DIGITAL MULTIMEDIA
ACTIVITY/COURSE CODE: 5030

COURSE DESCRIPTION: This course covers multimedia concepts and applications utilizing text, graphics, animation, sound, video, Web, and various multimedia applications in the design, development, and creation of multimedia presentations and publications in an interactive environment. Students will create an e-portfolio and other independent projects.

OBJECTIVE: Given the necessary equipment, supplies, and facilities, the student will be able to successfully complete all of the following standards.

RECOMMENDED GRADE LEVELS: 9–12

COURSE CREDIT: 1 Carnegie unit

PREREQUISITE: None

COMPUTER REQUIREMENT: One computer per student; Internet access required

RECOMMENDED SOFTWARE:

Microsoft PowerPoint
Medi@Show
Adobe Flash
Alice (Freeware)
Microsoft Gif Animator (Free w/Windows)
Apple iWork Suite
Microsoft PhotoStory (Freeware)
Adobe Premiere (Elements or Pro)
Gimp (Freeware)
Final Cut Pro
Animoto (Freeware)
Scratch (Freeware)
Inkscape (Freeware)
Adobe Illustrator
Blender
Trimble (Sketch Up)
XtraNormal
GoAnimate
Jing (Freeware)
Pivot Stick Animator
Adobe Photoshop
Microsoft MovieMaker
Apple iLife Suite
Stop Motion Pro
CamStudio (Freeware)
Adobe Fireworks
Audacity (Freeware)
VoxProxy
Adobe Audition

RESOURCES:

www.mysctextbooks.com

A. SAFETY AND ETHICS

1. Identify major causes of work-related accidents in offices.
2. Describe the threats to a computer network, methods of avoiding attacks, and options in dealing with virus attacks.
3. Identify potential abuse and unethical uses of computers and networks.
4. Explain the consequences of illegal, social, and unethical uses of information technologies (e.g., piracy; illegal downloading; licensing infringement; inappropriate uses of software, hardware, and mobile devices).
5. Differentiate between freeware, shareware, and public domain software copyrights.
6. Discuss computer crimes, terms of use, and legal issues such as copyright laws, fair use laws, and ethics pertaining to scanned and downloaded clip art images, photographs, documents, video, recorded sounds and music, trademarks, and other elements for use in Web publications.
7. Identify netiquette including the use of e-mail, social networking, blogs, texting, and chatting.
8. Describe ethical and legal practices in business professions such as safeguarding the confidentiality of business-related information.
9. Discuss the importance of cyber safety and the impact of cyber bullying.

B. EMPLOYABILITY SKILLS

1. Identify positive work practices (e.g., appropriate dress code for the workplace, personal grooming, punctuality, time management, organization).
2. Demonstrate positive interpersonal skills (e.g., communication, respect, teamwork).

C. STUDENT ORGANIZATIONS

1. Explain how related student organizations are integral parts of career and technology education courses.
2. Explain the goals and objectives of related student organizations.
3. List opportunities available to students through participation in related student organization conferences/competitions, community service, philanthropy, and other activities.
4. Explain how participation in career and technology education student organizations can promote lifelong responsibility for community service and professional development.

D. INTRODUCTION TO MULTIMEDIA

1. Define terms related to multimedia.
2. Identify the multimedia components.
3. Identify uses of multimedia.
4. List multimedia design principles.

E. MULTIMEDIA EQUIPMENT

1. Identify multimedia equipment.
2. Discuss multimedia development equipment, including video capture cards, scanners, digital and video cameras, web cameras, projection systems, etc.

F. BASICS FOR MULTIMEDIA PROJECTS

1. Distinguish between presentation and authoring software.
2. Compare/Contrast features of presentation, authoring, graphics, 2-D animation, and 3-D animation software programs.
3. Describe the process of planning, organizing, and storyboarding a multimedia project.
4. Identify multimedia objects and related resources.
5. Use a compression utility program.

G. VISUAL DESIGN PRINCIPLES

1. Demonstrate effective use of color.
2. Use color tables (e.g., hue and saturation).
3. Demonstrate effective use of type fonts.
4. Demonstrate effective use of clip art and other graphics in multimedia.
5. Explain the term "effective white space."

H. DIGITAL IMAGING AND GRAPHICS

1. Define various types of graphic files including bitmap/raster and vectors.
2. Acquire digital image from sources such as scanner, digital cameras, camcorder, Internet, etc.
3. List factors that affect quality imaging (e.g., image resolution, color mode).
4. Edit a digital image.
5. Convert various graphic file formats.

I. AUDIO

1. Define various types of audio files.
2. Create vocal and music files.
3. Convert audio files.
4. Demonstrate parameters that affect the quality and file size of audio recording, such as the sampling rate, bits per sample, etc.
5. Insert audio files from various media in a thematic multimedia presentation.

J. VIDEO

1. Define various types of video files.
2. Create video files.
3. Edit digital video files.
4. Conserve disk space by compressing the digital video recording.
5. Insert digital video files into a thematic multimedia presentation.

K. MULTIMEDIA PRESENTATION

1. Determine the appropriate type of multimedia presentation based upon purpose, intended audience, life of the presentation, cost limits, time restraints, and equipment availability.
2. Create an outline/storyboard for a presentation.
3. Create a thematic presentation using text, charts, tables, graphics, drawing tools, audio and video capabilities, etc.
4. Deliver a multimedia presentation using appropriate media based upon audience, room size, room setup, and environment using professional standards and techniques.
5. Use rubrics to evaluate your own presentations and the presentations of others.

L. ANIMATION

1. Define various types of animation files.
2. Create animated objects and clip art.
3. Create original graphic images.
4. Create 2-D animation.
5. Insert animation in a thematic multimedia presentation.

M. VIRTUAL REALITY/3-D ANIMATION/GAME DESIGN (OPTIONAL)

1. Build 3-D objects.
2. Explain lighting and camera positioning.
3. Utilize 3-D axis.
4. Create a 3-D animation.
5. Incorporate user interactivity.

N. WEB PUBLISHING

1. Discuss how multimedia is used in Web design.
2. Discuss considerations for including images, sound, video, and/or animation into a site.

O. DEVELOPING AN E-PORTFOLIO

1. Explain the purpose of portfolios and how to select the pieces to include in the e-portfolio.
2. Create a resumé to include in the e-portfolio.
3. Assemble an e-portfolio of a variety of multimedia publications produced in the course.
4. Present an e-portfolio of a variety of multimedia publications produced in the course.

P. WEB RESOURCES

1. Participate in current Web resources such as blogs, wikis, podcasts, vokis, etc.
2. Explore current voice over IP and video chat programs (e.g., Skype, iChat, Facetime).
3. Explore current real-time online meeting programs (e.g., GoToMeeting, Blackboard Collaborate, WebEx).

Q. CAREERS

1. Identify careers in the multimedia creation and publishing industry.
2. Identify education and training requirements for a career in multimedia creation and publishing.
3. Research a career related to the field of multimedia.
4. Create a multimedia presentation using the results of the career research.