committees, and conducting task verification. The results of this phase have provided the basic information required to develop the program standards and guide and set up the committee structure to guide the project.

The program is designed to address the needs of the commercial photography field that use or plan to use graduates as photographic technicians.

DESCRIPTION OF OCCUPATION

Nature of the Work

Photographers and camera operators use cameras and film to portray people, places and events much as writers use words. Those who are skillful can capture the personality of individuals or the mood of scenes on film. Photographers specializing in scientific, medical, or engineering photography expose worlds normally hidden from our view. Camera operators film news events, television shows, movies, commercials, and even cartoons.

The skills required of still photographers are quite different from those needed by camera operators. Workers generally specialize in one area or the other. Nonetheless, photographers and camera operators all use the same basic equipment, a camera. Camera operators generally use 35-millimeter cameras to film motion pictures, 16-millimeter cameras to film documentaries and industrial films, and videotape cameras to record news events for later showing on television. Most photographers use a wide variety of still cameras to record important or memorable events or to create works of arts. Unlike snapshot cameras, which have a lens permanently attached to the camera body, professional cameras can be used with a variety of lenses designed for close-up, medium-range, or distance photography. In addition, professional photographers and camera operators use a vast array of mechanical equipment -- from the simple tripods and flash attachments to specially constructed motorized vehicles and special lighting.

Besides cameras and lenses, photographers and camera operators employ a variety of film and filters to obtain the desired effect under different lighting conditions. When taking pictures indoors or after dark, they may use electronic flash units, floodlights, reflectors, and other special lighting equipment and backdrops.

Some photographers develop and print their own photographs in the darkroom and may enlarge or otherwise alter the basic image. Many photographers send their work to laboratories for processing.

Taking quality pictures is a technical process as well as a creative one. Photographers and camera operators must be familiar with all the characteristics of light, film, and cameras, and how they must be combined to take professional quality pictures. Years of training and experience are needed to develop the skills and abilities needed to coordinate all these variables.

Creativity is often called for when photographers compose their pictures. Composing a photograph means choosing a subject and deciding how to achieve a particular effect. The photographer may wish to change or enhance the normal appearance of the subject, for example, or draw attention to a particular aspect. It is through creative application of the principles of composition, and judicious use of light, lens, film, filters, and camera settings, that photographers produce pictures that capture a mood or tell a story.

Still photographers may specialize in a particular type of photography, such as portrait, fashion, or advertising. Portrait photographers take pictures of individuals or groups of persons and often work in their own studios. For special events, such as weddings or christenings, however, they take photographs in churches and homes. Portrait photographers in small studios, like other small business owners, frequently handle all aspects of their

Nature of the Work (cont.)

business. They arrange for advertising and schedule appointments; set and adjust equipment before taking the pictures; develop and retouch negatives; develop proofs; and mount and frame pictures. They also purchase supplies and take care of billing and recordkeeping.

Advertising or industrial photographers take pictures of a wide range of subjects including livestock, manufactured articles, buildings, and groups of people. They frequently do photography for catalogs. Companies use their work in publications to report to stockholders or to advertise company products or services. To create attractive, eye-catching promotional pictures, advertising photographers must command a broad array of photographic techniques. Industrial photographers also photograph groups of people for employee news magazines or take motion pictures of workers operating equipment and machinery for management's use in analyzing production or work methods.

Scientific photographers and biological photographers provide illustrations and documentation for scientific publications and research reports. The photographs and slides they produce are also used for educational purposes. These photographers usually specialize in a particular field, such as engineering, aerodynamics, medicine, biology, or chemistry. Some design photographic equipment for use as a research tool. For example, medical researchers often use ultraviolet and infrared photography, fluorescence, and X-rays to obtain information not visible under normal conditions. Time-lapse photography (where time is stretched or condensed), photomicrography (where the subject of the photography may be magnified 50 or 70 times or more), and photogrammetry (surveying an area using aerial photography) are other special techniques.

Photojournalists photograph newsworthy events, places, people, and things for publications such as newspapers and magazines. They may also prepare educational slides, filmstrips, and movies.

Photography also constitutes an art medium. As in other forms of artistic endeavor, self-expression and creativity are central while technical proficiency -- which is often considerable -- provides the vehicle for conveying the artist's message. Very few photographers, however, are successful enough to support themselves through artistic photography alone.

Some camera operators work for television network and individual stations, covering news events as part of a team that includes a reporter and other technicians. These camera operators use special photographic equipment -- called electronic news gathering cameras -- to capture events on videotape. Images from these cameras can be transmitted via satellite from the scene back to the newsroom in time for the telecast.

Camera operators also are employed in the entertainment field. They use 35- and 16-millimeter motion picture cameras to film movies, television programs, and commercials. Animation camera operators film cartoons; optical-effects camera operators create illusions for television and movies. Camera operators in the entertainment business are usually supervised by directors of photography.

Working Conditions

Working conditions for photographers and camera operators vary considerably. Photographers in government, commercial studios, and advertising agencies, usually work a 5-day, 35-40 hour week. Freelancers, newspaper photographers, and camera operators work longer or more irregular hours. Many photographers work part time.

Freelance, press, and commercial photographers may travel frequently and may work in uncomfortable surroundings. Sometimes the work can be dangerous, especially for photojournalists assigned to cover stories on natural disasters or military conflicts. When working on assignment or on location, photographers and camera operators may be away from home for long periods.

Most photographers and camera operators work under pressure. Deadlines and demanding customers must be satisfied. Freelance photographers may find soliciting new clients frustrating and tedious.

Related Occupations

Other workers who rely on their visual arts talents in their jobs include visual artists, illustrators, designers, painters, and sculptors.

DIRECTION OF THE OCCUPATION

Employment

Photographers and camera operators held about 109,000 jobs in 1986. About half of all photographers and camera operators are self-employed, a much higher proportion than the average for all occupations. Some of these are freelance photographers who do individual projects on a one-time-only or occasional basis.

Salaried jobs for photographers are found, for the most part, in photographic or commercial art studios. Other major employers include newspapers, magazines, advertising agencies, radio and television broadcasters, motion picture companies, and government agencies. Camera operators are employed primarily in television broadcasting and motion picture studios.

Photographers work in all parts of the country -- small towns as well as large cities -- but most are in the more populated areas. Almost all camera operators work in metropolitan areas, but assignments may take them far away from home.

Training, Other Qualifications, and Advancement

Although a high school diploma is desirable, many of the entry level jobs for photographers do not require formal career preparation. Instead, employers seek applicants who have a technical understanding of photography as well as requisite personal traits -- principally imagination, creativity, and a good sense of timing. Technical expertise can be obtained through practical experience, postsecondary education, or some combination of the two.

For some jobs in scientific or technical photography, knowledge of a subject area is necessary. For instance, in the field of photogrammetry, which uses photography to help produce maps, a basic knowledge of scientific and technical subjects related to mapmaking is important.

Photographic training is available in approximately 1,000 colleges, universities, community and junior colleges, vocational-technical institutes, and private trade and technical schools. All of these institutions offer one or more courses in photography, often as part of a communications or journalism program. Some offer courses in cinematography. Many fewer offer degree programs in photography or cinematography, however. In 1985, 103 community and junior colleges offered associate degrees in photography; over 160 colleges and universities offered bachelor's degrees; and 38 institutions offered master's degrees.

Coursework in photography provides a background in equipment, processes, and technique. Bachelor's and master's degree programs provide the additional advantage of a well-rounded education and the opportunity to take potentially valuable courses such as marketing and business.

Art schools offer useful training in design and composition, but not always the technical training needed for professional photographic work. The Armed Forces also train people in photographic skills.

On-the-job training is an important source of training for both camera operators and photographers. Trainees begin as first and second assistants to camera operators, helping

Training, Other Qualifications, and Advancement (cont.)

set up equipment and learning the craft by observing experienced workers. Relatively few academic programs are oriented toward motion picture photography. As a result, camera operators generally acquire their skills through informal job training. On-the-job training offers the additional advantage of allowing trainees to earn while they learn.

People may prepare for work as photographers in a commercial studio through 2 or 3 years of on-the-job training as a photographer's assistant. Trainees generally start in the darkroom where they learn to mix chemicals, develop film, and do photoprinting and enlarging. Later they may set up lights and cameras or help an experienced photographer take pictures.

Photographers and camera operators must have good eyesight and color vision, artistic ability, and manual dexterity. They should be patient, accurate, and enjoy working with detail. Some knowledge of mathematics, physics, and chemistry is helpful for understanding the workings of various lenses, films, light sources, and development processes and why particular adjustments are required for certain conditions.

Some photographic specialties require additional qualities. Commercial photographers must be imaginative and original in their thinking. Those who specialize in photographing news stories must recognize a potentially good photograph and act quickly; otherwise, an opportunity to capture an important event on film may be lost. Writing ability sometimes is important for photojournalists, who may write captions and accompanying articles for their photographs. Portrait photographers need the ability to help people relax in the presence of the camera.

Newly hired workers are given relatively routine assignments that do not require split-second camera adjustments or decisions on what subject matter to photograph. News photographers, for example, may be assigned to cover events such as civic meetings or snowstorms. After gaining experience, they advance to more demanding assignments, and may move to larger newspapers or magazines. A few gain national recognition for their work and exhibit their photographs in art and photographic galleries, or publish them in books. Camera operators -- like news photographers -- advance in their profession as their work circulates and as they develop a reputation. The best known camera operators may become directors of photography on movies and TV programs. A fe industrial or scientific photographers may be promoted to supervisory positions. Magazine and news photographers may eventually become heads of graphic arts departments, or photography editors. Photographers and camera operators may become teachers and provide instruction in their own area of expertise.

Job Outlook

Employment of photographers and camera operators is expected to grow faster than the average for all occupations through the year 2000. Many additional job openings will occur as workers transfer to other occupations or stop working.

Demand of photographers will be stimulated by the steadily growing importance of visual images in many aspects of American life -- in education, communication, entertainment, marketing, and research and development. Business firms, for example, are expected to make greater use of photographs, videocassettes, training films, and other visual aids in

Job Outlook (cont.)

meetings, stockholders' reports, sales campaigns, and public relations work. Photography is vitally important in scientific and medical research, areas that are projected to experience solid growth in the years ahead. Employment in photojournalism is expected to grow slowly.

Many new jobs will be found in portrait studios, an industry likely to grow as a result of increased demand from a larger and more affluent population and from the desire of baby boomers, who have started to become parents, to have pictures of their children.

Employment of camera operators is expected to grow rapidly as the entertainment industries expand, but competition for jobs in this field is expected to remain keen. Generally regarded as an exciting and glamorous field, cinematography traditionally attracts many more applicants than there are jobs.

Earnings

Photographers and camera operators in private industry who did relatively routine work averaged $16,000 a year in early 1986; those at midlevel averaged between $22,900 and $31,600, and those doing difficult work, $35,100. In general, camera operators earned more than photographers.

The median weekly contract wage for beginning photographers who worked for newspapers with contracts with The Newspaper Guild was about $363 in 1987. The middle 50 percent of contracts fell between $316 and $432. The lowers 10 percent of contracts were for $268 or less. The top 10 percent of contracts were for $509 or more. The median weekly contract for photographers with some experience (usually 4 or 5 years) was about $590 in 1987. The middle 50 percent of contracts fell between $505 and $687. The lower 10 percent of contracts were for $407 or less. The top 10 percent of contracts were for $748 or more.

Photographers in the Federal Government earned an average of $23,900 a year in 1986.

Some self-employed and free-lance photographers earn more than salaried workers. Many do not. Earnings of self-employed and freelance photographers are affected largely by the number of hours they work, the quality of their product, their marketing ability, general business conditions, and the type and size of their community and clientele.

The information presented in Description of the Occupation and Direction of the Occupation is adapted from public domain material, originally published in the *Occupational Outlook Handbook*, Bulletin 2300, by the Bureau of Labor Statistics, U.S. Department of Labor, Washington, D. C. 20212.

COMMERCIAL PHOTOGRAPHY PROGRAM DEVELOPMENT COMMITTEE

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AREAS OF CONCERN

The State Technical Committee reached consensus on the following items concerning program graduates:

a. Program graduates need to develop interpersonal relations skills in the areas of customer sales and service.

b. Program graduates should possess basic skills in math, reading, spelling, clerical, mechanical, safety, computers, and physical dexterity.

c. Graduates of a Commercial Photography program be trained in all basic phases of commercial photography.

d. Graduates be prepared for entreprenurial or free lance business operations.

STATE TECHNICAL COMMITTEE DEVELOPMENTAL RECOMMENDATIONS

The State Technical Committee recommendations are:

1. Develop a 6-8 quarter diploma/degree program.

2. Possible specializations include:

   Lab Technician
   Portrait Photographer
   Corporate Photographer
   Advertising Photographer
   Photo Sales
   Photo Finisher
   Photojournalist
   Multi Image Technician
   Large Format Camera Systems
   Lighting Technician
   Photo Lab
   Photo Assistant
   Wedding Photographer
   Fashion Photographer
   Lab Management

3. Program title be Commercial Photography.

4. Final exit point be photographer, staff photographer or assistant photographer.

5. The major job functions for which graduates are prepared as as follows:

   Black and white laboratory skills
   Color laboratory skills
   Accounting/bookkeeping
   Basic Computer skills
   Capture/arrange images for visual impact on silver emulsion or electronic storage.
   Copyright, market, and sell images
   Present images for visual impact
   Studio management skills
   Lighting techniques
   Equipment maintenance
   Materials recognition and use
   Video and audiovisual production
   Human relations/communications

6. Commercial Photography programs be funded to supply necessary industry standard equipment and supplies.

SECTION TWO

RESEARCH FINDINGS

ACCREDITATION AND CERTIFICATION

Currently there are no national or state requirements for program accreditation or certification established. There are no individual certification or licensure requirements which job applicants must meet prior to entry into occupations in the commercial photography field.

The commercial photography program must conform to the institutional accreditation requirements of the Southern Association of Colleges and Schools by meeting Commission on Colleges (COC) or Commission on Occupational Education Institutions (COEI) accreditation requirements and must not conflict with the accreditation criteria established by COC or COEI.

TYPICAL JOB TITLES

Phase I research has included an examination of the occupational areas for the Commercial Photography field and has revealed 4 job titles for which training may be required. The Dictionary of Occupational Titles code and title are as follows:

OCCUPATIONS IN PHOTOGRAPHY

This group includes occupations concerned with photographing people, events, fictionalized scenes, materials, and products with still or motion-picture cameras. Includes conceiving artistic photographic effects and arranging and preparing subject matter.

143.062-026 PHOTOGRAPHER, SCIENTIFIC (profess. & kin.)

143.062-030 PHOTOGRAPHER, STILL (profess. & kin.) commercial photographer

143.062-034 PHOTOJOURNALIST (print. & pub.: radio & tv broad.) photographer, news.

143.362-010 BIOLOGICAL PHOTOGRAPHER (profess. & kin.)

APPROPRIATE TRADE RESOURCES

References and Textbooks

Alfred A. Knopf (1984) *The Book of Photography*. New York: Author.

Broekhuizen, R. J. (1988). *Graphic communications* (3rd ed.). Mission Hills, CA: Glencoe.

Davis, E. G. (1984). *Customer relations for technicians.* New York: McGraw-Hill.

Dennis, E. A. (1985). *Applied photography.* Albany, NY: Delmar.

Dennis, E. A. & Jenkins, J. D. (1983). *Comprehensive graphic arts* (2nd ed.). Mission Hills, CA: Glencoe.

Embee Press. (1983) *How to Sell Your Photos to Book.* Kingston, NY: Author.

Hayes, P. W. & Worton, S. M. (1984). *Essentials of Photography*. New York: Macmillian.

Hird, K. F. (1982). *Understanding graphic arts.* Albany, NY: Delmar.

Horrell, C. W. (1983). *College Instruction in Photography (8th ed.).* Rochester, NY: Eastman Kodak.

Kagy, F. D., & Adams, M. (1983). *Graphic arts photography.* Albany, NY: Delmar.

Karshitz, J. R. (1984). *Graphic arts technology.* Albany, NY: Delmar.

Lovell, R. P., Zwahlen, F. C. Jr., & Folts, J. A. (1987). *Handbook of photography* (2nd ed.). Albany, NY: Delmar.

Marino, T. J. & Sheff, D. (1980) *Freelance Photographer's Handbook*. New York: Bobbs.

Montaigne, B. (1979). *How to Begin & Operate a Successful Commercial Photography Business*. Simi Valley, CA: Halls of Ivy.

Morris, J. (1984). *Guide to photography.* Mission Hills, CA: Glencoe.

Perrett, T. I. (date). *A Guide to Making Photography Profitable.* Carson, CA: Photography Research Institute: Carson Endowment.

Rhode, R. B. (1981) *Introduction to Photography* (4th ed.). Macmillan.

Taylor, H. (1982) *Portrait Photography*. Hewlett, NY: Avalon Communication.

Vogel, H. (1875) *The Chemistry of Light and Photography*. Salem, NH: Ayer Co.

References and Textbooks continued

V-TECS. (1982). *Still photographer:A catalog of tasks, performance objectives, performance guides, tools, and equipment.* Atlanta, GA: Vocational-Technical Education Consortium of States.

V-TECS. (1982). *Photo laboratory: A catalog of tasks, performance objectives, performance guides, tools, and equipment.* Atlanta, GA: Vocational-Technical Education Consortium of States.

Walker R. J., & Walker R. E. (1987). *Exploring photography.* South Holland, IL: Goodheart-Wilcox.

Walker, J. R. (1986). *Graphic arts fundamentals.* South Holland, IL: Goodheart-Wilcox.

APPROPRIATE TRADE RESOURCES

Curriculum Materials

The following materials are available from:

The University of Texas at Austin
Extension Instruction and Materials Center
P.O. box 7218
Austin, TX 78713-7218

Format: Curriculum guide containing teaching units with objectives, teaching aids, suggested references, materials for students, a thorough sentence outline, suggested student activities, a unit test, and transparency masters.

Title: **Photography,** 1983
Provides comprehensive coverage of the basic techniques necessary to understand and operate photographic equipment, to process black-and-white film, and to produce high-quality black-and-white enlargements.

Title: **Photographer,** 1979
Covers occupational outlook, what makes a good commercial photograph, compositions, camera operation, exposure determination, light and lighting equipment, camera features and types, selecting film, basic facts on photochemistry, processing negative, printing and enlarging, print finishing, color basics, types of color processes, color selection when photographing, color exposure techniques, controlling color, color printing, and factors that affect profits; self-contained.
Student's Manual
Coordinator's Guide
Additional Tests and Work Sheets

Title: **Photographer, MDE Projects for,** 1981
A series of projects/activities for those selling photography equipment, film, lenses, cameras, and supplies. Basic information is in the *Photographer* student's manual listed above; students complete projects that apply to their training station.

APPROPRIATE TRADE RESOURCES

Audiovisuals

The following materials are available from:

Vocational Media Associates
Box 1050
Mount Kisco, NY 10549-0050
1-800-431-1242

Format: Filmstrip-on-Video, or Sound Slides

Titles: How to Develop Film
How to Print and Enlarge
Effective Darkroom Techniques

Titles: The Beginnings of Photographic Composition
Basic Picture-Taking Techniques
Film: How it Works
Color Printing from Color Negatives

APPROPRIATE TRADE RESOURCES

Periodicals

The following trade and/or professional associations produce publications of interest to this occupational area:

Title: **Afterimages**
Source: Visual Studies Workshop
31 Prince St.
Rochester, NY 14607

Title: **AIGA Journal of Graphic Design**
Source: America Institute of Graphic Arts
1059 Third Ave.
New York, NY 10021

Title: **American Photographer**
Source: Diamondis Communications, Inc.
1515 Broadway
New York, NY 10036

Title: **American Society of Magazine Photographers Bulletin**
Source: American Society of Magazine Photographers
205 Lexington Ave.
New York, NY 10016

Title: **Archive**
Source: University of Arizona
Center for Creative Photography
Tucson, AZ 85721

Title: **Best of Photojournalism**
Source: Running Press Book Publishers
125 S. 22nd St.
Philadelphia, PA 19103

Title: **Combinations**
Source: Mary Ann Lynch, Editor and Publisher
Middle Grove Road
Greenfield Center, NY 12833

Title: **DBCC Photography Society** Newsletter
Source: Daytona Beach Community College
1200 Volusia Ave., Box 1111
Daytona Beach, FL 32014

Periodicals continued

Title: **Darkroom & Creative Camera Techniques**
Source: Preston Publications
7800 N. Merrimac Ave.
Niles, IL 60648

Title: **Darkroom Photography**
Source: P.M.S. Publishing
29901 Agover Rd.
Agoura, CA 91302

Title: **Entry: A Newletter listing Photographic Competitions and Exhibitions**
Source: Box 7648
Ann Arbor, MI 48107

Title: **Exposure**
Source: Society for Photographic Education
Box BBB
Albuquerque, NM 87196

Title: **Frame-Work**
Source: Los Angeles Center for Photographic Studies
1052 W. 6th St. Suite 424
Los Angeles. CA 90017-2059

Title: **Functional Photography**
Source: PTN Publishing Corp.
210 Crossways Park Dr.
Woodbury, NY 11797

Title: **Graphic Arts Abstracts**
Source: Graphic Arts Technical Foundation
4615 Forbes Ave.
Pittsburgh, PA 15213
(412)621-6941

Title: **Image**
Source: Museum of Photography of George Eastman House
900 East Ave.
Rochester, NY 14607

Title: **Industrial Photography**
Source: Media Horizons, Inc.
50 W. 23rd St.
New York, NY 10010

Periodicals continued

Title: **Kodak Tech Bits**
Source: Eastman Kodak Co.
343 State St.
Rochester, NY 14650

Title: **Light and Shade**
Source: Pictorial Photographers of America
299 W. 12th St.
New York, NY 10014

Title: **Light Impressions Review**
Source: Light Impressions Corporation
439 Monroe Ave.
Rochester, NY 14607

Title: **Modern Photography**
Source: ABC Leasure Magazines, Inc.
825 Seventh Ave.
New York, NY 10019

Title: **Modern Photography Video Magazine**
Source: ABC Leasure Magazines, Inc.
825 Seventh Ave.
New York, NY 10019

Title: **NESS Photographer**
Source: National Press Photographers Association, Inc.
3200 Crossdaile Dr. Suite 306
Durham, NC 27705

Title: **New Photographer**
Source: National Press Photographers Association, Inc.
3200 Crossdaile Dr. Suite 306
Durham, NC 27705

Title: **Newletter For Photo Educators**
Source: Eastman Kodak C.
343 State St.
Rochester, NY 14650

Title: **Outdoor Photographer**
Source: Werner & Werner Corporation
16000 Ventura Blvd. Suite 800
Encino CA, 91436-2782

Periodicals continued

Title: **PSA Journal**
Source: Photographic Society of America, Inc.
3000 United Founders Blvd. No. 103
Oklahoma City, OK 73112

Title: **PTN Master Buying Guide & Directory**
Source: Photographic Trade News
210 Crossways Park Dr.
Woodbury, NY 11797

Titles: **PWP Newsletter**
Source: Professional Women Photographers
17 W. 17th St.
New York, NY 10011-5510

Titles: **Petersen's Photographic**
Source: 8490 Sunset Blvd.
Los Angeles, CA 90069

Titles: **Photo Design**
Source: 1515 Broadway 39th FL
New York, NY 10036

Title: **Photo Information Almanac**
Source: ABC Leisure Magazine, Inc.
825 Seventh Ave.
New York, NY 10019

Title: **Photo-Lab Index**
Source: Morgan & Morgan Inc.
145 Palisade St.
Dobbs Ferry, NY 10522

Title: **Photo Lab Management**
Source: PLM Publishing
1312 Lincoln Blvd. Box 1700
Santa Monica, CA 90406

Title: **Photo Marketing Association**
Source: 3000 Picture Place
Jackson, MI 49201

Title: **Photo Review**
Source: 301 Hill Ave.
Cincinnati, OH 45207

Periodicals continued

Title: **Photographers' Market**
Source: F & W Publications Inc.
1507 Dana Ave.
Cincinnati, OH 45207

Title: **Photographic Processing**
Source: PTN Publishing Corp.
210 Crossways Park Dr.
Woodbury, NY 11797

Title: **Photographic Trade News**
Source: PTN Publishing Corp.
210 Crossways Park Dr.
Woodbury, NY 11797

Title: **Photographical Journal**
Source: American Photographic Historical Society
520 W. 44th St.
New York, NY 10036

Title: **Photofile U.S.A.**
Source: Dyno Publishing Corp.
26903 W. Eight Mile Rd.
Detroit, MI 48240

Title: **Photomethods**
Source: Professional Photography of America
1090 Executive Way
Des Plaines, IL 60018

Title: **Popular Photography**
Source: DCI Inc.
1515 Broadway
New York, NY 10036

Title: **Professional Photographer**
Source: PTN Publishing Corp.
210 Crossways Park Dr.
Woodbury, NY 11797

Title: **Southern Exposure**
Source: Southeastern Professional Photographers Association
Box 355
Talladega, AL 35160

Periodicals continued

Title: **Studio Light**
Source: 343 State Street
Rochester, NY 14650

Title: **Studio Photography**
Source: PTN Publishing Corp.
210 Crossways Park Dr.
Woodbury, NY 1197

Title: **Technical Photography**
Source: PTN Publishing Corp.
210 Crossways Park Dr.
Woodbury, NY 11797

Title: **Wedding Photographers International**
Source: Box 2003
Santa Monica, CA 90406

APPROPRIATE TRADE RESOURCES

Safety Manuals

Bartsch, J.H. (1987). *School materials safety manual.* Schenectady, NY: Genium Publishing Co.

NIOSH, (1981). *Work practices guide for manual lifting.* Cincinnati, OH: National Institute for Occupational Safety and Health,

Safety Equipment

Michigan First Aid and Safety Co.
22900 E. Industrial Dr.
St. Clair Shores, MI 48080
1-800-221-9222
FAX (313)774-60

APPROPRIATE TRADE RESOURCES

National Network for Curriculum Coordination
in Vocational & Technical Education

For information on postsecondary materials contact:

Ms. Patt Stonehouse
Acting Director of Instructional Services
Gerogia Department of Technical
and Adult Education
Suite 660 South Tower
One CNN Center
Atianta, GA 30303-2705
404/656-6714

APPROPRIATE TRADE RESOURCES

Sources of Additional Information

Career information on photography is available from:

Professional Photographers of America Inc.
1090 Executive Way
Des Plaines, IL 60018

American Society of Magazine Photographers
205 Lexington Ave.
New York, NY 10016

VERIFIED DUTY AND TASK LIST

DUTY A: MONOCHROMATIC LABORATORY SKILLS

A01 Follow chemical mixing procedures.
A02 Hand-process black and white film.
A03 Print black and white photographs.
A04 Process black and white paper.
A05 Process high contrast graphic arts film.
A06 Discuss pan masking.
A07 Discuss the use and limitations of black and white automated print processing equipment.
A08 Manipulate chemistry by strength or temperature.
A09 Practice archival processing technology.
A10 Perform lab maintenance.
A11 Identify and select monochromatic photo chemistry.

DUTY B: EXPOSURE CONTROLS

B01 Set appropriate F-stops and shutter speeds.
B02 Select appropriate film type.
B03 Calculate filter factors.
B04 Determine bellows factors.
B05 Calculate reciprocity factors.
B06 Select and use filters.
B07 Discuss and use light meters.
B08 Determine exposure for various color light sources.
B09 Perform color emulsion test.
B10 Discuss principles of light.
B11 Discuss lens optics.

DUTY C: BASIC PHOTOGRAPHS

C01 Apply camera care and maintenance principles.
C02 Compose photographs.
C03 Take still photographs.
C04 Take action photographs.
C05 Take time exposure photographs.
C06 Take photographs using tripod.
C07 Synchronize focal plane shutter with flash.
C08 Discuss and select various types of lenses.
C09 Select appropriate accessories.
C10 Select appropriate film.

DUTY D: VARIOUS FORMAT CAMERAS

D01 Use 2 1/4 format camera.
D02 Use view camera.
D03 Discuss 8 x 10 format.

D04 Use 35mm format camera.
D05 Load all polaroid backs.
D06 Load 35mm cameras.
D07 Load 2 1/4" format cameras.
D08 Load 4" x 5" format cameras.
D09 Use bulk film equipment.

DUTY E: STUDIO PHOTOGRAPHS

E01 Discuss front screen projection system.
E02 Use polaroid proofs.
E03 Take studio commercial (advertising) photographs.
E04 Take studio portraits.
E05 Take studio industrial photographs.
E06 Take studio close up photographs.
E07 Create and arrange studio set rigging and construction.

DUTY F: LOCATION PHOTOGRAPHS

F01 Use polaroid proofs.
F02 Take location commercial (advertising) photographs.
F03 Take location portraits.
F04 Take location industrial photographs.
F05 Take location close up photographs.
F06 Create and arrange location set rigging and construction.

DUTY G: PHOTOGRAPHIC PRESENTATION AND ENHANCEMENT

G01 Mount photographs.
G02 Frame photographs.
G03 Apply print retouching.
G04 Discuss computer use in photography.
G05 Discuss retouching negatives.
G06 Mat photographs.
G07 Mount 4" x 5" transparency.

DUTY H: LIGHTING TECHNIQUES

H01 Discuss different light qualities and their applications.
H02 Take photographs with available daylight.
H03 Take photographs with electronic strobe.
H04 Take photographs with quartz and photo-flood lighting.
H05 Take photographs with parabolic (reflected) lighting.
H06 Take photographs using mixed light/filter.
H07 Take photographs with synchro sunlight (outdoor fill-in).
H08 Take photographs with focusing spot light.
H09 Take photographs with soft box lighting.

DUTY I: PHOTOGRAPHIC MEDIA REPRODUCTION

I01 Copy prints.
I02 Copy transparencies.
I03 Make internegatives.
I04 Discuss halftone print and color separation.

DUTY J: COLOR FILM PROCESSING

J01 Process color negatives and transparencies.
J02 Discuss color negatives and transparencies processed with automation.
J03 Discuss negatively sensitized color materials.
J04 Discuss positively sensitized color materials.
J05 Mix color film chemistry and maintain replenishment.

DUTY K: COLOR PHOTOGRAPH PRINT PRODUCTION

K01 Expose color print from color negative.
K02 Process color print.
K03 Determine color correction through visual means.
K04 Print color negatives using color analyzer.
K05 Discuss and maintain automated color print processors.
K06 Mix color paper chemistry and maintain replenishment.
K07 Print from positive transparencies.
K08 Make display transparencies.

DUTY L: MEDIA PRESENTATIONS

L01 Prepare script for slide presentation.
L02 Shoot slides for slide presentation.
L03 Produce slide presentation.
L04 Prepare script for video presentation.
L05 Shoot video tapes.
L06 Produce video presentation.
L07 Prepare storyboard for slide presentation.
L08 Record sound for slide presentation.
L09 Record sound for video presentation.
L10 Produce graphics for slide presentation.
L11 Practice team concept through production.

DUTY M: PHOTOGRAPHIC BUSINESS MANAGEMENT

M01 Determine method for photographic estimates.
M02 Maintain shop records and files including negatives and transparencies.
M03 Develop effective advertising.
M04 Maintain presentational portfolio.
M05 Analyze potential market area.
M06 Analyze and develop a marketing plan.
M07 Practice copyright act regulations.

M08 Develop purchasing procedures.
M09 Maintain supply and inventory procedures.
M10 Establish and maintain supplier files.
M11 Establish inventory controls.
M12 Apply communication skills.
M13 Apply human relations skills.
M14 Prepare basic media release.
M15 Apply accounting techniques.
M16 Maintain tax records.
M17 Develop sales strategy.
M18 Develop and apply appropriate business ethics.

DUTY N: PHOTOJOURNALISM

N01 Identify photographers legal rights/responsibilities.
N02 Define the characteristics of feature and special events photography.
N03 Explain the characteristics of sports photography.
N04 Research, produce, and caption a photo essay.
N05 Produce feature and special events photography.
N06 Produce sports photographs.

DUTY O: QUALITY CONTROL

O01 Run control strips.
O02 Plot and interpret control results.
O03 Maintain control of chemistry.
O04 Operate densitometer.

DUTY P: PERSONAL AND ENVIRONMENTAL SAFETY

P01 Follow chemical safety procedures.
P02 Dispose of hazardous chemicals.
P03 Read and interpret materials safety data sheets.
P04 Identify and follow electricity safety procedures.
P05 Follow general lab safety procedures.

DUTY Q: PHOTOGRAPHY: PAST AND PRESENT

Q01 Relate the history of photography.
Q02 Discuss current trends in photography.
Q03 Relate current photographic practices.

Equipment and Tools

The tools and equipment for the Commercial Photography programs will be determined in the next phase of development.

Staff

It is anticipated that the program standards and the program guide developed as a result of this project will not change staffing levels and certification requirements.

Facilities

The State Technical Committee members recommended that facilities be maintained in accordance with or exceed industry standards for the commercial photography field and those established in the Institutional Standards and General Program Standards.