

DIGITAL MULTIMEDIA
ACTIVITY/COURSE CODE: 5030

COURSE DESCRIPTION: The Digital Multimedia course covers multimedia concepts, processes, and applications utilizing text, graphics, animation, audio, and video. Students will design, develop, and create various collaborative and interactive multimedia projects culminating with a career portfolio.

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 unit (120 hours)
PREREQUISITE:	None
COMPUTER REQUIREMENT:	One computer per student with Internet access
RECOMMENDED SOFTWARE:	See Materials and Resources
RESOURCES:	Instructional Materials

A. SAFETY

Proficient professionals know the academic subject matter, including safety as required for proficiency within their area. They will use this knowledge as needed in their role. The following accountability criteria are considered essential for students in any program of study.

1. Review school safety policies and procedures.
2. Review classroom safety rules and procedures.
3. Review safety procedures for using equipment in the classroom.
4. Identify major causes of work-related accidents in office environments.
5. Demonstrate safety skills in an office/work environment.

B. STUDENT ORGANIZATIONS

Proficient professionals know the academic subject matter, including professional development, required for proficiency within their area. They will use this knowledge as needed in their role. The following accountability criteria are considered essential for students in any program of study.

1. Identify the purpose and goals of a Career and Technology Student Organization (CTSO). Explain how CTOS are integral parts of specific clusters, majors, and/or courses.
2. Explain the benefits and responsibilities of being a member of a CTOS.

3. List leadership opportunities that are available to students through participation in CTSO conferences, competitions, community service, philanthropy, and other activities.
4. Explain how participation in CTSOs can promote lifelong benefits in other professional and civic organizations.

C. TECHNOLOGY KNOWLEDGE

Proficient professionals know the academic subject matter, including the ethical use of technology as needed in their role. The following accountability criteria are considered essential for students in any program of study.

1. Demonstrate proficiency and skills associated with the use of technologies that are common to a specific occupation (e.g., keying speed).
2. Identify proper netiquette when using e-mail, social media, and other technologies for communication purposes.
3. Identify potential abuse and unethical uses of laptops, tablets, computers, and/or networks.
4. Explain the consequences of social, illegal, and unethical uses of technology (e.g., cyberbullying, piracy; illegal downloading; licensing infringement; inappropriate uses of software, hardware, and mobile devices in the work environment).
5. Discuss legal issues and the terms of use related to copyright laws, fair use laws, and ethics pertaining to downloading of images, photographs, documents, video, sounds, music, trademarks, and other elements for personal use.
6. Describe ethical and legal practices of safeguarding the confidentiality of business-and personal-related information.
7. Describe possible threats to a laptop, tablet, computer, and/or network and methods of avoiding attacks.
8. Evaluate various solutions to common hardware and software problems.

D. PERSONAL QUALITIES AND EMPLOYABILITY SKILLS

Proficient professionals know the academic subject matter, including positive work practices and interpersonal skills, as needed in their role. The following accountability criteria are considered essential for students in any program of study.

1. Demonstrate creativity and innovation.
2. Demonstrate critical thinking and problem-solving skills.
3. Demonstrate initiative and self-direction.
4. Demonstrate integrity.
5. Demonstrate work ethic.
6. Demonstrate conflict resolution skills.
7. Demonstrate listening and speaking skills.
8. Demonstrate respect for diversity.
9. Demonstrate customer service orientation.
10. Demonstrate teamwork.

E. PROFESSIONAL KNOWLEDGE

Proficient professionals know the academic subject matter, including positive work practices and interpersonal skills, as needed in their role. The following accountability criteria are considered essential for students in any program of study.

1. Demonstrate global or “big picture” thinking.
2. Demonstrate career and life management skills and goal-making.
3. Demonstrate continuous learning and adaptability skills to changing job requirements.
4. Demonstrate time and resource management skills.
5. Demonstrates information literacy skills.
6. Demonstrates information security skills.
7. Demonstrates information technology skills.
8. Demonstrates knowledge and use of job-specific tools and technologies.
9. Demonstrate job-specific mathematics skills.
10. Demonstrates professionalism in the workplace.
11. Demonstrate reading and writing skills.
12. Demonstrates workplace safety.

F. INTRODUCTION TO MULTIMEDIA

Proficient Business professionals demonstrate knowledge of data, terminology, hardware, and software used for multimedia purposes, as needed in their role. The following accountability criteria are considered essential for students in any Business program of study.

1. Research careers, education and training requirements, and industry recognized certifications required for the multimedia industry.
2. Define terms related to multimedia.
3. Identify multimedia hardware and software components.
4. Analyze the six formats of multimedia, (i.e., tutorials, website, print media, presentation, simulation, and game).
5. Differentiate between the five elements used in multimedia formats, (i.e., audio, video, graphics/images, text, and animation (2D and 3D if available)).

G. MULTIMEDIA DESIGN PROCESS

Proficient Business professionals demonstrate appropriate project management skills used for developing multimedia projects, as needed in their role. The following accountability criteria are considered essential for students in any Business program of study.

1. Identify the purpose and audience when preparing a multimedia project.
2. Describe the process of planning, organizing, and storyboarding a multimedia project.
3. Summarize how designers decide what type of content to include in a project, such as copyright, project fit, permissions, and licensing.
4. Explain the multimedia design process (identify the problem, brainstorm, design,

- build, test and evaluate, redesign, share/present solution).
5. Use rubrics to conduct individual and/or peer-evaluations.
6. Use effective communication skills to present multimedia projects.
7. Design multimedia for multiple devices.

H. VISUAL DESIGN PRACTICES

Proficient Business professionals demonstrate knowledge of visual design practices used in multimedia projects, as needed in their role. The following accountability criteria are considered essential for students in any Business program of study.

1. Demonstrate effective use of color.
2. Demonstrate effective use of type fonts, (e.g., face, color, and size).
3. Demonstrate effective use of graphics.
4. Demonstrate the concept of "effective white space".

I. IMAGES AND GRAPHICS

Proficient Business professionals demonstrate knowledge and usage of images and graphics used in multimedia projects, as needed in their role. The following accountability criteria are considered essential for students in any Business program of study.

1. Differentiate between raster and vector graphics.
2. Compare and contrast image file extensions, (e.g., TIF, JPG, PNG, GIF, SVG, etc.)
3. Acquire digital images from various sources such as scanners/device-enabled scanners, digital cameras, cell phones, Internet/cloud (open source/royalty free), etc.
4. List factors that affect image quality and size (e.g., image resolution, color mode).
5. Demonstrate digital image editing skills based on project requirements.
6. Convert various graphic file formats.

J. AUDIO

Proficient Business professionals demonstrate knowledge and usage of audio in multimedia projects, as needed in their role. The following accountability criteria are considered essential for students in any Business program of study.

1. Define various types of audio files, (e.g., wav, avi, mp3, mp4, etc.)
2. Create audio files, (e.g., narration/voice-over, audio effects, music).
3. Utilize appropriate licensing guidelines associated with acquired audio files.
4. Convert audio files.
5. Insert audio files from various media in a thematic multimedia presentation.
6. Demonstrate parameters that affect the quality and file size of audio recording.

K. VIDEO

Proficient Business professionals demonstrate knowledge and usage of video in multimedia projects, as needed in their role. The following accountability criteria are considered essential for students in any Business program of study.

1. Differentiate between the various types of video files based on purpose (e.g., mov, mpg, mp4, etc.)
2. Create video files.
3. Edit digital video files.
4. Demonstrate understanding of file compression importance and techniques.
5. Insert digital video files utilizing appropriate licensing guidelines based on project requirements.

L. ANIMATION

Proficient Business professionals demonstrate knowledge and usage of animation in multimedia projects, as needed in their role. The following accountability criteria are considered essential for students in any Business program of study.

1. Differentiate between the types of animation (e.g., stop motion, motion graphics, traditional hand drawn, 2-D, 3-D, etc.)
2. Define terms related to 2-D and 3-D animation, (e.g., tweening, frame-by-frame, events, methods, properties, parameters, algorithms, etc.)
3. Differentiate various types of animation files, (e.g., gif, swf, fla, mov, html5 canvas).
4. Create and insert animated objects and symbols into a thematic multimedia project.
5. Build 3-D objects.
6. Demonstrate rigging.
7. Demonstrate effective lighting and camera positioning in 3-D animation projects.
8. Create 3-D animations.

M. VIRTUAL REALITY/SIMULATIONS

Proficient Business professionals demonstrate knowledge and usage of virtual reality and simulations in multimedia projects, as needed in their role. The following accountability criteria are considered essential for students in any Business program of study.

1. Define virtual reality.
2. Using research skills, locate different uses of virtual reality and simulations.
3. Create a virtual reality scene using pair programming and peer evaluations, if available.

N. WEB DESIGN

Proficient Business professionals demonstrate knowledge and usage of web design in multimedia projects, as needed in their role. The following accountability criteria are considered essential for students in any Business program of study.

1. Discuss considerations for including images, sound, video, and/or animation into a site.
2. Create/code a basic webpage incorporating various multimedia elements.

O. WEB RESOURCES

Proficient Business professionals demonstrate knowledge of various web resources used for networking and communications, as needed in their role. The following accountability criteria are considered essential for students in any Business program of study.

1. Participate in current Web resources such as blogs, wikis, podcasts, vokis, etc.
2. Utilize current voice over IP and video chat programs (e.g., Facebook, TikTok, Instagram, Twitter).
3. Utilize current real-time online meeting programs (e.g., GoToMeeting, Blackboard Collaborate, Teams, Google Meet).

P. PROFESSIONAL DEVELOPMENT

Proficient Business professionals demonstrate appropriate career-ready skills as needed in their role. The following accountability criteria are considered essential for students in any Business program of study.

1. Create a resumé or biographical narrative to include in the e-portfolio.
2. Assemble and present an e-portfolio including a variety of multimedia projects produced in the course.
3. Explain the role of portfolios in the design industry.
4. Determine the appropriate type of multimedia projects based upon purpose, intended audience, cost limits, time restraints, and equipment availability.
5. Create a thematic portfolio using text, charts, tables, graphics, drawing tools, audio and video capabilities, etc.
6. Use rubrics to self-evaluate presentations and the presentations of others.
7. Explore industry-related certifications.

[Course Materials and Resources](#)

[Course Academic Standards and Indicators](#)