

<b>DEPARTMENT: TECHNOLOGY EDUCATION</b>	<b>COURSE TITLE: PRINT DESIGN &amp; DUPLICATION TECHNOLOGY</b> <b>COURSE NUMBER: 518</b>
<b>GRADE(S): 9-12</b>	<b>PRE-REQUISITES (IF ANY): NONE</b>

<b>UNIT</b>	<b>LENGTH</b>	<b>CONTENT</b>	<b>SKILLS</b>	<b>METHODS OF ASSESSMENT</b>	<b>FRAMEWORK STRAND(S) &amp; STANDARD(S)</b>
Safety	1 day and on-going	<ul style="list-style-type: none"> <li>Departmental safety booklet with additional focus on air quality, chemical handling and waste disposal</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>Identify personal protection devices and practices appropriate for this lab.</li> <li>Demonstrate an understanding of lab environmental standards.</li> <li>Employ the safety practices identified in the department's safety manual.</li> </ul>	<ul style="list-style-type: none"> <li>Quizzes</li> <li>Observation of application or principles and practices</li> </ul>	STE: 9/10, 7.2 ARTS: 9-12, 1.12, 1.15
Introduction to Duplication Options	2 days	<ul style="list-style-type: none"> <li>Characteristics and appropriate uses for relief, stencil, offset, gravure, photographic and digital imaging processes</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>Explain the advantages and disadvantages of the different methods of printing.</li> <li>Analyze print jobs and identify the most appropriate method of printing.</li> </ul>	<ul style="list-style-type: none"> <li>Quizzes</li> <li>Collection of samples</li> <li>Participation in oral discussion on unit</li> </ul>	STE: 9/10, 6.3, 6.4, 6-8, 3.2, 3.3
Introduction to Software Application Options	1 day	<ul style="list-style-type: none"> <li>Characteristics and appropriate uses for MS-Word, Excel, PageMaker, Illustrator, Freehand and PhotoShop as well as compatibility of save languages within these options.</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>Identify the general and potential uses for MS-Word, Excel, PageMaker, Illustrator, Freehand and PhotoShop.</li> </ul>	<ul style="list-style-type: none"> <li>Oral and written quizzes</li> </ul>	STE: 6-8, 3.2, 3.3 IT: 9-12, 1.25
Introduction to Graphic Design Fundamentals	2 days and on-going	<ul style="list-style-type: none"> <li>Function/end use</li> <li>Readability/typography</li> <li>Color (primary, secondary and standard combinations)</li> <li>Emphasis/contrast</li> <li>Rhythm, balance, proportion, unity</li> <li>Use of white space and eye movement techniques</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>Identify and explain major design principles used in print.</li> </ul>	<ul style="list-style-type: none"> <li>Quizzes</li> <li>Collection/identification of samples</li> <li>Participation in oral discussion on unit</li> </ul>	ARTS: 9-12, 2.6, 2.7, 2.10, 2.11, 2.12, 2.13, 2.16, 2.17, 8, 2.6, 2.7 ELA: 9-12, 26.5, 27.6, 27.8
Introduction to the Design Sequence	1 day	<ul style="list-style-type: none"> <li>Thumb nail sketches</li> <li>Rough layout,</li> <li>Comprehensive layouts</li> <li>Consultation techniques with the customer</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>Explain and demonstrate the design sequence by following the sequence through the making of business cards or a flyer.</li> </ul>	<ul style="list-style-type: none"> <li>Student samples</li> </ul>	ARTS: 9-12, 4.9, 4.10, 9.8
Introduction to Customer Relations	2 days and on-going	<ul style="list-style-type: none"> <li>Standards for dress, conversation/language</li> <li>Taking related design information from customers when on the phone or in personal conference</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>Demonstrate appropriate standards of dress for meeting with customers.</li> <li>Use appropriate language standards for conversations with customers.</li> </ul>	<ul style="list-style-type: none"> <li>Oral or written quizzes</li> <li>Observations of interactions with customers</li> <li>Simulations</li> </ul>	ELA: 9-12, 3.14, 5.30, 6.8, 6.9, 6.11

Review of MS-Word	2 days	<ul style="list-style-type: none"> <li>• Startup</li> <li>• File saving</li> <li>• Page setup</li> <li>• Printing</li> <li>• Use of tables</li> <li>• Spell check</li> <li>• Inserting art</li> <li>• Editing (fonts, alignment, size, copy/paste and color)</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• Create, save and print a Microsoft Word file.</li> <li>• Format a page according to a set of directions.</li> <li>• Import art from art files within Microsoft Word.</li> <li>• Demonstrate the use of spell check, the changing of fonts, size, alignment, copy and paste functions.</li> </ul>	<ul style="list-style-type: none"> <li>• Quiz</li> <li>• Simulations/sample work</li> </ul>	STE: 6-8, 3.2 ITRS: 5-8, 1.7, 1.8
Introduction to PageMaker	3 days	<ul style="list-style-type: none"> <li>• Startup</li> <li>• File saving</li> <li>• Page setup</li> <li>• Use of rulers and guidelines</li> <li>• Printing</li> <li>• Use of master pages</li> <li>• Spell check</li> <li>• Importing/placing art</li> <li>• Editing (fonts, alignment, size, element specifications, copy/paste and color) and cut lines</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• Create save spell check and print a PageMaker file.</li> <li>• Import graphic images using the place or import commands.</li> <li>• Demonstrate the use of layers, selection tools, and color adjustments.</li> </ul>	<ul style="list-style-type: none"> <li>• Quiz</li> <li>• Simulations/sample work</li> </ul>	STE: 6-8, 3.2 ITRS: 9-12, 1.2, 1.6, 1.8, 1.22, 1.23
Introduction to Illustrator	3 days	<ul style="list-style-type: none"> <li>• Startup</li> <li>• File saving</li> <li>• Page setup</li> <li>• Resolution standards</li> <li>• Use of rulers and guidelines</li> <li>• Printing</li> <li>• Use of layers and color palettes</li> <li>• Importing or placing art</li> <li>• Editing (fonts, alignment, size, element specifications, copy/paste and color)</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• Create, save and print an Illustrator file.</li> <li>• Import graphic images from either a scanner or digital camera.</li> <li>• Demonstrate the use of layers, selection tools, and color adjustments.</li> </ul>	<ul style="list-style-type: none"> <li>• Quiz</li> <li>• Simulations/sample work</li> </ul>	STE: 6-8, 3.2 ITDS: 9-12, 1.2, 1.8, 1.22, 1.23
Introduction to PhotoShop	3 days	<ul style="list-style-type: none"> <li>• Startup</li> <li>• File saving</li> <li>• Page setup</li> <li>• Resolution standards</li> <li>• Selection tools</li> <li>• Use of rulers and guidelines</li> <li>• Printing, use of layers</li> <li>• Use of color palettes</li> <li>• Importing or placing art</li> <li>• Editing (fonts, alignment, size, element, copy/paste and adjusting colors/curves)</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• Create, save and print a PhotoShop file.</li> <li>• Import graphic images from either a scanner or digital camera.</li> <li>• Demonstrate the use of layers, selection tools, and color adjustments</li> </ul>	<ul style="list-style-type: none"> <li>• Quiz</li> <li>• Simulations/sample work</li> </ul>	STE: 6-8, 3.2 ITDS: 9-12, 1.2, 1.8, 1.22, 1.23
Introduction to Scanners and	2 days	<ul style="list-style-type: none"> <li>• Startup</li> <li>• Appropriate save language selection</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• Demonstrate the use of both the</li> </ul>	<ul style="list-style-type: none"> <li>• Student demonstration</li> </ul>	STE: 6-8, 3.2 ITDS: 9-12,

Digital Cameras		<ul style="list-style-type: none"> <li>Resolution and operational sequence on scanner and digital cameras</li> </ul>	<p>scanner and digital camera.</p> <ul style="list-style-type: none"> <li>Identify the save languages available on the lab equipment and select the appropriate language for the software being used.</li> </ul>		1.2, 1.3, 1.6, 1.23, 1.25
Introduction to Risograph Technology	3 days	<ul style="list-style-type: none"> <li>Appropriate uses for risograph technology</li> <li>Setup of images for scanning and the use of the operators panel</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>Set up the Risograph printer and produce high quality copies.</li> <li>Use the editing panel for erasing, tinting and reducing.</li> </ul>	<ul style="list-style-type: none"> <li>Student demonstration</li> </ul>	STE: 6-8, 3.2
Introduction to Offset Printing	3 days	<ul style="list-style-type: none"> <li>Appropriate uses for offset printing technology</li> <li>Basic set-up and operation of the feed, printing, registration, inking, fountain and delivery systems for standard grade 8 ½ by 11 inch paper</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>Explain the offset printing process and identify the six sub-systems and their primary controls by proper name.</li> </ul>	<ul style="list-style-type: none"> <li>Quizzes</li> <li>Oral explanations of process</li> <li>Student demonstrations of sub-system setup</li> </ul>	STE: 6-8, 3.2
Introduction to Plate-making	2 days	<ul style="list-style-type: none"> <li>Appropriate selection of offset printing plate</li> <li>Use of those options (electrostatic plate-maker, X-ante computer plate generator or traditional negative based plate-maker)</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>Analyze the need for an offset printing plate and make the plate.</li> </ul>	<ul style="list-style-type: none"> <li>Oral explanations of process and selection</li> <li>Student demonstrations of sub-system setup</li> </ul>	STE: 6-8, 3.2
Introduction to Paper Cutters, Staplers, Collators, Drills, Folders and Serrators.	2 days and on-going	<ul style="list-style-type: none"> <li>Set-up and efficient use of the folding, collating, stapling, drilling, serrating and paper cutting machines</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>Analyze the task at hand and select the appropriate machine/tool for that task.</li> </ul>	<ul style="list-style-type: none"> <li>Observations of students selection process and oral rational for selection</li> <li>Setup and use of equipment</li> <li>Waste factor analysis</li> </ul>	STE: 6-8, 3.2
Introduction to Maintenance of Duplication Equipment	On-going throughout the course	<ul style="list-style-type: none"> <li>Lubrication, adjustment, replacement of common parts and the cleaning of equipment per manufacturers specifications</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>Perform daily, weekly and monthly cleanup, maintenance and calibration tasks on printing and finishing equipment.</li> </ul>	<ul style="list-style-type: none"> <li>Observations and log of reported problems and efforts to make corrective measures</li> <li>Observation of student participation (thoroughness) in daily, weekly and monthly maint. And cleanup procedures</li> </ul>	
Duplication Skill Development (Option 1)	6 weeks	<ul style="list-style-type: none"> <li>Use of appropriate technology and practices to duplicate materials for the school and community at large</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>Build technical skills in the production of printed materials on an assortment of pre-press, duplicating and finishing equipment.</li> </ul>	<ul style="list-style-type: none"> <li>Demonstrated competence on a wide range of equipment (observations)</li> <li>Improvement in independent operation on equipment (observations)</li> <li>Improvement of waste factor (logs)</li> </ul>	STE: 6-8, 3.2

				<ul style="list-style-type: none"> <li>Improvement in quality and quantity of work produced (samples)</li> </ul>	
Design Skill Development (Option 2)	6 weeks	<ul style="list-style-type: none"> <li>Use of appropriate technology and practices to design print jobs for duplication</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>Build design skills in the design and production of hard copy for duplication using an assortment of design software.</li> </ul>	<ul style="list-style-type: none"> <li>Quizzes &amp; Simulations</li> <li>Demonstrated competence on a wide range of equipment &amp; software (observations)</li> <li>Improvement in independent operation on software &amp; equipment (observations)</li> <li>Improvement in application of design principles (observations)</li> <li>Improvement in quality and quantity of work produced (samples)</li> </ul>	<p>STE: 6-8, 3.2 ITRS: 9-12, 1.1-1.7, 1.25, 2.2, 2.3, 3.6 ARTS: 9-12, 2.6, 2.7, 2.10, 2.11, 2.12, 2.13, 2.16, 2.17, 8, 2.6, 2.7, 2.11 ELA: 9-12, 26.5, 26.6, 27.7, 27.8</p>
Introduction to Screen Printing	2 days	Appropriate uses for screen printing and basic setup of hand cut and photographic screen printing operations (includes, screening, stencil generation, stencil attachment, masking, registration, printing and cleanup)	<p>Students will:</p> <ul style="list-style-type: none"> <li>Explain the screen printing (hand cut and photographic) process and identify major steps in the process by proper name.</li> </ul>	<ul style="list-style-type: none"> <li>Oral/written explanations of process and selection</li> <li>Student setup of screen printing simulation</li> </ul>	<p>STE: 6-8, 3.2 ARTS: 9-12, 1.9, 1.12, 1.13, 1.14, 1.15</p>