



BETHLEHEM AREA VOCATIONAL-TECHNICAL SCHOOL
3300 CHESTER AVENUE • BETHLEHEM, PA 18020

GRAPHIC COMMUNICATIONS

CIP – 10.0399

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GRAPHIC COMMUNICATIONS

Course Description:

Students will learn how to create marketing products to promote businesses and events using a variety of printing techniques, including digital printing, screen printing and large format printing. Level one students will be in a hands-on learning environment, developing skills working with the latest graphics software and technology learning the principles of design, typography, use of color, layout, print production and finishing and bindery. Advanced level students will be increasing their skill set by compiling a portfolio and using their design and print skills for school and community projects. The program is PrintED accredited and the students can earn industry certification in 6 areas. The program has an articulation agreement with NCC for 4 credits in Computer Graphics.

Average Pay: According to the Pennsylvania Department of Labor & Industry

	2024 Projected Employment	Average Annual Openings	Entry Level Annual Wage	Average Annual Wage
Commercial Designers 27-1021	2,060	52	\$39,030.	\$66,870.
Desktop Publishing 43-9031	700	23	\$25,390.	\$41,040.
Graphic Designers 27-1024	10,970	263	\$29,640.	\$48,220.
Multimedia Artist 27-1014	1,120	22	\$33,900.	\$53,730.

Higher Education: Associate Degree & Bachelor's Degree

Reference Material:

Graphic Communications 6th Edition
Against the Clock: Graphic Design Portfolio CS6

Classroom Tools:

LCD Projector
Apple I-Mac computers
PC
Roland VersaWorks SP_540i
Adobe Create Suite (Photoshop, Illustrator, Dreamweaver, Acobat)
Microsoft Office for Mac (Word, Excel)
Canon C750 Image Press
Screen Washout Station
Air Compressor
Pressure Washer
Hix Screen Dryer
National Conveyor Dryer

Flash Dryer
Atlas 6-Color
Tekmar Exhaust 1500
Tekmar TG 300 Spot Gun
Laminator Exposure Unit
Shrink Wrapper
Challenger Titan 230 Guillotine Cutter
Jogger
Morgana Major Fold
Morgana Auto Creaser
Duplo DB-250 Prefect Binder
Rhino-Tuff Spiral Binder
USI 30" Laminator
Entry 45" 4500 Laminator
AB Dick 8815 Offset Duplicator
Bindery Mate Stitcher
Super Prinex 2-Color Padding Press

Level 1

1st Marking Period

Pennsylvania Task List

714 Demonstrate how to set up and properly use programmable cutters
903 Identify general safety concerns in the lab (i.e., cutter, guards, waste disposal, etc.)

PrintED Certification

PrintED 26 Review school graphic lab's safety regulations
PrintED 49 Identify different types of graphics

Projects & Assignments

Personality Poster
Note Pad
Spiral Notebook
Perfect Bond Notebook
Sticker
T-shirt

2nd Marking Period

Pennsylvania Task List

306 Employ the use of a line gauge to demonstrate ability to measure inches, points, and picas
315 Manipulate vector images using a current industry standard software
325 Create a design using brainstorming, thumbnails, rough drafts, and comprehensives
714 Demonstrate how to set up and properly use programmable cutters
802 Handle substrates properly (i.e., jog, fan, count, etc.)

PrintED Certification

PrintED 27 Explain the use and locations of safety interlocks on machinery
PrintED 28 Identify safety regulations in place at the school graphic lab as they relate to proper paper movement
PrintED 32 Describe a Safety Data Sheet
PrintED 33 Explain the use of Safety Data Sheet
PrintED 34 Evaluate Safety Data Sheets in place in the school graphic lab
PrintED 45 Define RGB and CMYK color reproduction
PrintED 49 Identify different types of graphics
PrintED 50 Describe pixels per inch resolution
PrintED 91 Describe English and Metric measurement systems
PrintED 92 Define Points and Picas
PrintED 93 Demonstrate the measurement of type in points and line length in picas

Projects & Assignments

Unique Printed Product
Locker Tag
Notebook Cover
Basic Illustrator
Symbols Tutorial

Cartoon Trace
Tabs & Margins
Yearbook Cover

3rd Marking Period

Pennsylvania Task List

305 Demonstrate appropriate use of current industry software
307 Identify and understand the components of type (i.e., ascenders, descenders, baseline, etc.)
308 Identify the basic type styles/classifications and their uses
309 Identify and understand the components of typography (i.e., kerning, tracking, justification, etc.)
326 Identify different types of graphics (i.e., bitmap, vector, line art, and continuous tone)
905 Identify and understand all the components of Safety Data Sheets
1002 Replenish consumables for digital printing equipment

PrintED Certification

PrintED 15 Define counterfeiting, copyright, and intellectual property infringement
PrintED 16 Identify the issues and challenges associated with counterfeiting, copyright and intellectual property infringement in the printing industry
PrintED 18 Describe the function and use of basic production equipment used in a commercial printing plant
PrintED 42 Assess the significance of Adobe Acrobat Portable Document Format (PDF) as it pertains to the graphic communications industry
PrintED 46 Discuss the Pantone color process
PrintED 52 Review minimum resolution requirements for different reproduction devices
PrintED 83 Determine grain direction of paper
PrintED 84 Explain the importance of grain direction
PrintED 94 Calculate reduction or enlargement percentage of original photograph to final size

Projects & Assignments

Image Trace
Scanner
Design Planning
Design Principles Poster
Vinyl Sticker
1 Color Screen Print Design
Doodle for Google
Proofreading
Yearbook Page
Design Fair Logo
Color Wheel
Extra Yearbook Page
GAREF Design Challenge
Festival Tutorial
Organics Tutorial

4th Marking Period

Pennsylvania Task List

302 Identify the various kinds of items that can be designed and produced using electronic publishing
303 Identify the principles of color theory
311 Proofread, preflight and edit using spell check, proofreading marks, etc.
314 Create a PDF files created to industry specifications
316 Manipulate bitmapped images using a current industry standard software
317 Identify the different file types and their uses
505 Demonstrate the ability to input electronic content from various digital devices. (i.e., scanner, digital camera, OCR, etc.)
1003 Output a variety of files on digital/specialty imaging equipment (i.e., copiers, plotters, dye sublimation, etc.)

PrintED Certification

PrintED 6 Describe the markets that use printing
PrintED 11 Describe common printing processes
PrintED 12 List common products produced by each printing process
PrintED 13 Identify samples of each printing process
PrintED 14 Discuss advantages and disadvantages of each printing process

PrintED 43 Create PDF of page that includes photographs and illustrations
PrintED 44 Compare the differences between supplying PDF files versus native files for print
PrintED 56 Collect examples of four printed color applications
PrintED 57 Compare color quality reproduction requirements of each
PrintED 60 Define Bleed
PrintED 61 Gather samples of full bleed and no bleed printed examples
PrintED 90 Identify commonly used finishing and binding equipment and supplies

Projects & Assignments

1 Color Screen Print
Yearbook Printing
Veggie Head
Basic PhotoShop
Quick Mask
Removing Objects
Resizing
Combining Photos
Wanted Poster
Graphic Communications Poster
Filters
Printing Yearbook
Movie Poster Tutorial
Africa Tutorial

Level 2

1st Marking Period

Pennsylvania Task List

104 Identify the purpose, complete, read, and comprehend a job jacket/ticket
110 Identify the workflow of a printed product
112 Apply calculations to efficiently plan paper use
506 Process digital images using various color modes (grayscale, RGB, CMYK, Duotone, spot)
707 Demonstrate collating and gathering
720 Demonstrate proper padding techniques
721 Identify the various types of book binding
904 Identify the proper procedures when handling and disposing of chemicals
1005 Output color separations and composites for various printing processes

PrintED Certification

PrintED 1 Define the graphic communications industry
PrintED 2 Describe the size and economic value of the industry
PrintED 4 Review the types of products and services provided by the industry
PrintED 8 Assess examples of different types of communications mediums
PrintED 9 Identify local and national graphic communications associations
PrintED 10 Describe the purpose of local and national graphic communications associations
PrintED 19 Define workflow
PrintED 20 Review common steps in a typical print workflow
PrintED 21 Describe the purpose of a job ticket
PrintED 22 Locate key production information on a job ticket
PrintED 73 Discuss the impact that substrates have on a printed project
PrintED 74 Identify wood pulp based paper substrates
PrintED 75 Review common paper types, weights, grades and classifications commonly used in the printing industry
PrintED 76 List common page and sheet sizes used in United States and Europe
PrintED 77 Describe Parent Sheet
PrintED 89 Describe in-line, near-line and off-line finishing
PrintED 95 Determine optimum layout for minimizing waste when cutting smaller sheets out of larger parent sized sheet of paper

Projects & Assignments

Jazz Poster
Portfolio Cover
Rotation Shirt Design
Graphics Shirt Design
Portfolio Tabs

Richo Illustrator
Variable Data
Scanning
Menu Tutorial
Crowe Tutorial
Production Work

2nd Marking Period

Pennsylvania Task List

108 Follow a production job from start to finish
312 Create a variety of design/publications using current industry software
327 Calculate reduction, enlargement, and proportion of images
507 Prepare layouts for sheet imposition, work and turn/tumble, step and repeat, multi-page signatures
702 Perform various stitching techniques
901 Perform proper Lock Out/Tag Out techniques

PrintED Certification

PrintED 3 Identify the types of businesses and organizations that comprise the industry
PrintED 25 Review applicable national and local governmental safety regulations
PrintED 47 Contrast color reproduction viewed on digital
PrintED 48 Show the effect of lighting on printed color perception
PrintED 51 Cite examples of various file formats and their extensions
PrintED 85 Describe a folded signature
PrintED 86 Describe bindery and finishing options
PrintED 87 Contrast use and benefits of each bindery option
PrintED 88 Create 16 page saddle stitch booklet Finishing equipment

Projects & Assignments

Email Etiquette
Freelance Assignment
Folding
Signature Layout
Yearbook Cover
Tri-fold Brochure
Logo Design
Work & Turn/Tumble
2 Color Screen Print Design
SkillsUSA In-Class Competition
Jazz Tutorial
HeartSmart Tutorial
Production Work

3rd Marking Period

Pennsylvania Task List

111 Research roles and responsibilities in graphics related careers
313 Create multi-page documents using current industry software
508 Perform the basic operations of a digital RIP system and production queues
710 Compare creasing, scoring and perfining
902 Identify general safety concerns in the industry
1001 Explain the differing imaging technology processes (i.e., serigraphy, flexography, letterpress, gravure, indirect, etc.)
1004 Troubleshoot and resolve errors that occur on digital/specialty imaging equipment

PrintED Certification

PrintED 40 Create a page that includes fonts, styles, margins, indents, tabs, photographs and illustrations using professional layout software
PrintED 67 Discuss the imaging process of an offset lithographic press Components of Offset Lithographic Press
PrintED 68 Review components of an offset press
PrintED 69 Compare feeding system of a sheet fed press (roll, sheetfed) Quality
PrintED 102 Write a personal resume that highlights the candidate's experience, skills, and talents, and includes references

PrintED 103 Write a cover letter for a specific job that differentiates the candidate from other job seekers
PrintED 104 Demonstrate how to customize a resume and cover letter to match a job listing and employer
PrintED 105 Complete an employment application form

Projects & Assignments

Resume & Cover Letter
2 Color Screen Print
Black & White Ad
Freelance Assignment
1 Color Offset Printing
Spiral Notebook
Doodle for Google
Yearbook Page
Design Fair Logo
Extra Yearbook Page
GAREF Design Challenge
Lancaster Tutorial
Production Work
Portfolio

4th Marking Period

Pennsylvania Task List

322 Utilize appropriate marks. (i.e. gutters, registration marks, fold lines, bleeds, etc.) on a printed product
328 Prepare a Variable Data project using current industry standards
509 Distinguish the functions of pagination, imposition, and color management on a digital RIP
625 Identify the five press systems and their parts
701 Use folding equipment to produce various folds (i.e., French, accordion gate)
PrintED 53 Compare use of scanner versus lens based image capture (digital camera) Print Output
PrintED 58 Define Imposition
PrintED 59 Define Trapping
PrintED 62 Explain the purpose of proofing
PrintED 63 Compare hard and soft proofs Digital Output

Projects & Assignments

Gum Pack
Freelance Assignment
Saddle Stitch Booklet
Print Yearbook
Photo Trace
Perfect Bond Notebook
Notepad
Banner Design & Print
Graphic Communications Poster
Put Yourself There
Production Work
Lancaster Tutorial
Portfolio

Level 3

1st Marking Period

Pennsylvania Task List

101 Perform duties associated with positive customer services
703 Use packaging and shrink-wrapping equipment
704 Properly handle printed substrates
705 Explain the importance of when stock squaring is required
722 Differentiate between finishing processes (i.e., die cutting, embossing, debossing, etc.)
801 Differentiate substrate types based on basic weights, standard sizes, grain direction, finishes, etc.

PrintED Certification

PrintED 5 Evaluate the use and value of different types of printing to a customer
PrintED 7 Compare the role of print compared to other communication mediums
PrintED 23 Identify departments within printing organizations through live or virtual observation

PrintED 24 Describe the role and responsibilities of departments within printing organization
PrintED 54 Describe Preflighting
PrintED 55 List common file issues found during preflight
PrintED 71 Discuss the imaging process of a digital press Components of Digital Press
PrintED 72 Review components of digital presses

Projects & Assignments

Transformer Poster
Rotation Shirt Design
Graphics Shirt Design
Richo InDesign
Variable Data
Local Graphic Companies
Photo Collage
Production
Colored Ad
NOCTI Review
NCC Portfolio

2nd Marking Period

Pennsylvania Task List

324 Prepare a prototype for a die-cut process using current industry software
501 Prepare plates for an offset press/duplicator
604 Mix fountain solutions to acquire proper Ph levels using appropriate ratios
605 Make ready paper path of feed-delivery systems for print production
606 Make ready inking systems
607 Make ready dampening systems
805 Explain proper handling and disposal of waste materials

PrintED Certification

PrintED 29 List the school graphic lab Standard Operating Procedures (SOP) for spills
PrintED 30 Explain the proper procedures to clean up any spills at school graphic lab
PrintED 31 List the proper procedures when handling cleaning chemicals Safety Data Sheets
PrintED 106 Discuss and demonstrate ways to prepare for a successful interview
PrintED 107 Identify common interview questions
PrintED 108 Prepare responses to common interview questions
PrintED 109 Develop appropriate questions to ask prospective employers during interviews
PrintED 110 Conduct a mock job interview conducted by a teacher, parent, or another student
PrintED 111 Prepare a letter or e-mail to follow up with a job interview
PrintED 112 Evaluate an employment benefits package
PrintED 113 Compare job opportunities, including wages, benefits, responsibilities, and potential career growth

Projects & Assignments

Folding
Yearbook Cover
Logo Design
Work & Turn/Tumble
4 Color Screen Print Design
SkillsUSA In-Class Competition
Exit Project
Photo Trace
3-D Illustrator
Offset Printing
Text Picture
NOCTI Review
Creative PhotoShop
NCC Portfolio

3rd Marking Period

Pennsylvania Task List

102 Estimate job costs and complete customer invoices
608 Print a variety of jobs on an offset press/duplicator

610 Compare different types of feed systems and explain their differences

803 Mix and test ink for printing using Pantone Matching System

PrintED Certification

PrintED 64 Review how content may be published digitally

PrintED 65 Define e-publishing / e-books

PrintED 66 Compare the advantages / disadvantages of e-publishing/e-books versus traditional books

PrintED 70 Describe the use of color bars

PrintED 96 Review roles and responsibilities of employment positions in the graphic communications industry

PrintED 97 Describe work ethic skills that should be exhibited by employees in the graphic communications industry

PrintED 98 Describe the positive and negative impact of social media on a personal brand or perception

PrintED 99 Identify basic salary/wage expectation ranges for major occupations in the graphic communications industry

PrintED 100 Locate job listings through a variety of sources

PrintED 101 Gather job postings for positions in the graphic communications industry

Projects & Assignments

Doodle for Google

Exit Project

Design Fair Logo

Extra Yearbook Page

GAREF Design Challenge

Professional Bio

Die Cut Business Cards

NOCTI Review

Production Work

Portfolio

4th Marking Period

Pennsylvania Task List

615 Perform clean up and basic maintenance

618 Evaluate print quality using (star targets, color bars, and viewing conditions, etc.) to monitor color accuracy

629 Identify, troubleshoot and correct print defects

630 Analyze printed sheet and match to proof

804 Identify different inks/toners, additives, and finishes such as dull or gloss

PrintED Certification

PrintED 17 Discuss emerging technologies related to printing

PrintED 41 Create and print a portfolio to showcase your work

PrintED 78 Identify non-traditional specialty substrates

PrintED 79 Gather examples of pulp, plastic and metal based substrates

PrintED 80 Discuss sustainability / recyclability of pulp based substrates

PrintED 81 Debate sustainability of print versus digital media

PrintED 82 Describe Forest Stewardship Council (FSC) certified papers

Projects & Assignments

Exit Project

Digital Portfolio

Production Work

4 Color Screen Print

Yearbook Printing

Portfolio

Supplemental Learning Activities

Students who participate in this program will also have opportunities to participate in the following program and school-sponsored activities:

Production Work: Second and Third year students are required to do production work for a portion of their marking period grade, learn the production process and to gain additional skills through-out the year.

SkillsUSA: One student can participate in the Graphic Communications Competition at the SkillsUSA Regional Competition and all members have the opportunity to design the Program Cover and Pin for District 11, and the Pin and T-shirt for Pennsylvania and Nationals.

PA Computer Fair: Two groups of students (max: three students each) participate in regional competition for the Computer Fair. Categories include: web site design, multimedia presentation, logo design, animation, and programming (educational video game design).

Other Competitions: Students are given the opportunity to participate in several competitions as they become available through-out the 3 years.

NTHS: Level II and Level III students who have received an "A" in their career and technical program as well as a "B" average at their sending school are eligible to become a member of the BAVTS Chapter of the National Technical Honor Society.

Cooperative Education: Students who have attended six quarters in their career and technical program are eligible to participate in a paid working experience during the PM session of BAVTS. Positions must be available and the students must be recommended by the CTE teacher to be eligible.

Job Shadowing: Students are eligible to visit business and industry partners for one or more days to view the day-to-day operations of this career area.

Rotary: Students are eligible to be Rotary Shadows and Artisans and attend a meeting and be recognized.

Internships: Students who have completed six or more quarters of their CTE program are eligible to work for a business and industry partner with the recommendation of the instructor and the availability of assignment.

Field Trips: Students in this program will on occasion attend field trips that expose them to educational experiences within the career field.

College Credit: Graphic Communications students are eligible for advanced credit at Northampton Community College (4) and Statewide Articulation (9) Agreement developed by the Pennsylvania Department of Education.

10 Hour OSHA Training: Students will have the 10 hour OSHA training in either their second or third year and have the opportunity to gain the certification with the successful score on the test.