

MANCHESTER REGIONAL HIGH SCHOOL

P.C. Graphics 3

REVISED  
2015

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## Course Description – PC Graphics 3

PC Graphics 3 is a comprehensive graphic arts & multimedia design course that enables students to develop a solid foundation in design principles and digital art techniques through the intensive study of basic design elements, fine art composition creation, aesthetic judgements and conceptual art theory using Contemporary digital tools and mediums. This is course is project based and students will have the opportunity to practice and utilize these skills for the layout and productions of documents used in school flyers, school newspaper, school and community newsletters, promotional pieces for clubs, and school wide events. Students will be strongly encouraged to participate, submit work, and take advantage of design scholarships and digital art exhibitions available throughout the year. (This course is highly recommended for students who may have an interest in careers in design such as: graphic design, interior design, editorial/publishing design, fashion design, package design, digital photography, illustration and web design).

### COURSE DATA:

Length of Course:	Full Year Credits:
Periods Per Week:	5
Classification:	Elective
Prerequisite:	None

### EVALUATION:

The purposes of evaluation are to provide information about student progress and to determine if students have learned the subject matter, which has been taught. Teachers will evaluate student progress by utilizing standardized tests, teacher-made quizzes and tests, oral questioning, class participation, homework, special projects, special exams, and other school records.

## **EVALUATION CRITERIA:**

Evaluation will be based on the following weighted components:

Formal tests .....50%

Effort/Participation .....50%

**Grading structure:** Benchmark for mastery of course content is 65%; content mastery for students with IEPs may be less than the Board of Education approved minimum for regular education students.

## **II. Course Outline and Objectives**

### **UNIT 1: PRODUCTION FUNDAMENTALS (8.1.12.A.1.A.3)**

*Students will:*

1. learn the origins of the printing industry (wood block printing, movable type and rotary printing press)
2. learn about modern printing technologies (offset press vs digital press)
3. learn to identify the proper use for each piece of equipment in a print shop
4. learn how to replace consumables and perform basic hardware maintenance
5. learn how to estimate the cost of printing a job

### **UNIT 2: CLASSROOM GUIDELINES/SAFETY (8.1.12.0.1) (8.2.12.E.1)**

*Students will:*

1. complete each project following all required criteria as given in job or project description
2. understand why following dimensions and specific instruction in job descriptions are vital for successful completion
3. use appropriate equipment and tools in a safe, proper manner within the assigned job or project deadline
4. understand purpose of overhead projectors for large format projects
5. use proportional scale for figuring proper enlargement/reduction values
6. operate the Xerox printers/copiers safely for enlarging/reducing, scanning and duplicating, using appropriate modes and paper
7. operate and maintain computers and all peripherals (digital camera, scanner, printers)

### **UNIT 3: DESIGN AND PRINT INDUSTRY (8.1.12.A.1.A.3)**

#### **Section 1: Paper**

*Students will:*

1. identify the different weights of various paper stocks
2. identify the different standard paper sizes
3. identify finishes of paper stocks
4. identify the different colors of paper stocks
5. identify appropriate paper stocks for various printing equipment
6. learn how to create paper mock-ups for brochures, calendars and various multi-page projects

#### **Section 2: Production Work Flow**

*Students will:*

1. learn how to schedule a project
2. write a creative brief detailing a project's design objectives
3. manage digital assets from the start of a project through the archiving of the project
4. optimize printer and copier settings for the paper stock used
5. learn how to produce print quality PDFs with proper color settings and registration
6. understand how to preflight a **PDF** file before sending it to a printing device
7. understand how to create font sets with a font management utility for individual jobs

### **Section 3: Understanding Printing**

*Students will:*

1. learn the differences between RGB, spot and CMYK color
2. learn the Pantone color matching system
3. learn how properly set-up files for print separations
4. understand printer margins and gutter margins
5. learn about page bleeds and how to properly set them up
6. learn how to properly in-position pages within multi-page documents for printing
7. understand registration and crop marks
8. add crop marks and registration marks
9. create custom crop marks and registration marks for unique jobs

## **UNIT 4: TECHNOLOGY FOUNDATIONS (8.1.12.A.1.A.3)**

### **Section 1: Technology Skills**

*Students will:*

1. identify and use computer and peripherals used in Graphic Design
2. be proficient in software applications used in a typical Graphic Design environment
3. understand how to open, close and manage fonts utilizing a font manager for various projects
4. utilize the scanner to properly digitize custom illustrations, textures and photography
5. learn how to properly adjust a digital camera for taking photos in various environments
6. understand the costs of all hardware, peripherals and software used in the Graphic Design field
7. properly create files and save them in the appropriate folders and/or storage disks
8. name files according to project name for easy retrieval
9. understand the importance of frequent saving and backing up of files
10. maintain computers and peripherals, shutting down and storing appropriately
11. utilize the internet to assist in subject matter research, understanding copyright laws
12. utilize online tutorials and educational tools
13. understand how to use the computer to save, resize and properly print reference
14. understand how to use spell-check and the importance of perfect spelling and punctuation in projects
17. understand the need for proofing, revisions and acquiring a sign off/approval from the client
18. utilize printer/copier to further enlarge, resize and alter reference images
19. practice proper composite output using the appropriate devices
20. complete all projects following all criteria within deadline assigned

### **Section 2: Pixel-Based Software (Adobe Photoshop) Level 3**

*Students will:*

1. learn keyboard shortcuts to streamline workflow
2. make selections via quick selection tools or quick mask mode
3. create accurate paths with the Pen tool

4. be introduced to the basics of Layers and Adjustment Layers
5. learn to crop, transform and straighten images
6. understand and read histograms
7. use Adjustment layers and the Adjustment panel
8. adjust tones with Levels
9. limit adjustments with Layer Masks
10. create vector masks
11. adjust images with Shadow/Highlight
12. adjust images with Curves
13. adjust images with Hue/Saturation
14. learn to remove a color cast
15. adjust images with the Black & White adjustment layer
16. learn to use the Dodge, Burn and Sponge tools
17. learn how to reducing noise and utilize proper sharpening techniques
18. photo retouch using the Spot Healing Brush tool, the Healing Brush tool, the Patch tool and the Clone Stamp tool
19. learn to paint with brushes and gradients
20. work with Point Type and Paragraph Type
21. learn how to Warp text
22. learn Special Effects such as adding Layer Styles and Smart Filters
23. learn how to combine images utilizing Auto-blending Focus
24. create Photo-merge panoramas
25. combine group photos
26. learn how to output a file by selecting the appropriate print settings for individual projects
27. make a contact sheet utilizing Bridge
28. create a Web photo gallery
29. save in appropriate format upon request and understand purpose of file formats (PSD, JPEG, EPS, GIF, PNG, RAW, PDF, etc)
30. optimize images properly for their intended use (print, web, oversized graphics, mobile devices)
31. understand and demonstrate the difference between destructive and non-destructive editing and their types

### **Section 3: Vector-Based Software (Adobe Illustrator) Level 3**

*Students will:*

1. create Illustrator documents for various projects
2. utilize keyboard commands to maximize productivity
3. practice basic drawing technique with the pen, brush and objects tools
4. practice basic path editing
5. practice basic text editing
6. understand Appearances and how to edit them
7. work with Groups and Layers to keep drawings organized
8. understand how to work with color
9. practice object transformation and positioning
10. practice expressive drawing with brushes

11. understand how to create and use Symbols
12. understand how to work with images
13. learn how to save and print their projects
14. learn how Illustrator works with other programs
15. Represent proper use of color, tint, opacity and stroke thickness
  
16. Access Pantone color matching system for spot color jobs
17. use functions such as, but not limited to, free transform, pathfinder functions, effects, live trace and managing those features when needed in design
18. use guides for proper alignment in designs
19. demonstrate a knowledge of vector based fonts, symbols and libraries.
20. save in appropriate format upon request and understand purpose of file formats (AI, EPS, PDF, etc)
21. resize artwork in layouts in proportion using correct tools and keys

#### **Section 4: Page Layout Software (Adobe InDesign) Level 2**

*Students will:*

1. understand how to create a Workspace and save custom Workspaces
2. Identify menu items, tools, palettes and menus and how to use them
22. utilize keyboard commands to maximize productivity
3. learn to navigate a multi-page document
4. learn to set rulers, guides and measurements and view options
5. use guides for proper alignment in designs
6. use Contextual Menus and how to customize them
7. use the Quick Apply function
8. learn how to create new documents
9. set margin and column guides
10. learn how to insert, delete, and move pages
11. add sections and page numbers
12. create and apply master pages
13. understand text frames
14. type and edit text and use special characters
15. import text and auto-flow text
16. use text on a path
17. spellcheck a document
18. use the Auto Correct feature
19. import graphics from various formats and understand how to use the Links panel
20. learn how to edit original graphics and how to set frame-fitting options
21. set transparency and clipping paths
22. turn image layers on and off
23. learn how to select objects
24. use basic strokes and fills
25. use advanced strokes
26. use transparency

27. add drop shadows, feathering and effects to format objects
28. use the Eyedropper tool
29. understand grouping and locking objects
30. learn to align and distribute objects
31. understand how to create and edit text wraps
32. duplicate, scale, mirror and rotate objects
33. apply basic character styling
34. use Find/Change for text formatting
35. understand paragraph formatting
36. understand justification
37. understand tabs
38. apply character, paragraph and object styles
39. create a table with rows and columns
40. learn how to add, delete and adjust rows and columns
41. format a table and cells
42. add headers and footers
43. apply table styles
44. place graphics in cells
45. create color swatches
46. apply tint swatches
47. use gradient swatches and apply gradients
48. export files to different formats such as PDF, JPEG and TIF
49. use preflight options and package for output
50. understand the print dialogue box
51. export printer ready PDF files (with crop marks, registration marks and properly set colors for separation)
52. use the master page palette for template design for multiple pages
53. show proficiency in how to place and properly scale and rotate images
54. utilize columns for text for readability, using text wrap with images if appropriate
55. understand page layout and printer spreads

## **UNIT 5: PRODUCTION & FINISHING SKILLS**

*Students will:*

1. understand how to setup document bleeds
2. understand crop marks, registration marks, color bars and page information
3. know to size and trim a presentation board
4. know how to mount printed pieces on board using eco-friendly adhesives
5. know how to clean their finished pieces with a kneaded eraser
6. understand how to setup and fold multi-page pieces

### **III. Textbooks, Instructional Materials and Software**

#### **Technology:**

- PC based environment with Adobe Creative Suite, latest version (Photoshop, Illustrator)
- Computer projector with wall mounted screen for teacher instruction
- Microsoft Internet Explorer/ Google Chrome
- Microsoft Office (*Word*, PowerPoint)
- Wacom 4 drawing tablets
- Wacom Cintiq digital drawing display
- Digital cameras
- Black & White and color copiers
- Scanner
- Laser printers

#### **Tools of the trade:**

- Rulers, T-squares & triangles
- Sketch pads
- Various paper stocks
- colored pencils
- markers
- Rubber cement, tape, StudioTac adhesive
- Paper cutter

### **IV. Evaluation**

*Students are evaluated using the following criteria:*

1. Weekly Work Grade (examples include attendance, completion of daily duties, general behavior towards classmates and instructor, sharing and maintenance of equipment and tools)
2. Research and design maintenance (examples include maintenance of all notes, project stages, file backups)
3. Accuracy in meeting project criteria
5. Meeting deadlines (deductions apply to all late projects)
6. Portfolio maintenance and final set up

## Scope and Sequence Chart *KEY I= Introduced D= Developed R= Reinforced*

SKILLS TO BE LEARNED	9	10	11	12
Handle tools of the trade and equipment correctly and safely	IDR	IDR	IDR	IDR
Demonstrate knowledge of digital file organization and archiving	ID	R	R	R
!Demonstrate a professional work ethic	I		DR	DR
Use effective time management skills in the production of projects	ID		DR	R
Demonstrate craftsmanship (organization, neatness, precision)	ID	IDR	IDR	IDR
Understand and practice the characteristics of basic design principles	I	R	R	R
Understand the creative process and importance of each step	I	D	IDR	IDR
Apply appropriate software solutions to design problems	I	D	DR	R
articulate and solve basic problems of form and function	I	D	DR	DR
Identify and apply the critical thinking process to design challenges	I	DR	DR	DR
Understand the value of all tools, equipment, and supplies	I	ID	IDR	IDR
,Demonstrate tool skills through a variety of creative art projects	I	D	R	R
emonstrate knowledge of alignment, balance, proportion and use of positive and ,negative space	I	ID		IDR
,Demonstrate knowledge of color (primary, secondary, tertiary, complimentary)	I	D		IDR
,Demonstrate knowledge of working in mixed media.	I	ID		IDR
Create vector illustrations to be used in design layouts	I	ID	ID	IDR
:Utilize work area in a clean organized manner.	IDR	IDR	IDR	IDR
[Demonstrate an awareness of art history and how it relates to design and media	I	D		IDR
understand the creative process and importance of each step	I	D		IDR
!Understand of the importance of meeting a deadline	IDR	IDR	IDR	IDR
:Demonstrate knowledge of documentation of desiQn time and understanding ;commercial worth of the profession		I	ID	IDR

Prepare thumbnails, roughs, and comps	I	IDR	DR	IDR	Demonstrate
knowledge of typography, font styles, point size & layout purposes	I	ID	IDR	IDR	
create and understand purpose of logo(s) to bring through on other projects. Ex. ad, package, etc.	I	ID	IDR	IDR	Stationary,
Demonstrate knowledge of package design					IDR
Demonstrate knowledge of basic elements of operation of computers, printers, scanners			IDR	IDR	IDR
Demonstrate knowledge of appropriately enlarging and reducing art with copying printing			ID	IDR	IDR and
Demonstrate knowledge of the differences between vector based and pixel based and the appropriate use for each			ID	IDR	IDR artwork
Demonstrate proficiency in Adobe Illustrator including tools, palettes, options and formats	I	DR	IDR	IDR	production
Demonstrate proficiency in Adobe Photoshop including tools, palettes, options and formats	I	DR	IDR	IDR	production
Demonstrate proficiency in Adobe InDesign including tools, palettes, options and formats	I	DR	IDR	IDR	production
Demonstrate proficiency in Using drawing tablets for illustration and digital image	I	D	IDR		composition
Demonstrate proficiency in using digital cameras for artwork, layout, and in various lighting conditions	I		ID	IDR	composition
Understand print versus web resolution			I	IDR	IDR
Understand difference between RGB, spot color, and CMYK			I	IDR	IDR
Demonstrate knowledge and purpose of copyrighted images, Royalty Free images, Fair Use Act and their rights and/or limitations				I	R IDR he
Mount & Mat artwork in a professional manner	I		ID	IDR	Demonstrate
knowledge of setting up research reference files	I	ID		IDR	
Demonstrate knowledge of the cost of tools of the industry			I	I	DR DR
Create and revise of a resume for employment	I			IDR	Demonstrate
knowledge of the many career opportunities related to graphic design	I	ID	IDR	IDR	pply knowledge
gained through research of trends & styles into design projects	I	ID	R	R	
Integrate design concepts with materials, skills, and technology			I	ID	R R
Develop ability to critique, defend, & support the integrity of a chosen project			ID	R	R R Relate
printing terms, concepts, & processes to the prep of digital documents			I	ID	IDR
Assess personal strengths and weaknesses				I	D R
Assemble a final portfolio with a variety of design projects			I		DR Present
art portfolio in a professional manner				ID	IDR