



**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 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 6<sup>th</sup> Edition

## Classroom Tools:

LCD Projector  
Apple I-Mac computers  
PC  
Roland VersaWorks SP\_540i  
Adobe Create Suite (Illustrator, InDesign, Photoshop)  
Microsoft Office for Mac (Word, Excel)  
Canon C750 Image Press  
Screen Washout Station  
Pressure Washer  
Vastex Little Red Shirt Dryer  
Flash Dryer  
Vastex 6 Color-6 Station Screen Printing Press  
Tekmar Exhaust 1500

Tekmar TG 300 Spot Gun  
Laminator Exposure Unit  
Shrink Wrapper  
Challenger Titan 230 Guillotine Cutter  
Jogger  
Baum 714XLT Ultra Fold Tabletop Station  
Morgana Auto Creaser  
Duplo DB-250 Perfect Binder  
Rhino-Tuff Spiral Binder  
USI 30" Laminator  
Entry 45" 4500 Laminator  
AB Dick 8815 Offset Duplicator  
Bindery Mate Stitcher

## Level 1

### 1st Marking Period

#### **Pennsylvania Task List**

111 Research roles and responsibilities in graphics related careers  
714 Set up and use programmable cutters  
902 Identify and follow safety practices in the industry and lab, eg. Equipment, tools.

#### **Projects & Assignments**

Personality Poster  
Notepad  
Spiral Notebook  
Perfect Bound Notebook  
Sticker  
T-shirt  
Career Poster

### 2nd Marking Period

#### **Pennsylvania Task List**

101 Perform customer service duties  
102 Estimate job costs and complete customer invoices  
104 Interpret a job jacket/ticket  
108 Complete a production job from start to finish  
110 Identify the workflow of a printed product  
111 Research roles and responsibilities in graphics related careers  
306 Use a line gauge to measure inches, points and picas  
714 Set up and use programmable cutters  
723 Cut and/or trim project to finished size  
724 Calculate paper cuts from a parent sheet  
901 Explain lock out/tag out procedures  
902 Identify and follow safety practices in the industry and lab, eg. Equipment, tools  
904 Identify and follow the procedures for handling chemicals and disposing of waste  
905 Identify and understand all components of Safety Data Sheets (SDS)

#### **Projects & Assignments**

Locker Tag  
Notebook Cover  
Career Research  
Reading a Job Ticket  
Estimating Costs as per Job Ticket  
Calculating Inch, Point & Pica Conversions  
Calculating Material Usage  
SDS Worksheet  
File Storage & Google Drive Shared Production Folder  
File Naming Systems

Holiday Give Back Project  
+Live Production Work

### **3rd Marking Period**

#### **Pennsylvania Task List**

317 Identify different file types and their uses  
322 Utilize appropriate marks on printed products, eg. Gutters, registration marks, fold lines, bleeds  
325 Create a design using brainstorming, thumbnails, rough drafts and comprehensives  
505 Input electronic content from various digital devices eg. Scanner, digital camera, OCR  
701 Use folding equipment to produce various folding operations  
702 Identify and perform various stitching processes  
703 Perform packaging and/or shrink wrapping  
704 Handle printed substrates, eg. Jogging, fanning, squaring  
707 Collate and gather printed materials  
710 Identify and perform creasing, scoring, slitting and perfining  
720 Perform padding techniques  
721 Identify and perform various types of book binding  
722 Differentiate between finishing processes, eg. Die cutting, embossing, debossing  
801 Identify substrate types based on basic weights, standard sizes, grain direction and finishes  
802 Handle substrates, eg. Vinyl, rolled stock, garments, reams, cartons, cases  
804 Identify different inks/toners, additives, finishes  
805 Explain handling and disposal of waste materials

#### **Projects & Assignments**

Classroom Yearbook Page  
Filetype Designations & Related Software  
Understanding Printer's Marks  
Scan a File, then Reduce/Enlarge Proportionately  
Variety of Folds and Shrink Wrapping  
Scoring/Creasing Cards and Packaging  
+Live Production Work

### **4th Marking Period**

#### **Pennsylvania Task List**

315 Manipulate a vector image using a current industry standard software  
316 Manipulate a bitmapped image using current industry standard software  
501 Prepare plates for an offset press/duplicator  
508 Perform the basic operations of a digital RIP system and production queues  
604 Mix fountain solutions to acquire proper pH levels  
605 Make-ready paper path for feed-delivery systems  
606 Make-ready inking systems  
607 Make-ready dampening systems  
608 Print jobs on an offset press/duplicator  
610 Compare and explain different types of feed systems  
615 Perform clean up and basic maintenance  
618 Evaluate print quality, eg. Star targets, color bars, viewing conditions, registration marks  
625 Identify the five press systems and their parts  
629 Identify, troubleshoot and correct print defects  
630 Analyze a printed sheet and match to proof

#### **Projects & Assignments**

School Yearbooks  
Classroom Yearbooks  
Design Principles Poster  
Offset Press Worksheets  
Understanding Fiery Command WorkStation Queue via demonstration  
Email Etiquette  
+Live Production Work

# Level 2

## 1st Marking Period

### **Pennsylvania Task List**

- 303 Apply the principles of color theory
- 307 Identify components of type, eg. Ascenders, descenders, baseline
- 308 Identify type styles/classifications and their uses
- 309 Identify components of typography, eg., kerning, tracking, justification
- 311 Proofread, edit, and preflight files, eg. Spell check, proofreading marks
- 325 Create a design using brainstorming, thumbnails, rough drafts and comprehensives
- 326 Identify different types of graphics, eg. Bitmap, vector, line art, continuous tone
- 506 Process digital images using various color modes, eg. Grayscale, RGB, CMYK, duotone, spot
- 803 Mix and test ink for printing using Pantone Matching System
- 1005 Output color separations and composites for various printing processes

### **Projects & Assignments**

- File Storage and Using the Google Drive Shared Production folder
- Color Theory Basics
- Color Wheel
- Components of Type
- Identifying Standard Fonts
- Graphic Communications Class Uniform T-shirt design
- PMS Color Palettes
- Creating Color Separations and Setting Printers' Marks
- Color Modes and Which to use for the Application
- Filetype Review & Native Software
- Email Etiquette
- Group Work – Create a Brand for other BAVTS Programs
- +Live Production Work

## 2nd Marking Period

### **Pennsylvania Task List**

- 302 Identify items that can be designed and produced using current industry standard software
- 312 Create a variety of design/publications using current industry standard software
- 313 Create multi-page documents using current industry standard software
- 314 Create a PDF to industry specifications

### **Projects & Assignments**

- Design Principles – Review with a Deeper Dive into How they Correlate to our Production Work
- Resume
- Create Online Portfolio (and maintain)
- SkillsUSA Pin & Cover Competition
- Holiday Give Back Project
- Class Yearbook Cover
- +Live Production Work

## 3rd Marking Period

### **Pennsylvania Task List**

- 324 Prepare a prototype for a die-cut process using current industry software
- 328 Prepare a variable data project using current industry standards
- 507 Prepare layouts for sheet imposition, work and turn/tumble, step and repeat, and multi-page signatures
- 509 Perform the functions of pagination, imposition, and color management on a digital RIP

1001 Identify and/or perform imaging technology processes, eg. Serigraphy, flexography, letterpress, gravure, indirect  
1003 Output files on digital/specialty imaging equipment, eg. Digital press, large format, dye sublimation, engraver

### **Projects & Assignments**

Introduction to InDesign  
Focus on Imposition & Preflighting Artwork for Production  
Introduction to Exit Project  
Class Yearbook Page  
Create a Package Prototype  
Group Project – Design for School Yearbook  
+Live Production Work

## **4th Marking Period**

### **Pennsylvania Task List**

101 Perform customer service duties  
110 Identify the workflow of a printed product  
1002 Replenish consumables for digital printing equipment  
1003 Output files on digital/specialty imaging equipment, eg. Digital press, large format, dye sublimation, engraver

### **Projects & Assignments**

Exit Project Completion  
Create a 16 page Booklet  
Group Project - Design for School Yearbook

# **Level 3**

## **1st Marking Period**

### **Pennsylvania Task List**

101 Perform customer service duties  
102 Estimate job costs and complete customer invoices  
104 Interpret a job jacket/ticket  
108 Complete a production job from start to finish  
306 Use a line gauge to measure inches, points and picas  
724 Calculate paper cuts from a parent sheet  
1005 Output color separations and composites for various printing processes

### **Projects & Assignments**

File Storage and Using the Google Drive Shared Production folder  
Graphic Communications Class Uniform T-shirt design  
Group Project – Create a Brand (Level III Students will LEAD this project)  
Email Etiquette  
Inches, Points & Picas Conversions Review  
Calculating Cuts from Parent Sheets Review

## **2nd Marking Period**

### **Pennsylvania Task List**

722 Differentiate between finishing processes, eg. Die cutting, embossing, debossing  
804 Identify different inks/toners, additives, and finishes  
1002 Replenish consumables for digital printing equipment  
1004 Troubleshoot errors on a digital/specialty imaging equipment

### **Projects & Assignments**

Update Portfolio  
SkillsUSA Pin & Cover Competition  
Class Yearbook Cover  
Review Finishing Processes  
Review Preflighting  
Holiday Give Back Project

## **3rd Marking Period**

### **Pennsylvania Task List**

101 Perform the duties associated with positive customer relations  
108 Monitor production  
509 Perform the functions of pagination, imposition, and color management on a digital RIP  
722 Differentiate between finishing processes, eg. Die cutting, embossing, debossing  
804 Identify different inks/toners, additives and finishes  
1002 Replenish consumables for digital printing equipment  
1004 Troubleshoot errors on digital/specialty imaging equipment

### **Projects & Assignments**

Introduction to Exit Project  
Class Yearbook Page  
Extra Yearbook Page  
Group Project – Design School Yearbook  
Finalize Online Portfolio  
+Live Production Work

## **4th Marking Period**

### **Pennsylvania Task List**

101 Perform customer service duties  
104 Interpret a job jacket/ticket  
108 Complete a production job from start to finish  
110 Identify the workflow of a printed product  
325 Create a design using brainstorming, thumbnails, rough drafts and comprehensives

### **Projects & Assignments**

Exit Project Completion  
Senior Wall Project  
+Live Production Work

# 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:** Level I students learn the production process and begin their Graphics education running the various machines in the lab area of our classroom. Level II & III Students continue this education but also focus on the design, preflighting and output processes. Essentially, the Level II & III students perform the design and customer service aspects of production, while the Level I students perform the print and finishing aspects of production

**SkillsUSA:** Three students have the opportunity to compete in the Promotional Bulletin Board competition at the District Level 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. All Level II & III Students are gifted SkillsUSA membership through our classroom production fund.

**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 three years.

**NTHS:** Level II and Level III students who have received a 90% 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.