Curriculum: Graphic Communications I & II

Curricular Unit: Safety and Health

Instructional Unit: A. Identify and apply all personal and work place safety procedures

**Standard Alignments (Section 2)**

- **HEGLE:** HME.4.A
- **Knowledge:** (H/PE) 6,7 (SC) 8
- **CCSS:** 11-12.SL.1; 11-12.SL.2; 11-12.RST.3; 11-12.RST.4
- **NETS:** 3b; 4b
- **Performance:** 3.1, 4.1, 2.1

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**Unit (Section 3)**

Learning Targets:

- Identify types and the operation of fire extinguishers
- List the steps to be taken in case of injury in the lab
- Identify locations of first aid and eye wash stations
- **Demonstrate appropriate workplace safety practices**
- List safety rules involving flammable liquids
- Describe protective equipment, if needed
- Read and interpret Material Safety Data Sheets and warning labels
- Identify approved methods for disposing waste materials
- Identify and construct the (OSHA) safety color code
- Identify safety hazards on all equipment and chemicals used in this lab

Instructional Strategies:

- Teacher-led lecture and discussion
- Small group:
  - emergency scenario activities
  - presentation of scenario activities
- Create emergency schematic of lab using Adobe Illustrator
<table>
<thead>
<tr>
<th>Assessments/Evaluations:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Formative: Feedback on small group scenario</td>
<td></td>
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<tr>
<td>• Summative:</td>
<td></td>
</tr>
<tr>
<td>• Safety test</td>
<td></td>
</tr>
<tr>
<td>• Emergency schematic</td>
<td></td>
</tr>
</tbody>
</table>

**Sample Assessment Questions:**

- Which is poured first, chemical or water when mixing chemicals? Why?

<table>
<thead>
<tr>
<th>Instructional Resources/Tools:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• MSDS sheets</td>
<td></td>
</tr>
<tr>
<td>• Adobe Illustrator software</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Cross Curricular Connections:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Health: Apply safety skills during physical activities</td>
<td></td>
</tr>
<tr>
<td>• ELA:</td>
<td></td>
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<tr>
<td>• Technical reading</td>
<td></td>
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<tr>
<td>• Writing</td>
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<td>• Discussion</td>
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<table>
<thead>
<tr>
<th>Depth of Knowledge (Section 5)</th>
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<tbody>
<tr>
<td>DOK: 3</td>
<td></td>
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</tbody>
</table>

Board Approved 8-3-15
Curriculum: Graphic Communications I & II

Curricular Unit: Typography

Instructional Unit: B. Identify and apply proper typography practices using Adobe InDesign

### Standard Alignments (Section 2)

<table>
<thead>
<tr>
<th>VAGLE: PP.1C (Level 4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge: (FA) 3,4 (MA) 1</td>
</tr>
<tr>
<td>CCSS: 11-12.RST.9; N-Q.1; N-Q.3; G-MG.3</td>
</tr>
<tr>
<td>NETS: 1c; 3b,c</td>
</tr>
<tr>
<td>Performance: 1.5, 2.2, 4.1</td>
</tr>
</tbody>
</table>

### Unit (Section 3)

#### Learning Targets:

- Measure copy/text in points and picas using a line gauge
- Identify: x-height, baseline, ascenders, descenders and their role in measuring type
- Identify: caps, lowercase, uppercase, small caps, ligatures
- Identify: dingbats, bullets, rules, symbols and their uses in publications
- Distinguish between display and body text by their point sizes and styles
- **List the basic type styles and their uses**
  - Explain weight and posture of type
  - Describe the appropriate us of type family members (e.g. bold, italic, book, etc.)
  - Explain letter-spacing, tracking and kerning of type characters
  - Explain typographic ems and ens and their associated dashes
  - Define the use of type arrangements (e.g.,) flush left, flush right, left, centered and justified
  - Define line spacing and explain the measurement principles for the leading text
  - Explain the differences between TrueType, Postscript Type 1, and Open Type fonts

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### Instructional Strategies:

- Teacher-led lecture and discussion
- Small group
  - activity identifying typestyles
  - presentation
- Students will:
  - complete:
    - an individual type and family identification activity
    - relevant live work when available
    - measure and apply typography practices to an advertisement

### Assessments/Evaluations:

- **Formative:**
  - Feedback on group activity
  - Individual type and family grid
- **Summative:**
  - Typography and Type Measurement test
  - Advertisement
  - Formative/summative assessment of live work when available

### Sample Assessment Questions:

- Describe the appropriate use for each typestyle

### Instructional Resources/Tools:

- Adobe InDesign Software

### Cross Curricular Connections:

- **ELA:**
  - Technical reading
  - Writing
  - Discussion
- **Math:**
  - Number sense
  - Geometric design
- **Art:** Perceptions and influence of artistic design

### Depth of Knowledge (Section 5)

**DOK: 2**
Curriculum: Graphic Communications I & II

Curricular Unit: Screen Printing

Instructional Unit: C. Identify and apply proper techniques to screen print on a substrate

**Standard Alignments (Section 2)**

<table>
<thead>
<tr>
<th>VAGLE: PP.1C (Level 4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge: (CA) 3 (FA) 1</td>
</tr>
<tr>
<td>CCSS: 11-12.SL.1; 11-12.RST.3; 11-12.RST.9</td>
</tr>
<tr>
<td>NETS: 1a; 4a; 6a</td>
</tr>
<tr>
<td>Performance: 1.6, 2.1, 3.2</td>
</tr>
</tbody>
</table>

**Unit (Section 3)**

Learning Targets:

- Distinguish between various types or frames and their benefits
- Demonstrate the ability to correctly stretch and tension mesh on a roller frame
- **Print one-color jobs on an assortment of substrates**
- Produce a multicolor design using Adobe Illustrator in tight register using electronic spot color separations
- Demonstrate an understanding of mesh variables and their impact on mesh selection for different types of jobs
- Perform exposure tests on different stencil materials
- Register positives and screens
- Print on a dark substrate using a white underbase
- Print using specialty inks (e.g., puff, glow-in-the dark, glitter, blend)
- Demonstrate an understanding of squeegee variables and their impact on different types of jobs
- Clean all screen printing tools thoroughly and properly
- Prepare a mesh for stencil application and removal
- Demonstrate correct application techniques for different stencil materials
- Check substrate for quality

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Instructional Strategies:

- Videos: View and discuss
- Teacher-led lecture and demonstration
- Design and produce a:
  - one-color
  - multicolor with tight registration
  - puff
  - glow-in-the-dark
  - glitter
  - blend
- Complete relevant live work when available

Assessments/Evaluations:

- Formative:
  - Workbook
  - Teacher observation and feedback
- Summative:
  - Screen printing unit test (Summative)
  - Design and produce a:
    - one-color
    - multicolor with tight registration
    - puff
    - glow-in-the-dark
    - glitter
    - blend
- Formative/summative assessment of live work when available

Sample Assessment Questions:

- Select the correct mesh count for each of the samples below

Instructional Resources/Tools:

- Adobe Illustrator Software

Cross Curricular Connections:

- ELA:
  - Technical reading
  - Writing
  - Discussion
- Art: Design and produce original work

**Depth of Knowledge (Section 5)**

**DOK: 4**
Curriculum: Graphic Communications I & II

Curricular Unit: Page Layout

Instructional Unit: D. Identify and use appropriate software for specific projects

<table>
<thead>
<tr>
<th>Standard Alignments (Section 2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>VAGLE: PP.1.C (Level 4)</td>
</tr>
<tr>
<td>Knowledge: (FA) 1,2,4</td>
</tr>
<tr>
<td>CCSS: 11-12.SL.5; 11-12.L.2; 11-12.RST.9</td>
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<tr>
<td>NETS: 1a,b; 6b</td>
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<tr>
<td>Performance: 2.5, 3.2, 3.3</td>
</tr>
</tbody>
</table>

Unit (Section 3)

Learning Targets:

- Select professional software for page layout
- Demonstrate the use of a digital dictionary and spell checker
- Demonstrate proper line and page breaks including hyphenation, widows and orphans
- **Demonstrate a functional knowledge of computer menus, shortcut keys, and palettes in page layout software**
- Demonstrate text alignment, vertical justification, and object alignment and distribution
- Demonstrate use of basic proofreading marks
- Follow proofreading instructions to correct documents on screen
- Demonstrate the proper setup of a new document including facing pages, page size and orientation, columns, margins, bleeds, and slugs
- Apply appropriate paragraph formatting to text (indents, spaces before or after, drop caps, etc.)
- Place or get text from a word processed document
- Design and produce a document using specified type faces, sizes, leading, margins, indents and color
- Identify appropriate professional software for inputting works, creating illustrations, editing images, and laying out pages
- Place or get images

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• Demonstrate cropping images

• Create a two-sided, three-panel brochure using graphics and text

• Create a multi-page document using master pages, automatic folios, paragraph style sheets, levels of headings, sidebars, text inset, masthead, text and graphics

• Create a document using tables

• Create a document using tints, reverses and manipulated type

• Produce a multi-colored flyer that includes at least two spot colors and output separations

• Demonstrate soft proofing using an appropriate profile and explain why it is used

• Make a hard copy proof with appropriate printer marks

• Upon completion of a job, demonstrate how to preflight, proof (hard and soft), package, and create an output-appropriate PDF

### Instructional Strategies:

• Teacher-led lecture and discussion

• Projects:
  • Brochure layout
  • Newsletter layout
  • Ad layout

• Complete relevant live work when available

### Assessments/Evaluations:

• Formative: Noble Desktop training exercises

• Summative: Layout projects

• Formative/summative assessment of live work when available

### Sample Assessment Questions:

• When is it appropriate to use Master pages in a layout?

### Instructional Resources/Tools:


• Adobe InDesign

• Illustrator

• Photoshop

• Noble Desktop Training Guides for Adobe
Cross Curricular Connections:

- ELA:
  - Technical reading
  - Writing
  - Discussion
- Art: Design and produce original work

**Depth of Knowledge (Section 5)**

DOK: 4
Curriculum: Graphic Communications I & II

Curricular Unit: Employability

Instructional Unit: E. Writing for employment

**Standard Alignments (Section 2)**

| SSCLE: ECP.4.A (Economics #11, 12) |
| Knowledge: (CA) 1,4,7 (SS) 6 |
| CCSS: 11-12.WHST.4; 11-12.WHST.5; 11-12.WHST.6 |
| NETS: 1b; 6a,b |
| Performance: 1.4, 1.8, 1.10, 2.1 |

**Unit (Section 3)**

Learning Targets:

- Describe work ethics that should be exhibited by employees in the graphic communications industry
- Demonstrate how to locate job listings through a variety of sources (e.g. Internet, job boards, help wanted ads, job fairs, agencies, etc.)
- Read and interpret the content of want ads and job postings
- **Write a personal resume that includes three references**
- Read and complete an employment application form
- Describe ways to prepare for a successful job interview
- Prepare for a job telephone interview by participating in a mock interview conducted by a teacher, parent, or another student
- Describe the reasons for job interview follow-up
- Write a letter or email to follow-up a job interview
- Evaluate an employment benefits package
- Compare job opportunities to include wages, benefits, and employment responsibilities
### Instructional Strategies:

- Investigate job posting in the graphic communications field
- Identify and discuss most common desired employee requirements and qualities
- Construct job objective and qualifications statements based on results of investigation
- Discuss components of and guide creation and revisions of:
  - functional résumés
  - cover letters
  - follow-up letters/emails
- Teacher-led lecture/discussion (both ELA and Graphic Communications)

### Assessments/Evaluations:

- Formative:
  - Auto Collision Target Job Requirements Partner Research Guide
  - Résumé, cover letter, and follow-up letter/email drafts
  - Wage and benefit analysis sheet
- Summative: Résumé and cover letter final draft

### Sample Assessment Questions:

- Visit the three websites listed below. Under each site, list three different job requirements or employee qualities you find in postings for auto collision repair technician positions. Try to choose different ones from each site.

### Instructional Resources/Tools:

- MidMoCareers.com
- Monster.com
- Careerbuilder.com
- BLS Occupational Outlook Handbook (online)
- Google drive and docs
- Computer

### Cross Curricular Connections:

- Social Studies: Apply economic concepts such as unemployment and full employment

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**Depth of Knowledge (Section 5)**

DOK: 3

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Curriculum: Graphic Communications I & II

Curricular Unit: Image Capture

Instructional Unit: F. Identify different methods to import images

<table>
<thead>
<tr>
<th>Standard Alignments (Section 2)</th>
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<tbody>
<tr>
<td>GLE/CLE: N/A</td>
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<tr>
<td>Knowledge: (FA) 1,4</td>
</tr>
<tr>
<td>CCSS: 11-12.RST.3</td>
</tr>
<tr>
<td>NETS: 6a,c,d</td>
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<tr>
<td>Performance: 3.4, 4.1</td>
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</tbody>
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<tr>
<th>Unit (Section 3)</th>
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<tbody>
<tr>
<td>Learning Targets:</td>
</tr>
<tr>
<td>• Explain basic scanning hardware</td>
</tr>
<tr>
<td>• Explain basic digital camera hardware</td>
</tr>
<tr>
<td>• Explain and identify the difference between line art and continuous tone originals</td>
</tr>
<tr>
<td>Instructional Strategies:</td>
</tr>
<tr>
<td>• Teacher-led lecture and discussion</td>
</tr>
<tr>
<td>• Complete relevant live work when available</td>
</tr>
<tr>
<td>Assessments/Evaluations:</td>
</tr>
<tr>
<td>• Formative: Guided practice using equipment</td>
</tr>
<tr>
<td>• Summative: Unit test (Summative)</td>
</tr>
<tr>
<td>Sample Assessment Questions:</td>
</tr>
<tr>
<td>• Describe the steps to scan on the Xerox</td>
</tr>
<tr>
<td>Instructional Resources/Tools:</td>
</tr>
<tr>
<td>• Xerox</td>
</tr>
<tr>
<td>• Digital camera</td>
</tr>
<tr>
<td>Cross Curricular Connections:</td>
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<tr>
<td>• ELA:</td>
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<tr>
<td>• Technical reading</td>
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<tr>
<td>• Writing</td>
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<tr>
<td>• Discussion</td>
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<th>Depth of Knowledge (Section 5)</th>
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<td>DOK: 1</td>
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</table>

Board Approved 8-3-15
Curriculum: Graphic Communications I & II

Curricular Unit: Design Principles

Instructional Unit: G. Use appropriate principles, elements and color to create an effective design

**Standard Alignments (Section 2)**

<table>
<thead>
<tr>
<th>VAGLE: AP.2.A (Level 2)</th>
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<tbody>
<tr>
<td>Knowledge: (FA) 2,3</td>
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<tr>
<td>CCSS: 11-12.RST.9; 11-12.WHST.6</td>
</tr>
<tr>
<td>NETS: 1a; 2b</td>
</tr>
<tr>
<td>Performance: 1.4, 1.8, 2.4</td>
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</tbody>
</table>

**Unit (Section 3)**

Learning Targets:

- Identify the basic principles of design (i.e., unity, contrast, proportions, balance, emphasis, and rhythm)

- **Identify the basic elements of design** (i.e., line, shape, direction, size, texture, value, and color)

- Create thumbnails and rough drafts by sketching. Use markers or colored pencils to show color

- Demonstrate an understanding of color theory by describing primary, secondary, and tertiary colors including hue, tint, value and shade

- Critique a layout to determine if it meets the customer’s needs, and suggest improvements

- Demonstrate an understanding of corporate identity including how branding affects consumer recognition

- Demonstrate an understanding of color relationships (e.g., complimentary, analogous, monochromatic, etc.)

Instructional Strategies:

- Teacher-led lecture and discussion
- Students will:
  - identify elements, principles and color relationships in a poster design
  - complete:
    - an Element and Principle Poster activity
    - relevant live work when available

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Assessments/Evaluations:

- Formative: Feedback of identification
- Summative:
  - Unit test
  - Poster Design activity
- Formative/Summative assessment of live work when available

Sample Assessment Questions:

- Explain the difference between elements and principles of design.

Instructional Resources/Tools:

- Adobe InDesign
- Illustrator
- Photoshop

Cross Curricular Connections:

- ELA:
  - Technical reading
  - Writing
  - Discussion
- Art: Design and produce original work

**Depth of Knowledge (Section 5)**

DOK: 3
Curriculum: Graphic Communications I & II

Curricular Unit: Digital File Preparation

Instructional: H. Prepare digital files consistent with industry standards

**Standard Alignments (Section 2)**

| VAGLE: PP.1.C (Level 4); IC.1.A (Level 4) |
| Knowledge: (CA) 1,2 (FA) 1,4 |
| CCSS: 11-12.RL.3; 11-12.RL.5; 11-12.SL.5 |
| NETS: 1a; 2a; 4b |
| Performance: 1.10, 2.5, 3.8 |

**Unit (Section 3)**

**Learning Targets:**

- **Identify professional prepress software applications and uses, including:** page layout (QuarkXPress, InDesign); image editing (Photoshop); illustration (Illustrator); PDF generation and editing (Acrobat, PitStop); and, imposition (Preps)

- Describe the disadvantages of using office/home-based software for professional graphic purposes

- Describe the difference between a raster image and a vector graphic image

- List advantages/disadvantages of removable storage media

- Explain the significance of PDF as it pertains to the printing industry

- Explain the difference between supplying PDF files versus native files for print

- Identify various file formats and their extensions: .doc; .qxd; .pdf; .tif; .eps; .rtf; raw; .jpg; .bmp; .txt; .indd; .psd; .ai; .pub; .html; .gif; .xls; .zip; .dmg; .png; .dng

- Explain the purpose of imposition

**Instructional Strategies:**

- Teacher-led lecture and discussion

- Students will:
  - set up appropriate imposition on a song/poem book project
  - complete relevant live work when available

**Assessments/Evaluations:**

- Formative: Workbook
- Summative:
  - Song/Poem book project
  - Unit test

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Sample Assessment Questions:

- What file format would you use to print on the digital press?

Instructional Resources/Tools:

- Adobe InDesign
- Illustrator
- Photoshop
- Noble Desktop Training Guides for Adobe

Cross Curricular Connections:

- ELA: Interpreting figurative language
- Art:
  - Recognizing connections between visual and performing arts
  - Expressing ideas through art

**Depth of Knowledge (Section 5)**

DOK: 4
Curriculum: Graphic Communications I & II

Curricular Unit: Digital File Output

Instructional Unit: I. Prepare a file to print correctly on a digital press

**Standard Alignments (Section 2)**

<table>
<thead>
<tr>
<th>VAGLE: PP.1.C (Level 4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge: (CA) 1 (FA) 1</td>
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<tr>
<td>CCSS: 11-12.RST.3; 11-12.RST.4</td>
</tr>
<tr>
<td>NETS: 1a,b; 6a</td>
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<tr>
<td>Performance: 1.8, 1.10, 2.2</td>
</tr>
</tbody>
</table>

**Unit (Section 3)**

**Learning Targets:**

- Explain and describe trapping and why it is necessary
- Explain the purpose of proofing
- Explain the difference between hard and soft proofs
- Explain digital platemaking equipment for offset plates
- Define preflighting and file repair (open-type face)
- List common digital file problems in a native file and a PDF
- Repair a native file and PDF that exhibits basic file problems
- Explain the difference between static output and variable output
- Explain the process of creating digital output from a computer file
- **Define various imposition styles such as work & turn, work & tumble, sheetwise, multiple up, and perfecting**
- Demonstrate how to send, manage and impose an electronic file using digital imposition software
- Create a dummy for a 16-page job with proper pagination, folds, and guides
- Explain why calibration is important for digital output devices
- Describe the difference between undercolor removal (UCR) and gray component replacement (GCR)
- Explain the differences between a densitometer, plate reader, and spectrophotometer, and when you use each

- Identify and describe direct imaging technologies on press

**Instructional Strategies:**

- Teacher-led lecture and discussion
- Workbook
- Students will:
  - create dummies for a variety of impositions
  - impose a business card project
  - complete relevant live work when available

**Assessments/Evaluations:**

- Formative: Guided practice creating dummies
- Summative:
  - Unit test
  - Business Card project
- Formative/Summative assessment of live work when available

**Sample Assessment Questions:**

- Describe when to use trapping and why it is necessary

**Instructional Resources/Tools:**

- Fiery Workflow Software instructional videos

**Cross Curricular Connections:**

- ELA:
  - Technical reading
  - Writing
  - Discussion
- Art: Design and produce original work

**Depth of Knowledge (Section 5)**

DOK: 2
Curriculum: Graphic Communications I & II

Curricular Unit: Color Theory

Instructional Unit: J. Understand the effect of color and light on print reproduction

**Standard Alignments (Section 2)**

<table>
<thead>
<tr>
<th>VAGLE: EP.1.E (Level 4)</th>
<th>Knowledge: (CA) 3 (FA) 1</th>
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<tbody>
<tr>
<td>CCSS: 11-12.RST.4</td>
<td>NETS: N/A</td>
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<td>Performance: 4.1</td>
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</tbody>
</table>

**Unit (Section 3)**

Learning Targets:

- Explain additive and subtractive color theory
- Explain the effect of lighting on color perception
- Explain the effect of the surround on color perception
- Explain the significance of standard viewing conditions in the graphic communications industry
- Explain the influence of the substrate on color reproduction

Instructional Strategies:

- Teacher-led lecture and discussion
- Workbook

Assessments/Evaluations:

- Formative: Unit test

Sample Assessment Questions:

- How is the sun relevant to viewing conditions in the graphics industry?

Instructional Resources/Tools:


Cross Curricular Connections:

- ELA:
  - Technical reading
  - Writing
  - Discussion
- Art: Understand effect of color on perception of art

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Depth of Knowledge (Section 5)

DOK: 1
Curriculum: Graphic Communications I & II

Curricular Unit: Bindery Operations

Instructional Unit: K. Identify bindery processes and operate all bindery equipment in the lab

**Standard Alignments (Section 2)**

<table>
<thead>
<tr>
<th>GLE/CLE:</th>
<th>N/A</th>
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<tbody>
<tr>
<td>Knowledge:</td>
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<td>4b; 6b,c</td>
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<tr>
<td>Performance:</td>
<td>3.2, 3.3, 4.6</td>
</tr>
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</table>

**Unit (Section 3)**

Learning Targets:

- Describe the differences between, and the advantages/disadvantages of: in-line; off-line; and near-line finishing
- List basic paper types, weights, grades and classifications commonly used in the printing industry
- Explain operational and safety features of a paper cutter
- Identify grain direction of paper, and explain its importance
- **Calculate basic paper cuts from a parent sheet**
- Create an accurate master cutting diagram for making cuts
- Identify padding equipment materials and hand tools
- Identify stapling and stitching equipment materials and supplies
- Identify punching/drilling equipment and tools
- Identify folding equipment
- Identify basic folds for printed products
- Identify collating equipment
- Identify die cut products, embossing and foil stamping products, and procedures/equipment used for each

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- Identify and explain different binding methods and applications, including: case binding; perfect binding; saddle stitching; and lay-flat

- Describe the mailing and distribution process

**Instructional Strategies:**

- Teacher-led lecture and discussion
- Demonstration of all bindery operations in the lab
- Identify samples of different bindery processes in a group
- Students will:
  - calculate and draw cutting diagrams on the parent sheet
  - complete relevant live work when available
  - operate each of the pieces of equipment per instructions in lab packet

**Assessments/Evaluations:**

- Formative:
  - Identify samples with group
  - Cut parent sheet following cutting diagram
- Summative:
  - Unit test
  - Lab packet
- Formative/Summative assessment of live work when available

**Sample Assessment Questions:**

- How many 6 x 9 sheets will cut out of a 23 x 25 parent sheet?

**Instructional Resources/Tools:**

- Bindery equipment

**Cross Curricular Connections:**

- English: Technical reading

**Depth of Knowledge (Section 5)**

DOK: 2
Curriculum: Graphic Communications I & II

Curricular Unit: Press Operations

Instructional Unit: L. Basic operation of an offset press

**Standard Alignments (Section 2)**

| GLE/CLE: N/A |
| Knowledge: (CA) 3 |
| CCSS: 11-12.RST.4; 11-12.RST.9 |
| NETS: 6a-c |
| Performance: 4.6, 4.7 |

**Unit (Section 3)**

**Learning Targets:**

- Identify basic safety procedures for press operation
- Identify basic press systems
- List and describe quality control devices for press (color bars, densitometer, etc.)
- **Set-up and print a one-color project on the Heidelberg**
- Set-up and print a two-color project on the Heidelberg
- Print envelopes on the Multigraphics 1650

**Instructional Strategies:**

- Teacher-led lecture and discussion
- Demonstration and guided practice
- Complete relevant live work when available

**Assessments/Evaluations:**

- Formative: Guided Practice operating press
- Summative: Unit test
- Formative/Summative assessment of live work when available

**Sample Assessment Questions:**

- List the six basic systems of an offset press

**Instructional Resources/Tools:**

- Heidelberg Press Manual
- Multigraphics 1650 Press Manual

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Cross Curricular Connections:

- English: Technical reading
- Health: Recognize and follow personal safety procedures

**Depth of Knowledge (Section 5)**

DOK: 1
Curriculum: Graphic Communications I & II

Curricular Unit: Dye Sublimation

Instructional Unit: M. Create files and print on a variety of substrates using a dye sublimation printer

**Standard Alignments (Section 2)**

<table>
<thead>
<tr>
<th>VAGLE: PP.1.C (Level 4)</th>
<th>Knowledge: (CA) 3 (FA) 1</th>
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<tr>
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<td>NETS: 1a; 4b; 6a</td>
<td>Performance: 2.5, 4.6</td>
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</table>

**Unit (Section 3)**

Learning Targets:

- Prepare files for dye sublimation
- Output files on transfer paper using color management
- Prepare heat and mug press for printing operation
- Tape printed transfer to substrate
- Transfer to a variety of substrates (mug, mouse pad, etc.)

Instructional Strategies:

- Teacher-lead lecture and discussion
- Dye Sublimation videos
- Projects:
  - Mug
  - Mouse pad

Assessments/Evaluations:

- Formative: Group – Perform time and temperature tests and record
- Summative:
  - Unit test
  - Projects:
    - Mug
    - Mouse pad

Sample Assessment Questions:

- The color gamut with the widest range of color is produced by what color system?
### Instructional Resources/Tools:
- Hix Corporation, Sublimation Printing, 2010
- Adobe Illustrator
- Photoshop

### Cross Curricular Connections:
- **ELA:**
  - Technical reading
  - Discussion
- **Visual Arts:** Use digital media to create art and communicate ideas

## Depth of Knowledge (Section 5)

DOK: 3
Curriculum: Graphic Communications I & II

Curricular Unit: Industry Overview

Instructional Unit: N. Identify all aspects of the printing industry

**Standard Alignments (Section 2)**

<table>
<thead>
<tr>
<th>SSCLE: ECP.4.A.I</th>
<th>Knowledge: (CA) 5 (SS) 4</th>
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<tbody>
<tr>
<td>CCSS: 11-12.SL.3; 11-12.SL.5; 11-12.SL.6</td>
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<td>NETS: 1d; 2b; 3b</td>
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<td>Performance: 1.1, 2.1, 4.1</td>
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</table>

**Unit (Section 3)**

Learning Targets:

- Define the role of graphics in the free enterprise system
- Identify and list print markets and types of print businesses
- List printing’s ranking among other manufacturing industries
- Identify and describe the major printing processes: flexography, gravure, lithography, screen printing, and digital
- List the advantages and disadvantages of each major printing process
- List typical products produced by each major process
- Show a typical business flow of printing from initial concept to finished product
- List, in order, a typical technical production flow from idea to finished product
- Identify these major occupations in the graphic communications industry and describe the basic training needed for each: sales representative; customer service representative; prepress technician; press operator; bindery operator; and management personnel
- Identify basic salary/wage expectation ranges
- Identify and describe basic production equipment used in a commercial printing plant, including: computer workstation; proofing device; platesetter; scanner; offset press; digital press; paper cutter; folder; saddle stitcher; perfect binder; paper padder; and paper drill

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• Identify the types of major companies that employ people with graphic communications skills, including: commercial printers, in-plant printers, book printers, packaging, label & wrapper printers, catalogs & directories printers, direct mail printers, business form printers, financial & legal printers, inserts & coupon printers, magazine & periodical printers, trade binderies, and pre-press services

• Read and interpret production information on a job ticket

• Identify these major printing industry associations: National Association for Printing Leadership (NAPL); Printing Industries of America (PIA) and the local PIA affiliate; Flexographic Technical Association (FTA); Specialty Graphic Imaging Association (SGIA); and AIGA, the professional association for design

• Define counterfeiting and copyright laws

• Describe the need for security within printing companies and the products they produce

• Observe a commercial printing operation (live or virtual) and identify the production departments

Instructional Strategies:

• Teacher-led lecture and discussion
• Guest speakers

Assessments/Evaluations:

• Unit test
• Graphic research paper & presentation

Sample Assessment Questions:

• List and describe each of the four printing processes.

Instructional Resources/Tools:

• Guest speakers
• Databases and websites

Cross Curricular Connections:

• English:
  • Listening
  • Technical reading
  • Research
  • Presentation skills
• Social Studies:
  • Role of industry in the US
  • World economy
Depth of Knowledge (Section 5)

DOK: 4
Curriculum: Graphic Communications I & II

Curricular Unit: Basic Math

Instructional Unit: O. Apply math skills required in the graphic communication industry

**Standard Alignments (Section 2)**

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<td>Performance: 1.10, 3.3</td>
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</table>

**Unit (Section 3)**

Learning Targets:

- Solve addition of whole number problems—two and three digits
- Solve addition of fraction problems
- Solve addition of decimal problems—two and three digits
- Solve subtraction of whole number problems—two and three digits
- Solve subtraction of fraction problems
- Solve subtraction of decimal problems-two and three digits
- Solve multiplication of whole numbers-two and three digits
- Solve multiplication of decimal problems-two and three digits
- Solve division of whole number problems-two and three digits
- Solve various problems that require dividing a given dimension in half
- Solve division of decimal problems-two and three digits
- Solve decimals to percent conversion problems
- Solve percent to decimal conversion problems
- Solve basic ratio and proportion problems
- Solve basic linear measurement problems
- Solve basic type calculation problems

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• Solve basic liquid measurement problems
• Solve basic paper cutting calculations
• Solve word problems that require an understanding of estimating

Instructional Strategies:

• The teacher will:
  • use classroom instruction and/or demonstrations to introduce or revisit targets required to practice the competency at hand
  • model appropriate work required to complete the task
  • direct students to appropriate resources when needed
  • provide:
    • examples of good vs. poor work
    • feedback during and at the conclusion of the assignment
    • small learning group opportunities when applicable

Assessments/Evaluations:

• Formative:
  • Projects/activities
  • Constructions
  • Worksheets
  • Quizzes
  • Games
  applied within corresponding graphic communication units

Sample Assessment Questions:

• If the customer ordered paper that costs $29.32 per M, what is the cost of 2500 sheets?

Instructional Resources/Tools:

• Printer’s math textbook

Cross Curricular Connections:

• Math: Number sense and it’s practical application

**Depth of Knowledge (Section 5)**

DOK: 2

Board Approved 8-3-15
Curriculum: Graphic Communications I & II

Curricular Unit: Vinyl Sign Applications

Instructional Unit: P. Perform vinyl applications consistent with industry and safety standards

Standard Alignments (Section 2)

<table>
<thead>
<tr>
<th>Knowledge:</th>
<th>GLE/CLE: N/A</th>
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<td>Performance</td>
<td>3.4, 4.1</td>
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Unit (Section 3)

Learning Targets:

- Trace a drawing or photograph using a graphics program
- Correctly load vinyl into a plotter making adjustments
- Prepare cutter by adjusting cut depth
- Accurately cut and weed vinyl to eliminate waste
- Troubleshoot cutting/weeding problems
- Apply transfer tape and apply vinyl to a variety of substrates
- Apply grommets
- Hem a banner

Instructional Strategies:

- Videos: view and discuss
- Lecture and demonstration by instructor
- Design and produce a one-color and multicolor with tight registration
- Apply vinyl and grommets to banner
- Complete relevant live work when available

Assessments/Evaluations:

- Formative:
  - Worksheets
  - Teacher observation and feedback
- Students will design and produce a one-color, multicolor with tight registration on banner with grommets
- Formative/summative assessment of live work when available
- Summative: Vinyl unit test

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Sample Assessment Questions:

- What action in Illustrator must be performed on stray lines before plotting?

Instructional Resources/Tools:

- PowerPoint
- Internet

Cross Curricular Connections:

- ELA:
  - Technical reading
  - Writing
  - Discussion

Depth of Knowledge (Section 5)

DOK: 2