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College Curriculum

MEDIA COMMUNICATION *and* TECHNOLOGY MODULE

NWCET

NATIONAL WORKFORCE CENTER *for* EMERGING TECHNOLOGIES

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Media Communication and Technology

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This report presents the competency-based curriculum developed for the Bellevue Community College Media Communication and Technology Program. The curriculum was translated from the skill standards for the Interactive Digital Media career cluster published in *Building a Foundation for Tomorrow: Skill Standards for Information Technology* by the NorthWest Center for Emerging Technologies in 1997.

This report includes the following:

- **Program Learning Components**: meaningful categories of related skills and knowledge.

- **Learner Program Outcomes**: what the learners must be able to know and demonstrate at the end of the program.

- **Key Competencies**: specific, observable knowledge and skills that support and lead to the program learner outcomes.

- **Sample Activities**: activities or projects that provide a context for learners to acquire technical and foundation skills and knowledge, with associated competencies and suggested assessments.

- **Curriculum Map**: a map that assigns the program outcomes and competencies into specific courses.

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PROGRAM LEARNING COMPONENTS

The Learning Components are meaningful categories of related skills and knowledge that are best taught/learned together and represent logical pieces of curriculum.

Technical Learning Component
Animation 2D
Animation 3D
Audio Production
Computer Utilization
Copyright and Law
Database
Drawing and Graphic Design
Industry History and Trends
Interface Design
Math, Science and Logic for Multimedia
Multimedia Authoring
Script Writing
Scripting and Programming
Storytelling
Testing and Validation
Video Production
Visual Design
Web Authoring Tools and Internet Technology

Foundation Learning Component
Analysis and Synthesis
Business Organization and Environment
Client Relations
Marketing and Advertising
Oral Communication
Planning and Organization
Problem Solving
Professionalism
Project Documentation
Project Management
Research
Self Development
Task Management
Team Work
Visual Communication
Written Communication

LEARNER PROGRAM OUTCOMES

Learner Program Outcomes are statements that support the Learning Components by describing what students must know and be able to do by the end of the program.

Animation 2D – *Technical Learning Component*

- Demonstrate the ability to define and use the basic terminology of 2D animation
- Demonstrate the ability to use the tools and skills needed to create 2D digitally animated objects and characters
- Demonstrate a basic understanding of 2D animation in its current and projected uses in multimedia

Animation 3D – *Technical Learning Component*

- Demonstrate the ability to define and use the basic terminology of 3D animation
- Demonstrate the ability to use the tools and skills needed to create 3D digitally animated objects and characters
- Demonstrate a basic understanding of 3D animation in its current and projected uses in multimedia

Audio Production – *Technical Learning Component*

- Demonstrate the ability to define and use the basic terminology of audio production
- Demonstrate the ability to use the tools and skills needed to create and edit audio for multimedia projects

Computer Utilization – *Technical Learning Component*

- Demonstrate the ability to use proficiently office computer software and hardware

Copyright and Law – *Technical Learning Component*

- Demonstrate the ability to explain the trends in copyright laws and legal issues in the use and development of media communication
- Demonstrate the ability to work within the media copyright and legal regulatory environment

Database – *Technical Learning Component*

- Demonstrate ability to define and use the basic terminology of relational databases
- Demonstrate ability to use the tools and skills needed to create and utilize databases
- Demonstrate a basic understanding of databases in their current and projected uses in multimedia

Drawing and Graphic Design – *Technical Learning Component*

- Demonstrate ability to define and use basic terminology of drawing and graphic design
- Demonstrate ability to use the tools and skills needed to create drawings and graphics for a wide range of applications

Industry History and Trends – *Technical Learning Component*

- Demonstrate the ability to explain industry trends in technology and applications
- Demonstrate an understanding of the legal, ethical, and moral issues of media communication
- Demonstrate an understanding of the social impact of media communication and technology

Interface Design – *Technical Learning Component*
- Demonstrate the ability to explain the basic principles of effective interface design
- Demonstrate the ability to design effective interfaces
- Demonstrate the ability to adapt interface design to audience and subject

Math, Science and Logic for Multimedia – *Technical Learning Component*
- Demonstrate ability to explain and apply the basic math and science principles as they relate to multimedia

Multimedia Authoring – *Technical Learning Component*
- Demonstrate ability to define and use the basic terminology and principles of multimedia authoring
- Demonstrate ability to use the tools and skills needed to create multimedia products

Script Writing – *Technical Learning Component*
- Demonstrate the ability to create an effective message and develop a well written script for a wide range of media projects

Scripting and Programming – *Technical Learning Component*
- Demonstrate knowledge of basic programming principles and programming structures
- Demonstrate the ability to design, code, build, test and troubleshoot basic custom programs for multimedia applications

Story Telling – *Technical Learning Component*
- Demonstrate the ability to develop a creative and cohesive story that supports the media theme and style

Video Production – *Technical Learning Component*
- Demonstrate the ability to define and use the basic terminology of video production
- Demonstrate the ability to use the tools and skills needed to create video productions

Testing and Validation – *Technical Learning Component*
- Demonstrate the ability to develop and implement an effective testing and user validation program that supports all phases of the development process

Visual Design – *Technical Learning Component*
- Demonstrate the ability to create and implement the overall look and feel of a multimedia project in a functional and aesthetic manner

Web Authoring and Internet Technology – *Technical Learning Component*
- Demonstrate the ability to define and use the basic terminology of Internet technology and web design
- Demonstrate the ability to use the tools and skills needed to create web pages
- Demonstrate a basic understanding of web design in its current and projected uses in multimedia

Analysis and Synthesis – *Foundation Learning Component*

- Demonstrate the ability to gather data to identify project requirements, and to interpret and evaluate the requirements
- Demonstrate the ability to identify constraints, generate alternatives, consider risks, and evaluate options
- Demonstrate the ability to define the scope of work to meet project requirements and constraints, and develop a proposal outline

Business Organization and Environment – *Foundation Learning Component*

- Demonstrate the ability to present and discuss contemporary business principles, practices and organization
- Demonstrate the ability to present and discuss how computer systems impact the operation and management of business and society

Client Relations – *Foundation Learning Component*

- Demonstrate the ability to effectively listen and ask critical questions to identify clients' issues and concerns
- Demonstrate the ability to resolve clients' issues and concerns in a timely and appropriate manner

Marketing and Advertising – *Foundation Learning Component*

- Demonstrate the ability to present and apply the basic principles of marketing and advertising

Oral Communication – *Foundation Learning Component*

- Demonstrate the ability to select and evaluate appropriate oral communication strategies and styles for a specific purpose
- Demonstrate the ability to develop and deliver effective oral presentations
- Demonstrate the ability to effectively adapt oral communication strategies and styles to specific audiences

Planning and Organization – *Foundation Learning Component*

- Demonstrate the ability to develop a project plan that is realistic and that effectively serves the project goals
- Demonstrate the ability to organize the different phases of the project in an efficient manner

Problem Solving – *Foundation Learning Component*

- Demonstrate the ability to select, implement and evaluate appropriate problem solving techniques and tools
- Demonstrate the ability to effectively adapt problem solving techniques to specific situations

Professionalism – *Foundation Learning Component*

- Demonstrate successful work environment-related attitudes and skills
- Demonstrate the ability to establish and maintain professional relationships

Project Documentation – *Foundation Learning Component*

- Demonstrate the ability to select and use documentation formats, meeting the intended purpose and the guidelines of the organization
- Demonstrate the ability to develop effective and accurate documentation appropriate to various audiences and purposes

Project Management – *Foundation Learning Component*

- Demonstrate the ability to explain the basic terminology, principles and techniques of project management
- Demonstrate the ability to select, implement and evaluate appropriate project management techniques and tools
- Demonstrate the ability to effectively adapt project management techniques to specific situations

Research – *Foundation Learning Component*

- Demonstrate the ability to identify and use traditional and non-traditional sources of information
- Demonstrate the ability to apply effectively and choose appropriately from a variety of research methods and tools
- Demonstrate the ability to analyze, organize and present research material

Self Development – *Foundation Learning Component*

- Demonstrate the ability to identify and close gaps between one's knowledge and skills, and those required by the situation
- Demonstrate the ability to identify sources of learning/training most appropriate for the topic and context, and for one's personal learning style
- Demonstrate the ability to formulate and implement a personal development plan

Task Management – *Foundation Learning Component*

- Demonstrate the ability to organize multiple tasks in the most effective way, and allocate time and energy according to task complexity and priority
- Demonstrate the ability to evaluate task outcomes and continuously improve organization process

Team Work – *Foundation Learning Component*

- Demonstrate the ability to work collaboratively in a team setting
- Demonstrate the ability to work and communicate effectively with people of different backgrounds and expertise in a group environment
- Demonstrate the ability to recognize expertise and to learn from others

Visual Communication – *Foundation Learning Component*

- Demonstrate the ability to select and evaluate appropriate visual communication strategies and styles for a specific purpose
- Demonstrate the ability to develop and deliver effective visual presentations
- Demonstrate the ability to effectively adapt visual communication strategies and styles to specific audiences

Written Communication – *Foundation Learning Component*

- Demonstrate the ability to select and evaluate appropriate written communication strategies and styles for a specific purpose
- Demonstrate the ability to develop effective written communication pieces
- Demonstrate the ability to effectively adapt written communication strategies and styles to specific audiences

KEY COMPETENCIES

Key Competencies are specific, observable behaviors, knowledge, abilities and skills that detail and support the Learner Program Outcomes.

Animation 2D – *Technical Learning Component*

Learner Program Outcomes

- Demonstrate the ability to define and use the basic terminology of 2D animation
- Demonstrate the ability to use the tools and skills needed to create 2D digitally animated objects and characters
- Demonstrate a basic understanding of 2D animation in its current and projected uses in multimedia

Key Competencies

Demonstrate the ability to:

- Explain the process of persistence of vision and its role in the perception of animation
- Describe a brief history of and trends in animation, including the contributions of the traditional animation tools, Disney, and the computer
- Give examples of, and explain the instructional/informational applications of animation and its role in the communication process
- Analyze the effectiveness of the style of an animation sequence in light of its purpose and application
- Build a simple zoetrope or flip book and create an illustration that can be turned into an animated sequence
- Describe, and explain the differences between the processes by which animation is possible with a computer, including non-moving animation, path animation, cel animation, layered cel animation, object animation, and mathematical algorithms
- Define and use correct animation terminology, including: frame, key frame, tweening, mathematical algorithm, cel, path, zoetrope, color cycling, sound file, scripting, cast member, persistence of vision, color palette, digital video, export
- Explain the features, advantages and limitations of main animation software tools
- Analyze the movement of a natural object or character into primary elements
- Develop an animated character and demonstrate techniques of character animation that allow that character to display emotion and tell a story
- Effectively use cyclical animation in the animation process
- Effectively use motion along an arc to animate an object
- Effectively use exaggeration in an animated sequence
- Design, create and troubleshoot animation sequences, integrating objects and characters with backgrounds
- Add a simple audio track to a digital animation sequence
- Export finished animation sequence with audio track into a distributable format
- Develop a portfolio of animation sequence for various applications
- Utilize Macromedia Flash or similar software to create a sequence that exhibits non-moving animation with color cycling, scaling, and rotation
- Utilize Macromedia Flash or similar software to create a sequence that demonstrates path animation
- Utilize Macromedia Flash or similar software to create a sequence that demonstrates cel animation
- Utilize Macromedia Flash or similar software to create a sequence that demonstrates animation with multiple layers

Animation 3D – *Technical Learning Component*

Learner Program Outcomes

- Demonstrate the ability to define and use the basic terminology of 3D animation
- Demonstrate the ability to use the tools and skills needed to create 3D digitally animated objects and characters
- Demonstrate a basic understanding of 3D animation in its current and projected uses in multimedia

Key Competencies

Demonstrate the ability to:

- Give examples of, and explain the instructional/informational applications of animation and its role in the communication process
- Analyze the effectiveness of the style of an animation sequence in light of its purpose and application
- Explain the features, advantages and limitations of main animation software tools
- Analyze the movement of a natural object or character into primary elements
- Develop an animated character and demonstrate techniques of character animation that allow that character to display emotion and tell a story
- Effectively use cyclical animation in the animation process
- Transfer finished animation sequence with audio track to video tape in real time
- Export a finished animation sequence with its attendant audio track to a production created with a non-animation software product by means of a digital video movie or analog video tape
- Apply various post-production recording and output options to animation sequences
- Develop a portfolio of animation sequence for various applications
- Explain and apply the principles of Cartesian 3-Space
- Describe the history of 3D computer animation
- Discuss the specialized hardware concerns of 3D animation
- Describe the processes by which objects in 3 dimensions are rendered to a 2D computer screen
- Utilize LightWave 3D or similar software to create a three-dimensional object
- Utilize LightWave 3D or similar software to set a three-dimensional object's surface attributes including: luminosity, diffusion, specular, glossiness, reflectivity, refraction, bump map, and texture
- Utilize LightWave 3D or similar software to create a sequence of a three-dimensional object that exhibits texture mapping
- Utilize LightWave 3D or similar software to create a sequence of a three-dimensional object that moves the point of view or camera
- Modify color, texture, surface, camera placement, and lighting to create a realistic non-animated object utilizing LightWave 3D or similar software
- Explain and apply the principles of Bones and Inverse Kinematics in LightWave 3D or similar software, and create an animated sequence using these principles
- Explain and apply Spline Based and NURBS modeling techniques in LightWave 3D or similar software, and create a 3D object using these techniques
- Explain and apply morphing animation techniques in LightWave 3D or similar software, and create a an animated sequence using these techniques

Audio Production – *Technical Learning Component*

Learner Program Outcomes

- Demonstrate the ability to define and use the basic terminology of audio production
- Demonstrate the ability to use the tools and skills needed to create and edit audio for multimedia projects

Key Competencies

Demonstrate the ability to:

- Accurately define and describe the nature of sound, sound waves, frequency, amplitude, pitch, loudness, interference, and distortion
- Apply effectively the basic principles of sound to enhance audio production
- Define and use correct audio terminology
- Explain the features and purpose of various sound recording equipment
- Compare and contrast different microphone types and the directional characteristics of each type
- Correctly select, set up, and operate microphones for recording in different settings
- Compare and contrast the different properties of different audio storage media and explain the advantages and disadvantages of each media
- Compare and contrast the basic operational principles of different recording devices and explain the advantages and disadvantages of each device
- Explain the differences between analog and digital recording and the basic different technological requirements for each type of recording
- Describe the applications and operation of audio signal processing equipment
- Describe the signal-to-noise ratio of an audio tape and describe methods to enhance audio signal quality
- Describe the main software tools used in sound processing
- Edit, process, and modify a simple computer-based audio signal for utilization in a computer application
- Explain and correctly use audio industry standards, protocols and file formats
- Use various analog and digital audio editing, processing and enhancing techniques and tools
- Digitize analog audio into a computer-usable form
- Record and mix multiple audio tracks into final master tape
- Integrate audio into the multimedia project
- Create and export an audio file for use in an Internet streaming application
- Analyze final audio production for effectiveness and make recommendations for process modification
- Assess effectiveness of audio style in light of the intended purpose and audience
- Organize and manage the audio production process
- Select and utilize a suitable distribution method for an audio production

Computer Utilization – *Technical Learning Component*

Learner Program Outcomes

- Demonstrate the ability to use proficiently office computer software and hardware

Key Competencies

Demonstrate the ability to:

- Define and use appropriately basic computer terminology, such as RAM, CPU, internal and peripheral hardware, and network terminology
- Correctly use the Macintosh operating system, desktop, control panel and settings, including extensions, preferences and drivers
- Correctly use of the Windows/PC operating system, desktop, control panel and settings, and directories
- Perform file management procedures such as saving, transferring, deleting and copying of files on floppies, cartridges, networks and other directories
- Perform memory management procedures for running various software
- Use hardware and software in a safe manner, with respect to connecting, disconnecting and powering up peripheral hardware and the CPU
- Correctly use peripherals, including scanners, CD-ROMS and cartridge drives
- Define typical file types such as TIFF, EPS, PICT, BMP, JPEG, GIF and perform file conversion within and between platforms
- Explain the difference between shareware, freeware, and proprietary software in terms of copyright and fair use, and define what constitutes software piracy
- Access, select and load clip art and clip media from floppies, CD's and network pub folders on both platforms
- Successfully transfer files from a Macintosh version of a file to a PC version of that same or similar software
- Use email effectively and appropriately
- Explain and utilize Internet based search engines to seek and retrieve specific information
- Incorporate effective search strategies into Internet-based information retrieval
- Create word-processing documents, such as letters, memos, reports, and newsletters, with graphics and objects from multiple software applications
- Use, modify and troubleshoot simple databases
- Use presentation software and hardware to develop and deliver business overviews
- Run multiple applications at the same time, and import and export data between applications
- Install and perform basic configuration on office software products
- Download and install upgrades from the Internet
- Use and perform basic configuration and troubleshooting on computer hardware

Copyright and Law – *Technical Learning Component*

Learner Program Outcomes

- Demonstrate the ability to explain the trends in copyright laws and legal issues in the use and development of media communication
- Demonstrate the ability to work within the media copyright and legal regulatory environment

Key Competencies

Demonstrate the ability to:

- Define copyright terminology and resent copyright regulations
- Explain how copyright laws affect your ability to use and reproduce others' work
- Explain the process of obtaining permission to use copyrighted material
- Explain the process of protecting one's work from general use
- Define and explain the concept of "fair use" and its application to electronic media
- Explain the primary types, elements and limitations of licensing agreements, and give examples
- Explain and analyze typical terms set by publishing companies for the use of copyrighted media content
- Negotiate licensing agreements for media content from a wide range of providers
- Discuss the current issues and trends affecting ownership of media content
- Discuss the issues of, and the general terms covering intellectual property in the context of employer/employee or employer/consultant agreements
- Explain the legal and union issues involved in hiring professional talent for media projects
- Negotiate employment terms with talent agencies
- Explain and analyze typical terms set by union organizations and agencies in talent contractual agreements
- Discuss the responsibilities and limitations enforceable or implied in a contractual agreement
- Discuss the financial and professional ramifications of failing to meet contractual obligations (both on the client and contractor side)
- Discuss what legal and arbitration processes and resources are available to contractors and clients to resolve contractual issues
- Discuss the legal issues and trends of publishing and selling on the Internet

Database – *Technical Learning Component*

Learner Program Outcome

- Demonstrate the ability to define and use the basic terminology of relational databases
- Demonstrate the ability to use the tools and skills needed to create and utilize databases
- Demonstrate a basic understanding of databases in their current and projected uses in multimedia

Key Competencies

Demonstrate the ability to:

- Present the basic principles of database theory and database organization
- Present and discuss issues of database and server security
- Explain database design concepts and define database components
- Utilize relational databases effectively
- Design simple database structures
- Create and edit tables
- Identify and create relationships between tables
- Create and modify simple queries
- Explain the different types of queries and their purpose
- Use appropriate Boolean functions (AND, OR, NOT) in designing query statements
- Create, modify and customize simple reports
- Create, modify and customize simple forms
- Import and export database information from and to other applications
- Explain the use of databases and information in the business environment
- Explain the use of databases in multimedia projects
- Develop database business applications
- Establish different levels of user permissions for reading and entering data into a database
- Integrate an existing database into an Internet document

Drawing and Graphic Design – *Technical Learning Component*

Learner Program Outcomes

- Demonstrate ability to define and use basic terminology of drawing and graphic design
- Demonstrate the ability to use the tools and skills needed to create drawings and graphics for a wide range of applications

Key Competencies

Demonstrate the ability to:

- Use drawing to effectively render a concept
- Effectively use line, space, and perspective in a drawing
- Define and use appropriately drawing and graphic design terminology
- Explain and use 2-D design principles including lighting and perspectives
- Explain and use the various color systems and standards
- Explain and use the principles of color selection and balance
- Explain the differences and use of various image file formats, and convert between formats
- Explain the main features of, and use effectively main graphic software programs
- Explain how the application impacts the selection of design, layout and colors
- Create effective illustrations for a wide range of applications
- Explain and appropriately use printing terminology and standards
- Compare various graphic software programs for features and performance
- Select best graphic software programs for specific application
- Analyze illustrations and designs for effectiveness of conveying message
- Analyze illustrations and designs for style and fit with the rest of the production
- Develop a portfolio of drawings and graphic designs for a wide range of multimedia applications
- Compare and contrast raster and vector graphics

Raster Graphics

- Define the term "raster" and explain its importance in digital graphics
- Explain the photographic metaphor inherent in raster graphics
- Explain the term pixel and how it relates to raster graphics
- Scan an image and convert it into a raster image, and explain the importance of the term resolution in this process
- Use a raster graphic application to perform photo correction on a raster image
- Accurately mask a predetermined area of a bitmapped image in order to apply special effects, color correction, and other modifications
- Convert a 32bit raster image to an 8bit image, and explain the role of a color palette in this process
- Discuss the process of image compression, apply compression to a raster image, and compare the relative size of the compressed and uncompressed files
- Discuss the file formats that are relevant to raster image manipulation
- Use batch processing to size and convert a number of raster images
- Create an illustration using a raster graphic application

Vector Graphics

- Define and explain the characteristics of vector graphics
- Explain the relevance of a path and use one to help crate a vector image
- Discuss the difference between Bezier curves in vector graphics and their manipulations in raster graphics applications
- Use fills and gradients in a vector-based shape
- Discuss the merits of vector graphics for resolution-independent imaging and printing
- Create an illustration using a vector graphic application

Industry History and Trends – *Technical Learning Component*

Learner Program Outcomes

- Demonstrate the ability to explain industry trends in technology and applications
- Demonstrate an understanding of the legal, ethical, and moral issues of media communication
- Demonstrate an understanding of the social impact of media communication and technology

Key Competencies

Demonstrate the ability to:

- Give a generic definition of, and explain the differences between multimedia, interactive media and hypermedia
- Explain the evolution in the use of media communication
- Explain the evolution of media technology
- Discuss how the trends in media technology impact the use of media communication
- Present the trends and history of specific media genres, such as animation, video, illustrations, in the context of multimedia applications
- Explain the different uses of media communication in business, education and society
- Discuss the impact of media communication on business, education and society
- Present the issues of copyright, ownership and licensing in the context of media publishing and product development
- Present the ethical and moral issues in the use of media communication in business, education and society
- Explain the different features that make a computer media development workstation
- Present the current and possible future trends in media technology
- Discuss what social and legal factors will impact the use of media communication in the future
- Discuss the history and trends in Internet use, and the implication of Internet commerce on the media business and society

Interface Design – *Technical Learning Component*

Learner Program Outcomes

- Demonstrate the ability to explain the basic principles of effective interface design
- Demonstrate the ability to design effective interfaces
- Demonstrate the ability to adapt interface design to audience and subject

Key Competencies

Demonstrate the ability to:

- Identify the needs of the target audience
- Incorporate project goals into interface design specifications
- Organize project content into logical components
- Map navigational links to logical project components
- Explain screen layout impact on product usability
- Explain media selections impact on product usability
- Explain how an interface should be designed to adapt to the psychological profile of the user
- Identify commonly used interface elements and explain their use
- Utilize effective metaphors in interface design
- Identify and utilize effective interface feedback
- Apply basic design principles of page layout to interface design including color, line, balance, white space, contrast, repetition, alignment, and proximity
- Explain why consistency is important in interface design, and apply consistency in actual design
- Design and implement interface testing, analyze test results, and modify design accordingly
- Analyze interface for usability and effectiveness in accomplishing project goals
- Create an interactive interface that exhibits the essential aspects of good interface design

Math, Science and Logic for Multimedia – *Technical Learning Component*

Learner Program Outcomes

- Demonstrate the ability to explain and apply the basic math and science principles as they relate to multimedia

Key Competencies

Demonstrate the ability to:

- Explain and apply the principles of perspectives and lighting in 2-D design
- Explain and apply the principles of perspectives and lighting in 3-D design
- Explain and apply the principles of proportion as it applies to design
- Explain and apply the principles of perspective and lighting in moving shapes
- Explain and apply the principles of decomposition of movement
- Explain and apply the principles of color combination
- Define and measure sound waves, frequency, amplitude, pitch and loudness
- Explain and apply the principles of sound interference and distortion to improve sound quality
- Explain the difference between analog and digital signal, and convert between the two forms
- Explain the principles of, and use electronic equipment for sound recording
- Explain the principles of signal-to-noise ratio and increase signal-to-noise ratio in a given system
- Explain and apply the principles of optics and show how they apply to photography
- Explain and exercise logic principles and reasoning, and apply to planning, production and problem solving
- Apply logic principles when structuring computer instructions
- Explain and apply basic statistical analysis in the context of designing and analyzing test and survey programs
- Discuss how and where specific math and science principles come into play in a media project
- Discuss how a thorough understanding of underlying math and science principles would enhance a media production

Multimedia Authoring – *Technical Learning Component*

Learner Program Outcomes

- Demonstrate the ability to define and use the basic terminology and principles of multimedia authoring
- Demonstrate the ability to use the tools and skills needed to create multimedia products

Key Competencies

Demonstrate the ability to:

- Briefly explain the concept of hypermedia and compare its processes with that of the human perception-analysis-response process
- Define and correctly use multimedia terminology, such as authoring, import, media, script, sprite, handler, event interface, feedback, user
- List and explain file formats commonly used in multimedia authoring in the areas of graphical images (raster and vector), animation formats, digital video, digital sound, and text
- Present and discuss the following multimedia production metaphors: card, frame, and object
- Explain the main features of the different programming languages used in authoring systems
- Compare the primary features of commonly used authoring tools
- Select the appropriate authoring tool for the specific platform and the specific application
- Use proficiently most commonly used authoring tools for both the MacIntosh and PC/Windows environments
- Discuss the current and future trends in authoring tools
- Discuss issues of hardware and software compatibility as they relate to authoring tools
- Explain the importance of style, layout, introduction, credits, flow, and animation in a multimedia production
- Present the selection criteria for each communication medium and select an applicable digital media to adequately support a given communication message
- Create a multimedia project that utilizes two or more digital media in a hypermedia application that successfully performs a specific communication task
- Successfully port a multimedia application authored on one platform to another platform, and discuss the similarities and differences in authoring for each platform
- List the personnel of a multimedia development team and explain the roles of each team member
- Present and perform the production steps of a multimedia development project, including: design of individual module's graphics and navigation, development of individual modules as part of a production team, production and digitization of video sequences, creation of final interactive sequences and appropriate navigational pathways through the use of authoring software, testing and evaluation of modules
- Explain the basic elements of a production budget, including above-the-line and below-the-line budget items and making a profit

Script Writing – *Technical Learning Component*

Learner Program Outcomes

- Demonstrate the ability to create an effective message and develop a well written script for a wide range of media projects

Key Competencies

Demonstrate the ability to:

- Develop a script outline that effectively supports the message and flow of the project
- Research a specific topic to support accuracy and completeness of script
- Adapt style of writing, level of detail and complexity, and organization to audience and message
- Use a creative writing style that holds the interest of the client
- Use the right balance of emotions, information, imagination and persuasion to achieve intended purpose
- Sustain a definite focus and point of view, and link ideas in a progressive, flowing sequence
- Develop script that supports the navigation schema of the media project
- Write draft, revise and finalize script
- Validate script with other members of the team and clients
- Integrate script with the media elements in an cohesive manner
- Analyze the effectiveness of the script in the final product
- Develop a portfolio of scripts for a wide range of media applications and audiences
- Write effectively in a wide range of styles, such as dialogue, documentary, educational and promotional

Scripting and Programming – *Technical Learning Component*

Learner Program Outcomes

- Demonstrate a knowledge of basic programming principles and programming structures
- Demonstrate the ability to design, code, build, test and troubleshoot basic custom programs for multimedia applications

Key Competencies

Demonstrate the ability to:

- Explain the purpose and applications of computer programs in multimedia
- Describe and explain the steps of program development and program life cycle
- Describe and explain the main differences between programming languages and programming styles; explain which ones are best suited for multimedia applications
- Explain and apply the principles and process of program design
- Explain the differences between object oriented programming and an object model
- Explain the differences between object oriented programming and procedural programming
- Explain the terms method, property, and birth in relation to object oriented programming
- Discuss data types and explain the differences: string, character, floating point, value
- Utilize simple data structures, such as using an array to store values
- Use appropriate operators, functions and procedures in the writing of a program
- Discuss the importance of events and handlers in the creation of an interactive application
- Write a function that is called from a handler, is passed an argument list, and returns a value
- Discuss the role of variables in an application, and write a program that takes advantage of variables
- Define the following terms: syntax, parsing, string, integer, floating point value
- Write a program that uses a looping structure (for loop) for program control
- Write a program that uses a conditional statement (if statement) for program control
- Explain the role of predefined functions and objects in a programming language and write a program that takes advantage of functions and objects
- Use Boolean logic to create a compound Boolean statement that uses an "AND" (&&) or "OR" (||) operator
- Explain the importance of creating an algorithm as part of program design and discuss the role of pseudo code in this process
- Explain the importance of, and the recommended practices for testing and debugging in program development
- Present and use appropriately debugging tools and principles
- Explain and apply the documentation process throughout the program life cycle
- Explain the difference between an interpreted and compiled programming language and how each relates to modern day program creation
- Create a program that uses an array as a data structure and uses indexing to access elements of the array
- Develop programs for specific multimedia applications

Story Telling – *Technical Learning Component*

Learner Program Outcomes

- Demonstrate the ability to develop a creative and cohesive story that supports the media theme and style

Key Competencies

Demonstrate the ability to:

- Develop and summarize the overall theme for the media project
- Present an idea and theme for a project to potential clients using techniques of persuasion
- Research a specific topic to support accuracy and completeness of the story
- Adapt style of story, level of detail and complexity, and organization to audience and message
- Identify the main components of the story, including setting, characterization, plot, climax, conflict and resolution
- Develop story outline that effectively supports the message and the flow
- Identify conflicts in the story line, and explain the relevance of conflict as a story telling vehicle
- Show creativity in resolving conflicts in story-line
- Create interesting and coherent characters, and identify the protagonists and antagonists of the story
- Discuss how the audience might identify with the characters, and how this supports or undermines the purpose of the story
- Create interesting dialogs that are consistent with the characters and the style of the story
- Create interesting story-lines with creative transitions and turns
- Thoroughly and effectively present the setting at the beginning of the story to orient and anchor the audience
- Use humor when appropriate, create excitement and a sense of adventure that is appropriate for the purpose and audience
- Explain the need for developing a voice in the story, and establish coherence and continuity of voice throughout the story
- Write stories from very different perspectives and points of views, such as first person, third person and omniscient
- Develop stories in a wide range of styles for various purposes and audiences
- Validate story-line with other members of the team and customers
- Analyze the effectiveness of the story in the final product
- Develop stories in a wide range of styles

Testing and Validation – *Technical Learning Component*

Learner Program Outcomes

- Demonstrate the ability to develop and implement an effective testing and user validation program that supports all phases of the development process

Key Competencies

Demonstrate the ability to:

- Develop a test plan that meets the goals and scope of the project, and company policies
- Develop specific testing processes and procedures
- Design specific performance and usability tests to measure critical elements of the project at critical times in the project schedule
- Design testing program to uncover hardware compatibility and functionality problems during the development phase of the project
- Select and apply efficiently appropriate testing tools and techniques
- Conduct tests in the most efficient way
- Analyze and document test results in a complete and unbiased manner
- Define the sample population characteristics for user validation testing
- Define the target audience, the feedback process and the testing procedure for each series of validation tests
- Plan and coordinate client acceptance testing
- Summarize test results and draw appropriate recommendations
- Implement changes based on test results, and communicate results and recommendations to appropriate team members
- Evaluate the effectiveness of the testing plan and procedures on a continuous basis
- Assess overall product effectiveness and performances, and perform summative evaluation
- Explain the impact of company policies on test plans
- Identify appropriate timing at different phases of the project to implement testing
- Analyze effectiveness of overall testing plan and make recommendations
- Develop cost/benefit analysis of alternate testing plans

Video Production – *Technical Learning Component*

Learner Program Outcomes

- Demonstrate the ability to define and use the basic terminology of video production
- Demonstrate the ability to use the tools and skills needed to create video productions

Key Competencies

Demonstrate the ability to:

- Describe the NTSC video scanning process and explain how an image is transferred from reality to video tape
- Describe helical magnetic recording and its role in video
- Describe the process involved in converting analog video to digital video
- Correctly and safely set up and operate a VHS video camcorder to record a stable, focused, usable image with correct color balance and audio
- Correctly set up and operate a synched video playback system based on decks and monitors
- Explain the differences between current scanning systems such as NTSC, PAL, SECAM, etc
- Identify and create different video shot compositions such as Extreme Close-up, Close-up, Medium Shot, Long Shot, etc
- Explain <<ten basic laws of composition>> and apply them to a video production
- Use an analog video editor for assemble and insert editing
- Correctly set up and operate video support equipment in a field setting such as a video monitor, audio monitoring equipment, external power sources, and batteries
- Select and apply proper auxiliary lighting in a field setting to satisfy the three standard requirements of video lighting (base light, natural look, mood)
- Select, operate, and monitor auxiliary microphones and mixing equipment to achieve high quality audio
- Apply editing techniques (eg, pacing, continuity, beat edits, back-timing, etc) to the video project
- Explain and show the basic operation of an industrial studio video camera, its adjustment and controls, and its support equipment, as well as its role in the studio production process
- Effectively and efficiently serve in any one of the following studio production personnel positions in the BCC television studio: floor director, camera person, lighting director, audio director, technical director, associate director, director, producer
- Identify, install, maintain, and operate the main types of studio lighting instruments and lighting circuitry found in a television studio
- Apply production planning techniques of camera blocking, talent direction, shot selection, and audio planning to a talk-show-format studio production
- Direct a 60-second commercial that includes camera movement, multiple shots, audio, lighting, and talent
- Direct a 15-minute, 3-person-on-camera discussion program including at least one video insert, music at opening and closing, and electronic titles and credits

- Apply advanced off-line and on-line editing techniques in the production of commercials, informational videos, and theatrical productions
- Use effective layout techniques for video graphics
- Incorporate three-point lighting techniques in the field and studio to achieve different moods and effects
- Direct talent, equipment, and crew in an on-location production
- Write and manage a video production timeline
- Set up and operate a non-linear editing system
- Explain and apply effective digital video compression techniques
- Explain gamma correction and apply it to a digital video clip
- Compare and contrast digital video file formats such as video for Windows (AVI), QuickTime, MPEG, etc
- Explain the difficulties of synchronizing a video signal with audio and present current digital solutions
- Explain the principles involved in digital video streaming technologies and create a streaming video clip
- Compare and contrast the differences between analog and digital video and between linear and non-linear editing
- Utilize a video capture solution to perform the following tasks: capture and save analog video clips, edit captured clips to suitable length to maximize storage efficiency, compress clips to further enhance storage efficiency, capture still images as digital video files, and capture audio as digital video files
- Use a computer-based editing system to perform the following tasks: import and edit raw video clips, construct simple video sequences, utilize A/B roll-style transitions, utilize superimposed and layered video effects, create and utilize title and graphic sequences, create and utilize simple video animation
- Compare and contrast the system requirements for computer output to VHS, SVHS, and other broadcast video formats
- Capture and edit an audio sequence and combine it with a digital video sequence
- Explain the basic elements of a production budget, including above-the-line and below-the-line budget items and making a profit

Visual Design – *Technical Learning Component*

Learner Program Outcomes

- Demonstrate the ability to create and implement the overall look and feel of a multimedia project in a functional and aesthetic manner

Key Competencies

Demonstrate the ability to:

- Select design ideas that can be implemented within the scope, timeline and budget of project
- Present ideas to the team and clients, and refine ideas to meet project requirements
- Discuss and show the importance of alignment, proximity, repetition, and contrast in visual design
- Discuss the rule of thirds and the golden mean and their role in visual design
- Discuss color theory and the terms: additive, subtractive, complimentary, color psychology, HSL, RGB, and CMYK
- Discuss and show the importance of perspective in visual design
- Define and show an example of the following terms: figure, ground, proportion, grid, line, shape, box, border, color, balance, rhythm, harmony, proximity, alignment, repetition, contrast
- Compare and contrast the visual elements that make up two-dimensional design
- Compare, contrast and give examples of the principles that make up quality design
- List, explain and create six spatial cues that give the illusion of depth in a two-dimensional image using vector illustration software
- Select and implement a cohesive color scheme that supports the message and the goals of the project
- Select a look and colors that supports readability and is pleasing to the audience
- Integrate human factors and user interface for visual design
- Create and implement basic visual design that is creative and aesthetic, while supporting functionality
- Assess visual design for appeal and functionality, and validate visual design with the audience
- Integrate all media elements in a cohesive form and aesthetic manner
- Produce and evaluate interactive simulations to finalize the look and feel of the project
- Make recommendations for improvement in design process and end product

Web Authoring and Internet Technology – *Technical Learning Component*

Learner Program Outcomes

- Demonstrate the ability to define and use the basic terminology of Internet technology and web design
- Demonstrate the ability to use the tools and skills needed to create web pages
- Demonstrate a basic understanding of web design in its current and projected uses in multimedia

Key Competencies

Demonstrate the ability to:

- Explain the basic principles and technology behind access and posting of information on the Internet
- Define and appropriately use Internet and web terminology
- Explain network topology, and describe the functions of Internet related hardware and software
- Explain and use basic Internet services including: telnet, email, ftp, www, chat, and newsgroups
- Evaluate the services and features of available Internet providers, and, based on client needs, select an appropriate Internet provider
- Identify and apply elements of good web page design
- Use Internet languages and apply to the development of web documents, including HTML, ASP, JavaScript, Cascading Style Sheets, Dynamic HTML, XML, and Perl
- Explain and utilize client and server side scripting
- Select and utilize scripting/programming tools to satisfy specific needs
- Explain and utilize Internet based streaming technologies
- Import object files and convert into appropriate format to imbed into a web page
- Add downloadable media-type files to a web page
- Create web pages for a wide range of business applications
- Compare the features and performance of various web authoring tools
- Select and utilize a hit tracking and analysis tool to satisfy specific needs
- Select and utilize an appropriate web authoring tool to satisfy specific needs
- Select and utilize an appropriate maintenance tool to satisfy specific needs
- Create web pages with various levels of complexity, and develop a portfolio of web pages for a wide range of applications
- Discuss the future trends in web page applications, and how they may affect web page design and tools

Analysis & Synthesis – *Foundation Learning Component*

Learner Program Outcomes

- Demonstrate the ability to gather data to identify project requirements, and to interpret and evaluate the requirements
- Demonstrate the ability to identify constraints, generate alternatives, consider risks, and evaluate options
- Demonstrate the ability to define the scope of work to meet project requirements and constraints, and develop a proposal outline

Key Competencies

Demonstrate the ability to:

- Identify relevant sources of information for the project
- Gather data and extract relevant information to identify project requirements, resources and risks
- Analyze information for completeness, relevance, accuracy and consistency and synthesize the information
- Identify missing information and find sources to complete requirement set
- Identify and analyze areas of conflict in specifications and requirements, make individual assessments of the data set, and synthesize into solution
- Identify time, technology and resource constraints
- Analyze and resolve conflicts between requirements and constraints
- Synthesize information and validate requirement set with clients
- Develop concepts including alternatives
- Prepare a cost/benefit estimate for each alternative and make recommendations
- Identify risks and their impact on the overall project
- Analyze and synthesize information and make recommendations, including need for further information
- Define general scope of work to meet requirements and constraints
- Develop proposal outline including recommendations, alternatives, risks, cost/benefit summary and scope of proposed work
- Summarize, communicate and document the information presented in the proposal outline
- Develop feedback strategies to monitor the processes of analysis and synthesis
- Evaluate the processes of analysis and synthesis, and make recommendations for improvement

Business Organization and Environment – *Foundation Learning Component*

Learner Program Outcomes

- Demonstrate the ability to present and discuss contemporary business principles, practices and organization
- Demonstrate the ability to present and discuss how computer systems impact the operation and management of business and society

Key Competencies

Demonstrate the ability to:

- Present contemporary business economic issues, principles and practices
- Explain the internal and external forces and economic conditions that affect the operation of a business
- Explain the legal and social aspects of the business environment
- Discuss the social responsibility of business and business ethics
- Explain different business organizations, their respective advantages and disadvantages, and how they operate
- Discuss the main differences between small businesses and mid-to-large size businesses
- Discuss the issues particular to international corporations
- Explain the purpose of functional business areas including marketing, finance, accounting, research and development, manufacturing and management
- Discuss the role and interactions between different functional groups
- Discuss the concepts and issues of business management
- Discuss the concepts and issues of human resource management
- Explain the concepts and issues of marketing products and services
- Explain the basics of promotion and distribution
- Explain and appropriately use general business terminology
- Explain how and where computers are used in today's business
- Describe how computer systems are used in different parts of a business organization
- Discuss the impact of information systems on business operations
- Describe the impact of computers on access to information and information exchange worldwide
- Present ethical issues as they relate to the use of computers and information in today's society
- Define information privacy and describe how it has been and is currently affected by computers
- Present the positive and negative impacts of computer technology on business and society, and discuss ethical issues in respect to the information age
- Give input and analyze long term strategic business plans, and explain the potential impacts on group and individual roles

Client Relations – *Foundation Learning Component*

Learner Program Outcomes

- Demonstrate the ability to effectively listen and ask critical questions to identify clients' issues and concerns
- Demonstrate the ability to resolve clients' issues and concerns in a timely and appropriate manner

Key Competencies

Demonstrate the ability to:

- Explain the importance of clients in business
- Identify client groups in various types of organization
- Explain the responsibilities of business towards clients
- Summarize and analyze client's inputs
- Ask questions that solicit productive input and feedback from clients
- Differentiate between clients' actual needs and desires
- Communicate product features-cost compromises
- Communicate alternatives and options
- Respond effectively to clients needs and concerns
- Negotiate with clients in a productive manner to arrive at a best-fit solution
- Recognize when clients' requests are unreasonable or counter-productive, and use creative and effective interpersonal techniques to resolve differences
- Recognize when conflicts or issues with clients needs to be escalated, and appropriately involve higher levels in the organization
- Communicate project plan, status, risks and contingencies to the clients in a timely manner and in an appropriate level of detail
- Solicit feedback from clients and apply input to improve the quality of service
- Schedule and manage effectively multiple clients requests
- Recognize the clients level of experience and expertise, and tailor training and communication accordingly
- Deliver solutions that meet client's needs in a timely and appropriate manner
- Recognize when a client concern needs to be referred to someone else in or outside the organization
- Act as a liaison between technical groups to coordinate delivery of service or product
- Recognize proprietary information and respect clients confidentiality
- Assess the effectiveness of the client interaction process
- Make recommendations for improvement in the client relation process
- Follow-up with clients to evaluate the effectiveness of product over a period of time

Marketing and Advertising – *Foundation Learning Component*

Learner Program Outcomes

- Demonstrate the ability to present and apply the basic principles of marketing and advertising

Key Competencies

Demonstrate the ability to:

- Explain the role of marketing and advertising in an organization
- Explain the differences between marketing and advertising, and give examples
- Explain the role and impact of media communication and technology on marketing and advertising
- Explain and analyze for effectiveness the different forms of marketing and advertising for a wide range of applications
- Define the characteristics of the target audience for a specific marketing or advertising campaign
- Explain the impact of specific audience characteristics on the selection of the advertising message and medium
- Explain the differences between educational and promotional advertising
- Explain how marketing campaigns differ between profit and non-profit organizations
- Analyze the elements and effectiveness of a wide range of advertisement pieces
- Develop effective marketing and advertising messages for a wide range of audiences and products
- Analyze the effectiveness of various advertisement pieces in the interaction between the visuals and the message
- Explain, apply and analyze the various testing strategies used in marketing and advertising
- Explain and work within the legal and ethical environment that affects marketing and advertising campaigns
- Explain how ethical and legal constraints on advertising vary between industries and markets
- Develop the outlines of a marketing or advertising campaign for a specific audience and product
- Develop a portfolio of advertising and promotional samples

Oral Communication – *Foundation Learning Component*

Learner Program Outcomes

- Demonstrate the ability to select and evaluate appropriate oral communication strategies and styles for a specific purpose
- Demonstrate the ability to develop and deliver effective oral presentations
- Demonstrate the ability to effectively adapt oral communication strategies and styles to specific audiences

Key Competencies

Demonstrate the ability to:

- Explain the purpose and different uses of oral communication in business and industry, and give examples
- Identify the appropriate communication process for a specific purpose and situation
- Communicate effectively using a wide range of oral communication styles
- Use clear, focused, specific, and grammatically correct language
- Use precise and accurate technical terminology
- Listen and paraphrase effectively to enhance communication process
- Sustain a definite focus, and link ideas in a progressive, flowing sequence
- Present information persuasively and sustain an argument using appropriate evidence or examples
- Be courteous and professional when communicating with others using a degree of formality appropriate to the situation
- Ask relevant and clarifying questions, and listen effectively for content and underlying issues
- Recognize and appropriately respond to audience focus, level of expertise and need for detail
- Communicate effectively with audiences with various degrees of expertise in a wide range of technical and business contexts
- Compose and present well organized presentations
- Use various presentation technologies
- Evaluate effectiveness of communication on a continuous basis by observing the audience and asking for feedback
- Be responsive to audience, and adjust communication style and content accordingly
- Effectively address and resolve conflicts in communication
- Prepare and deliver professional presentations that are appropriate to purpose and intended audience
- Show creativity and a positive attitude when technical problems, or other unforeseen difficulties, arise during a formal presentation, and communicate the message effectively through informal methods
- Project a professional, confident and upbeat attitude during presentations and interviews

Planning and Organization – *Foundation Learning Component*

Learner Program Outcomes

- Demonstrate the ability to develop a project plan that is realistic and that effectively serves the project goals
- Demonstrate the ability to organize the different phases of the project in an efficient manner

Key Competencies

Demonstrate the ability to:

- Explain the principles of planning for a media project, and identify critical elements of a successful plan
- Develop media idea to identify what multimedia elements will be used in the project
- Identify media content to be acquired and media content to be developed to complete project
- Identify necessary hardware and software, and what is currently available to the project team
- Identify current team skills and the need for outside help
- Estimate time and resources for each phase of the project
- Refine and finalize media idea based on available and negotiable resources and time
- Develop project plan organizing project elements, development tasks, resources, schedule and cost in a coordinated framework
- Identify necessary feedback and checkpoints at critical steps in the project
- Use software tools to support the planning phase, and represent the overall project plan
- Communicate project plan with team and solicit feedback from team members to refine plan
- Explain the purpose and processes of prototyping and pilots
- Develop and organize detailed task list and task schedule, and allocate resources according to task schedule and priority
- Identify critical path failure, and develop contingency plans
- Document project plan with the level of detail required by the project scope and complexity, and by organization policies
- Organize the team to most effectively accomplish the project tasks within schedule and budget

Problem Solving – *Foundation Learning Component*

Learner Program Outcomes

- Demonstrate the ability to select, implement and evaluate appropriate problem solving techniques and tools
- Demonstrate the ability to effectively adapt problem solving techniques to specific situations

Key Competencies

Demonstrate the ability to:

- Recognize a wide range of problems, and assess their impact on the system
- Use a wide range of troubleshooting methods and tools to isolate problems
- Select the appropriate approach to identify causes of the problem based on the given situation
- Perform systematic analysis and a logical process to identify problem causes using the best available tools and resources
- Listen for input and ask critical questions to identify the problem and its possible causes
- Select the tools and methods most appropriate to resolve the problem
- Identify, develop and test potential solutions, and develop resolution plan in line with available resources
- Identify the potential risks in implementation, assess the cost/benefit of implementation alternatives (including non-implementation), and make recommendations
- Assess the risks and benefits of parallel solutions
- Communicate and implement solution in a manner that minimizes risk and disruption to productivity
- Document and communicate problem, analysis and resolution process, solution and outcome
- Develop a solution implementation strategy, and document and communicate the implementation plan
- Monitor the implementation process and readjust to better meet goals
- Communicate problem causes and resolution with users and other critical parties
- Follow-up after resolution to ensure system performance and user satisfaction
- Develop recommendations for prevention of problem recurrence
- Evaluate effectiveness of processes, tools and communication used in problem resolution and develop recommendations for continuous improvement
- Assess the team process in problem solving and make recommendations for improvement

Professionalism – *Foundation Learning Component*

Learner Program Outcomes

- Demonstrate successful work environment-related attitudes and skills
- Demonstrate the ability to establish and maintain professional relationships

Key Competencies

Demonstrate the ability to:

- Explain the basics of, and rationale for work ethics
- Give examples of behaviors that support and behaviors that undermine the functioning of the organization
- Discuss issues of confidentiality, and explore behaviors and procedures to support company's policies in data confidentiality
- Explain the purpose of a hierarchical structure and the various forms of organizational structures
- Explain what contributes to a productive environment
- Give examples of behaviors that contribute to professionalism
- Explain how personal values impact one's work performance
- Explain cultural differences and how they affect an organization
- Explain how cultures and organization goals will impact performance and attitude expectations
- Identify characteristics of effective leaders
- Identify employer expectations regarding job performance and attitudes
- Define one's role and responsibilities in a given context
- Take pride in one's work and assume responsibility for personal actions
- Work effectively within the organization hierarchy and reporting procedures
- Display a positive attitude and a professional image, and foster a productive environment
- Make effective decisions and display initiative in a wide range of contexts
- Display leadership skills in a variety of contexts
- Assess one's performance against expectations
- Ask for, and accept constructive criticism, and exhibit continual growth based on feedback and performance evaluation
- Seek and use feedback on personal performance and effectiveness from a wide range of sources
- Develop personal strategies to improve performance
- Explain the need and benefits of maintaining a strong professional network
- Recognize and effectively use opportunities and forums to establish professional relationships
- Foster and develop a successful professional network
- Adapt one's professional network to one's professional goals

Project Documentation – *Foundation Learning Component*

Learner Program Outcomes

- Demonstrate the ability to select and use documentation formats, meeting the intended purpose and the guidelines of the organization
- Demonstrate the ability to develop effective and accurate documentation appropriate to various audiences and purposes

Key Competencies

Demonstrate the ability to:

- Explain the purpose and different uses of documentation formats in business and industry
- Give examples of different documentation formats, and select appropriate format for specific purpose
- Use various project documentation styles and formats, and analyze effectiveness in meeting the intended purpose and the needs of the target audience
- Develop an outline for the project document that meets the purpose
- Use clear, focused, specific, and grammatically correct language and terminology
- Develop complete and accurate technical specifications
- Present information in a well organized pattern and sustain a definite focus
- Summarize, paraphrase and synthesize information effectively
- Present complex ideas and pose critical questions
- Present information persuasively and objectively
- Integrate multiple items of information and reconcile conflicting information
- Write in a concise and precise form appropriate for project communication with the appropriate level of technical detail and complexity
- Incorporate appropriate visual elements in documents to support the text
- Adapt writing style and technical content to suit different technical levels and different audiences
- Discuss the impact of and use appropriate guidelines in the development of documents
- Learn and use effective strategies for collaborative work in preparing documents

Project Management – *Foundation Learning Component*

Learner Program Outcomes

- Demonstrate the ability to explain the basic terminology, principles and techniques of project management
- Demonstrate the ability to select, implement and evaluate appropriate project management techniques and tools
- Demonstrate the ability to effectively adapt project management techniques to specific situations

Key Competencies

Demonstrate the ability to:

- Explain and appropriately use project management terminology
- Explain the different phases and elements of project management
- Evaluate project requirements, and clearly define and articulate project scope and goals
- Identify stakeholders, decision-makers and escalation procedures
- Develop detailed task list and analyze relationships between tasks and the overall project
- Organize and prioritize tasks, develop general project flow chart, identifying critical tasks and task interdependencies
- Identify project time, personnel, budget and equipment requirements
- Map resource requirements to resource availability, secure necessary resources and use resources effectively
- Identify, evaluate and monitor risks throughout the project, and prepare contingency plans
- Develop performance measurement processes
- Identify critical milestones and project performance, budgets and the use of resources
- Anticipate and resolve conflicts as they arise
- Identify and implement escalation procedures when appropriate
- Use evaluation information to adjust activities to meet goals
- Identify a critical path failure, and implement contingency plans when necessary
- Participate in and actively contribute to project reviews
- Document and report project status in a timely manner using appropriate channels
- Work effectively within the system and with members of the team and organization
- Adapt project management style to the project team and the specific environment
- Adapt and redirect the project management process and project tasks to meet changing requirements and unanticipated events
- Analyze project management process and make recommendations for improvement

Research – *Foundation Learning Component*

Learner Program Outcomes

- Demonstrate the ability to identify and use traditional and non-traditional sources of information
- Demonstrate the ability to apply effectively and choose appropriately from a variety of research methods and tools
- Demonstrate the ability to analyze, organize and present research material

Key Competencies

Demonstrate the ability to:

- Clearly state the purpose of the research for a given project
- Estimate the scope for the research based on goals and available resources
- Identify resources and topics in line with scope of the project
- Use effectively a wide range of research strategies and sources of information
- Use effectively oral, written and on-line sources of information
- Identify non-traditional sources of information such as business leaders, community leaders, museum staff, field trips and advisory committees
- Use various Internet search techniques and tools to locate information
- Develop and implement research process
- Gather and organize research information
- Analyze the information for relevance to project
- Analyze the research results for completeness and accuracy
- Recognize and resolve conflicts between information from different sources
- Present and analyze different points of view on a given topic
- Synthesize and summarize the information
- Present the research results in an appropriate format and language, including references
- Analyze the effectiveness of different research tools and sources based on the research goals
- Reformat the research and summary findings for different purposes and audiences

Self Development – *Foundation Learning Component*

Learner Program Outcomes

- Demonstrate the ability to identify and close gaps between one's knowledge and skills, and those required by the situation
- Demonstrate the ability to identify sources of learning/training most appropriate for the topic and context, and for one's personal learning style
- Demonstrate the ability to formulate and implement a personal development plan

Key Competencies

Demonstrate the ability to:

- Describe different learning styles, and explain which learning strategies best apply to each style
- Identify one's own learning style and preferences in acquiring information
- Assess the effectiveness of various learning forums in light of the subject or skill being taught
- Recognize what skills and knowledge are needed to work on a specific project or in a specific environment
- Anticipate the needs for new skills and knowledge based on changes in responsibilities and/or technologies
- Assess personal skills and knowledge against identified needs
- Research options for training and education
- Evaluate effectiveness of training and education in the context of identified needs, and available time and resources
- Acquire new knowledge and skills in a wide range of contexts and formats
- Take advantage of on-the-job or on-the-project self-learning opportunities
- Ask for informal training from others, and learn from others' experience and knowledge
- Build upon one's strengths to effectively meet the needs of the project and the environment
- Assess one's readiness for further training
- Evaluate the portability of one's skills to new areas of application
- Develop a personal training and education plan
- Follow through with commitments to develop new skills and knowledge, or further develop existing skills and knowledge
- Select training or education forums that best meet needs, and available time and resources
- Explain the importance of continuous learning in a technology environment
- Explain the impact of the organization culture on skill expectations

Task Management – *Foundation Learning Component*

Learner Program Outcomes

- Demonstrate the ability to organize multiple tasks in the most effective way, and allocate time and energy according to task complexity and priority
- Demonstrate the ability to evaluate task outcomes and continuously improve organization process

Key Competencies

Demonstrate the ability to:

- Break down projects and activities into a series of tasks
- Develop task list that is realistic and in line with expectations
- Identify task priorities and interdependencies, and organize in a logical sequence
- Explain impact of one's work on the project and other project members
- Estimate time and resources necessary to complete specific tasks
- Recognize conflicts in the use of resources or in goals between separate tasks
- Develop personal work schedule and processes that meet expectations and align with personal work style
- Conduct effectively and monitor several tasks simultaneously
- Show initiative in task accomplishment and scheduling
- Accomplish tasks in an efficient manner and on schedule
- Assess one's work process in terms of effectiveness
- Devise ways to improve one's work processes
- Develop and implement monitoring processes and check-points
- Monitor and evaluate tasks performance and completion against project plan and standards
- Make process improvements and adjustments as tasks progress
- Communicate and report problems in a timely manner
- Generate and communicate task status reports to peers and managers
- Recognize when a task is completed to expectations
- Be flexible in task organization and be responsive to unplanned demands
- Anticipate and prepare for changing work loads
- Assess task assignments against perceived role and responsibilities
- Delegate responsibilities to others when appropriate

Team Work – *Foundation Learning Component*

Learner Program Outcomes

- Demonstrate the ability to work collaboratively in a team setting
- Demonstrate the ability to work and communicate effectively with people of different backgrounds and expertise in a group environment
- Demonstrate the ability to recognize expertise and to learn from others

Key Competencies

Demonstrate the ability to:

- Explain the role of team work in various settings and organizations
- Explain different team processes, roles and group dynamics, their purposes, advantages and disadvantages
- Select a specific team process to meet the team's goals
- Use effectively a variety of listening, communication and interactive styles and strategies, and recognize their appropriateness depending on environment and goals
- Listen actively and contribute ideas in an effective manner
- Take risks in contributing to the team process
- Support other team members when appropriate
- Ask for help from the team when needed
- Learn from and teach other members of the team
- Share knowledge with others in a collaborative environment
- Communicate with other team members in a timely manner
- Be flexible with one's own style of participation to accommodate changes in the team dynamics and focus
- Respect differences in backgrounds, opinions and communication styles
- Recognize and respect cultural, ethnic and linguistic diversity
- Recognize and leverage strengths in one's self and others to further the goals of the team
- Foster an environment that supports risk taking in freely disclosing ideas and opinions
- Identify and support productive ideas and processes that contribute to the team goals
- Function effectively in different roles within the team, demonstrate leadership when appropriate, and show flexibility in accepting others' leadership
- Manage conflicts in a productive manner, and work collaboratively to set and accomplish team goals
- Discuss the advantages of a diverse culture and its benefits to the overall productivity of the organization
- Present the issues encountered in a diverse organizations and effective strategies to address these issues
- Recognize and foster processes that contribute to the overall team purpose
- Assess the effectiveness of the team process in a given context, and make recommendations for improvements
- Organize, manage and facilitate a wide range of team processes

Visual Communication – *Foundation Learning Component*

Learner Program Outcomes

- Demonstrate the ability to select and evaluate appropriate visual communication strategies and styles for a specific purpose
- Demonstrate the ability to develop and deliver effective visual presentations
- Demonstrate the ability to effectively adapt visual communication strategies and styles to specific audiences

Key Competencies

Demonstrate the ability to:

- Explain the purpose of visual communication in business and society, and give examples
- Explain and demonstrate the concepts of visual communication
- Use appropriate visual communication terminology
- Identify the appropriate visual communication style for a specific purpose and situation
- Communicate effectively using a wide range of visual communication styles
- Use the right balance of emotions, information, imagination and persuasion to achieve intended purpose
- Adapt visual communication to the degree of formality appropriate to the situation
- Adapt visual style and content of presentation to audience need and preferences
- Evaluate effectiveness of visual communication on a continuous basis by observing the audience and asking for feedback
- Be responsive to audience, and adjust visual style and content accordingly
- Prepare oral presentations that are visually pleasing and that are appropriate for various audiences
- Sustain a definite visual theme and style throughout the communication piece
- Balance visual and verbal elements in presentations
- Use the visual elements to enhance the purpose of the communication
- Display a strong sense of esthetics in visual communication

Written Communication – *Foundation Learning Component*

Learner Program Outcomes

- Demonstrate the ability to select and evaluate appropriate written communication strategies and styles for a specific purpose
- Demonstrate the ability to develop effective written communication pieces
- Demonstrate the ability to effectively adapt written communication strategies and styles to specific audiences

Key Competencies

Demonstrate the ability to:

- Explain and appropriately use written communication terminology
- Explain the purpose and different uses of written communication in business and industry, and give examples
- Identify the appropriate written communication format for a specific purpose and situation
- Communicate effectively using a wide range of written communication formats
- Use the right balance of emotions, information, imagination and persuasion to achieve intended purpose
- Use clear, specific, and grammatically correct language
- Use precise and accurate technical terminology
- Sustain a definite focus and point of view, and link ideas in a progressive, flowing sequence
- Be courteous and professional when communicating with others using a degree of formality appropriate to the situation
- Analyze written communication to effectively extract content and underlying issues
- Adapt style and content of communication to audience need and feedback
- Recognize and appropriately address audience focus, level of expertise and need for detail
- Compose and present well organized written pieces
- Balance visual and verbal elements and text in written communication
- Be responsive to audience, and adjust communication format and content accordingly
- Evaluate effectiveness of communication on a continuous basis by asking for feedback
- Present information persuasively and sustain an argument using appropriate evidence or examples
- Prepare professional memos and reports that are appropriate to purpose and intended audience

SAMPLE ACTIVITIES

- **Activity**
- **Suggested Assessments for Activity**
- **Primary Outcomes Addressed by Activity**

The Learning Activities integrate the technical and foundation Program Competencies.

Activity 1 -- Web Authoring and Audio Production

Design and implement an informational web site about a contemporary personality in politics, the arts and entertainment, business, etc. A team of students will accomplish each project. The teacher will define the time in which the project is to be completed. Each project should comprise 5 to 10 web pages including:

- An introductory page with an overview of the content presented, a list of the linked web pages, an indexed search feature and a graphical navigation
- The information presented should cover the background of the person, her/his accomplishments and impact on our society
- One or more audio clips of interviews the students have conducted on "what people think about this person"
- A linked list of 5 to 10 web pages (not created by the students) which present relevant information about the person

Each team will write a report including:

- The rationale for selecting the subject for the project
- The storyboard for the web site and the rationale for the organization of the web site
- The design of the interview process, comments about its implementation, and recommendations for possible improvements
- The role of each team member in the project, comments about the organization of the project, and recommendations for possible improvement
- A list of the equipment used (including software) in the project
- A list of references and sources used in assembling the information presented in the web site

A team other than the team who created it will evaluate each web site. Each team will write a brief report assessing:

- Ease of use and readability
- Aesthetic value, and creativity in layout and presentation
- Interest of the information presented
- Completeness of the information presented
- Interest of the audio clip content
- Quality of the audio recording
- Choice of reference web pages included

Suggested Assessments for Teacher:

- Review team report for quality and efficiency of process used in the design of the interviews and the web site
- Review team report for assessment of quality and efficiency of team process
- Review web site for assessment of quality of product delivered
- Review "other team" assessment report for quality of product delivered
- Assess students' ability to evaluate others' work and give feedback

Primary Program Outcomes Addressed by Activity:

Audio Production

- Demonstrate the ability to use the tools and skills needed to create and edit audio for multimedia projects

Interface Design

- Demonstrate the ability to design effective interfaces
- Demonstrate the ability to adapt interface design to audience and subject

Oral Communication

- Demonstrate the ability to select and evaluate appropriate oral communication strategies and styles for a specific purpose

Planning and Organization

- Demonstrate the ability to organize the different phases of the project in an efficient manner

Project Documentation

- Demonstrate the ability to select and use documentation formats, meeting the intended purpose and the guidelines of the organization
- Demonstrate the ability to develop effective and accurate documentation appropriate to various audiences and purposes

Research

- Demonstrate the ability to identify and use traditional and non-traditional sources of information
- Demonstrate the ability to apply effectively and choose appropriately from a variety of research methods and tools
- Demonstrate the ability to analyze, organize and present research material

Team work

- Demonstrate the ability to work collaboratively in a team setting
- Demonstrate the ability to work and communicate effectively with people of different backgrounds and expertise in a group environment
- Demonstrate the ability to recognize expertise and to learn from others

Visual Communication

- Demonstrate the ability to select and evaluate appropriate visual communication strategies and styles for a specific purpose
- Demonstrate the ability to develop and deliver effective visual presentations

Visual Design

- Demonstrate the ability to create and implement the overall look and feel of a multimedia project in a functional and aesthetic manner

Web Authoring Tools and Internet Technology

- Demonstrate the ability to use the tools and skills needed to create web pages

Written Communication

- Demonstrate the ability to select and evaluate appropriate written communication strategies and styles for a specific purpose
- Demonstrate the ability to develop effective written communication pieces

Activity 2 -- Video Production

Develop a one-hour video with supporting audio about a specific issue covering a topic of interest to students on campus, or members of the local community or businesses, etc. It should be an issue that gives rise to very different points of view and conflicting opinions. Teams of students will be formed to accomplish each project. The teacher will define the time in which the project is to be completed. The content and presentation of the video should be as impartial and objective as possible. The video content should include:

- The background and context of the issue
- Interviews presenting the different perspectives and opinions
- Evidence necessary to support the information (in the form of video, photography, or animation sequences)

Each team will write a report including:

- The rationale for selecting the subject for the project
- The storyboard for the video production and the rationale for the organization of the video
- The process used in selecting interviewees, with analysis of this process
- A process list that was designed and used by the team to shoot video, with recommendations for possible improvements
- A brief report from each of the team members describing how they kept their own opinion on this issue from interfering with the impartiality and objectivity presented in the video production
- The role of each team member in the project, comments about the organization of the project, and recommendations for possible improvement
- A list of the equipment used (including software) in the project
- A list of references and sources used in assembling the information presented in the video

A team other than the team who created it will evaluate each video. Each team will write a brief report assessing:

- Aesthetic value, and creativity in presentation
- Interest of the information presented
- Flow and continuity of content
- Completeness and objectivity of the information presented
- Quality of the video and audio recording
- Recommendations for improvement

Suggested Assessments for Teacher:

- Review team report for quality and efficiency of process used in the design of the video
- Review team report for assessment of quality and efficiency of team process
- Review video for assessment of quality of product delivered
- Review "other team" assessment report for quality of product delivered
- Assess students' ability to evaluate others' work and give feedback

Primary Program Outcomes Addressed by Activity:

Audio Production

- Demonstrate the ability to use the tools and skills needed to create and edit audio for multimedia projects

Copyright and Law

- The use and development of media communication
- Demonstrate the ability to work within the media copyright and legal regulatory environment

Multimedia Authoring

- Demonstrate the ability to use the tools and skills needed to create multimedia products

Planning and Organization

- Demonstrate the ability to develop a project plan that is realistic and that effectively serves the project goals
- Demonstrate the ability to organize the different phases of the project in an efficient manner

Project Documentation

- Demonstrate the ability to select and use documentation formats, meeting the intended purpose and the guidelines of the organization
- Demonstrate the ability to develop effective and accurate documentation appropriate to various audiences and purposes

Research

- Demonstrate the ability to identify and use traditional and non-traditional sources of information
- Demonstrate the ability to apply effectively and choose appropriately from a variety of research methods and tools
- Demonstrate the ability to analyze, organize and present research material

Script Writing

- Demonstrate the ability to create an effective message and develop a well written script for a wide range of media projects

Story Telling

- Demonstrate the ability to develop a creative and cohesive story that supports the media theme and style

Team Work

- Demonstrate the ability to work collaboratively in a team setting
- Demonstrate the ability to work and communicate effectively with people of different backgrounds and expertise in a group environment
- Demonstrate the ability to recognize expertise and to learn from others

Video Production

- Demonstrate the ability to use the tools and skills needed to create video productions

Visual Communication

- Demonstrate the ability to select and evaluate appropriate visual communication strategies and styles for a specific purpose
- Demonstrate the ability to develop and deliver effective visual presentations
- Demonstrate the ability to effectively adapt visual communication strategies and styles to specific audiences

Visual Design

- Demonstrate the ability to create and implement the overall look and feel of a multimedia project in a functional and aesthetic manner

Written Communication

- Demonstrate the ability to develop effective written communication pieces

Activity 3 -- Marketing Research and Proposal Development

Each student is presented with the following scenario:

You are an independent multimedia producer. You have been asked by a training organization to develop a proposal and bid for the design and development a 15-minute marketing video to help recruit students into the training program. The program trains students with minimal computer expertise as entry requirement to become multimedia professionals. The training program is flexible in design: allowing students to test out of certain parts of the program if they can demonstrate proficiency, and allowing students to concentrate on specific areas of greatest interest. The training program lasts 6 months to 1 year depending on students and requires full-time participation.
The organization has been very successful in recruiting students from middle class backgrounds and with ages ranging primarily in the 20-40 bracket. However, they recently received a large grant to increase the proportions of students coming from low-income backgrounds and older students who are retraining for a new career. Under the grant agreement, the tuition for these students will be paid in part or in full depending on their income.

You are to develop 2 proposed concepts for this video based on research that you conduct on the target markets. Make sure that the two concepts are different enough in terms of approach and scope to offer the contracting organization a real choice. One video has to serve both target audiences.

Each student is asked to write a report including the following:

- A brief description of the audience characteristics and interests based on their research
- A description of each concept for the marketing video, and the rationale to support their choice
- A draft storyboard for the video for each concept
- A description of the team that will be need to produce the video (for each concept), with each role outlined
- A proposed budget (in terms of person-hours not dollars) for each concept
- A proposed time-line for the production of each concept
- A list of required equipment for the production of each concept
- A comparison of the merits and limitations of the two proposed concepts

Students will also be asked to make a brief presentation summarizing their findings and proposal in front of the class. The student audience will evaluate the presentation based on:

- Clarity of presentation
- Completeness and consistency of proposal
- Practicality of proposal
- Overall presentation style and ability to “sell” the idea

Suggested Assessments for Teacher:

- Assess completeness and relevance of research from report
- Review report for quality of organization and writing
- Review report for completeness, consistency and practicality in recommendations
- Assess oral presentation for clarity and quality of organization
- Assess students' ability to evaluate others' work and give feedback

Primary Program Outcomes Addressed by Activity:

Analysis and Synthesis

- Demonstrate the ability to gather data to identify project requirements, and to interpret and evaluate the requirements
- Demonstrate the ability to identify constraints, generate alternatives, consider risks, and evaluate options
- Demonstrate the ability to define the scope of work to meet project requirements and constraints, and develop a proposal outline

Industry History and Trends

- Demonstrate the ability to explain industry trends in technology and applications
- Demonstrate an understanding of the legal, ethical, and moral issues of media communication

Marketing and Advertising

- Demonstrate the ability to present and apply the basic principles of marketing and advertising

Multimedia Authoring

- Demonstrate the ability to define and use the basic terminology and principles of multimedia authoring

Oral Communication

- Demonstrate the ability to develop and deliver effective oral presentations
- Demonstrate the ability to effectively adapt oral communication strategies and styles to specific audiences

Planning and Organization

- Demonstrate the ability to develop a project plan that is realistic and that effectively serves the project goals

Professionalism

- Demonstrate successful work environment-related attitudes and skills

Research

- Demonstrate the ability to identify and use traditional and non-traditional sources of information
- Demonstrate the ability to apply effectively and choose appropriately from a variety of research methods and tools
- Demonstrate the ability to analyze, organize and present research material

Video Production

- Demonstrate the ability to define and use the basic terminology of video production

Visual Communication

- Demonstrate the ability to select and evaluate appropriate visual communication strategies and styles for a specific purpose
- Demonstrate the ability to develop and deliver effective visual presentations

Written Communication

- Demonstrate the ability to develop effective written communication pieces

Activity 4 -- Animation

Each student is asked to develop a 10 minute 3D animation sequence that you can use as a portfolio piece for the purpose of interviewing for a job. The sequence should demonstrate the student's proficiency with a wide range of animation methods and techniques, yet be attractive and entertaining. Even though students will work individually to develop their own animation sequence, each student will be assigned to a team. Each team member can be asked to review other team members' work-in-progress and prototypes and offer feedback. Each team member can also call on other members for technical assistance and mini-training sessions.

The students will be asked to:

- Keep a log of the hours worked on the project, organized around major project tasks
- Keep a log of when assistance was requested from other team members, what was the nature of the request (review, technical assistance…), what format the request took (individual meeting, group review…), how much time was involved, and how useful was the input or assistance received
- Write a brief report summarizing the process used for the production and evaluating the value of the group support, including the two logs as appendix to the report
- Present their animation sequence to the class, highlighting the different techniques used in the production

The student audience, playing the role of employers interviewing a potential employee, will be asked to write a brief evaluation of each presentation.

Suggested Assessments for Teacher:

- Assess task organization from log and report
- Assess team interaction and ability to leverage team support from log and report
- Review report for quality of organization and writing
- Assess creativity and technical complexity of animation sequence
- Assess students' ability to evaluate others' work and give feedback
- Assess oral presentation for clarity and quality of organization

Primary Program Outcomes Addressed by Activity:

Animation 3D

- Demonstrate the ability to define and use the basic terminology of 3D animation
- Demonstrate the ability to use the tools and skills needed to create 3D digitally animated objects and characters
- Demonstrate a basic understanding of 3D animation in its current and projected uses in multimedia

Oral Communication

- Demonstrate the ability to select and evaluate appropriate oral communication strategies and styles for a specific purpose
- Demonstrate the ability to develop and deliver effective oral presentations
- Demonstrate the ability to effectively adapt oral communication strategies and styles to specific audiences

Project Documentation

- Demonstrate the ability to select and use documentation formats, meeting the intended purpose and the guidelines of the organization
- Demonstrate the ability to develop effective and accurate documentation appropriate to various audiences and purposes

Self Development

- Demonstrate the ability to identify and close gaps between one's knowledge and skills, and those required by the situation

Story Telling

- Demonstrate the ability to develop a creative and cohesive story that supports the media theme and style

Task Management

- Demonstrate the ability to organize multiple tasks in the most effective way, and allocate time and energy according to task complexity and priority

Team Work

- Demonstrate the ability to work collaboratively in a team setting
- Demonstrate the ability to work and communicate effectively with people of different backgrounds and expertise in a group environment
- Demonstrate the ability to recognize expertise and to learn from others

Visual Design

- Demonstrate the ability to create and implement the overall look and feel of a multimedia project in a functional and aesthetic manner

Written Communication

- Demonstrate the ability to develop effective written communication pieces

Activity 5 -- Story Scripting and Development of CD-ROM

Students working in teams are asked to produce an instructional CD-ROM for 10-year old school children. The purpose of the CD-ROM is to introduce and help practice concepts in areas of math or science. A broad topic area can be selected, such as an overview of mathematics, or a narrower topic can be chosen such as botany, astrophysics, chemistry… The presentation should be organized in the form of a story with a theme and characters appealing to a 10-year old. Particular care will be put on making sure that the story style and presentation is appealing to both girls and boys. The CD-ROM should be interactive, allowing the child to go at her/his own pace and should include fun practice exercises with feedback to the child.

Each team will develop and implement a plan for user testing and validation of the CD-ROM with a group of 10-year old school children.

The teacher will act in the role of the client for this production. Each team will schedule meetings, at appropriate times in the project, with the teacher to present and review:

- The concept and theme for the CD-ROM
- The plan and schedule for producing the CD-ROM
- The role of each team member in the production
- Prototypes of the product
- Regular status reports on progress and accomplishments
- A proposed plan for the validation of the product

The product development process, design specifications, validation process and results will be documented throughout the production, including design modifications and rationale for changes.

Suggested Assessments for Teacher:

- Assess task organization and interaction from the review meetings
- Assess quality of planning through the review meetings and the report
- Assess ability to organize and participate in project review meetings
- Assess quality of documentation through the report
- Assess effectiveness of CD-ROM as a teaching tool for the target audience
- Assess creativity and complexity in design
- Assess organization and validity of user testing plan

Primary Program Outcomes Addressed by Activity:

Analysis and Synthesis

- Demonstrate the ability to gather data to identify project requirements, and to interpret and evaluate the requirements
- Demonstrate the ability to identify constraints, generate alternatives, consider risks, and evaluate options
- Demonstrate the ability to define the scope of work to meet project requirements and constraints, and develop a proposal outline

Interface Design

- Demonstrate the ability to design effective interfaces
- Demonstrate the ability to adapt interface design to audience and subject

Multimedia Authoring

- Demonstrate the ability to define and use the basic terminology and principles of multimedia authoring
- Demonstrate the ability to use the tools and skills needed to create multimedia products

Oral Communication

- Demonstrate the ability to select and evaluate appropriate oral communication strategies and styles for a specific purpose

Planning and Organization

- Demonstrate the ability to develop a project plan that is realistic and that effectively serves the project goals
- Demonstrate the ability to organize the different phases of the project in an efficient manner

Problem Solving

- Demonstrate the ability to effectively adapt problem solving techniques to specific situations

Project Documentation

- Demonstrate the ability to develop effective and accurate documentation appropriate to various audiences and purposes

Project Management

- Demonstrate the ability to select, implement and evaluate appropriate project management techniques and tools
- Demonstrate the ability to effectively adapt project management techniques to specific situations

Story Telling

- Demonstrate the ability to develop a creative and cohesive story that supports the media theme and style

Team Work

- Demonstrate the ability to work collaboratively in a team setting
- Demonstrate the ability to work and communicate effectively with people of different backgrounds and expertise in a group environment
- Demonstrate the ability to recognize expertise and to learn from others

Testing and Validation

- Demonstrate the ability to develop and implement an effective testing and user validation program that supports all phases of the development process

Visual Design

- Demonstrate the ability to create and implement the overall look and feel of a multimedia project in a functional and aesthetic manner

Written Communication

- Demonstrate the ability to develop effective written communication pieces

In addition, depending on the CD-ROM content, outcomes from the following learning components can be also addressed: Animation 2D, Animation 3D, Audio Production, Drawing and Graphic Design, Video Production.

CURRICULUM MAP

The Curriculum Map distributes the program competencies into specific courses.

Animation 2D -- *Technical Learning Component*

Learner Program Outcomes	**Key Competencies**	**Course Map**
• Demonstrate the ability to define and use the basic terminology of 2D animation • Demonstrate the ability to use the tools and skills needed to create 2D digitally animated objects and characters • Demonstrate a basic understanding of 2D animation in its current and projected uses in multimedia	*Demonstrate the ability to:* • Explain process of persistence of vision and its role in the perception of animation • Describe a brief history of and trends in animation, including the contributions of the traditional animation tools, Disney, and the computer • Give examples of, and explain the instructional/informational applications of animation and its role in the communication process • Analyze the effectiveness of the style of an animation sequence in light of its purpose and application • Build a simple zoetrope or flip book and create an illustration that can be turned into an animated sequence • Describe, and explain the differences between the processes by which animation is possible with a computer, including non-moving animation, path animation, cel animation, layered cel animation, object animation, and mathematical algorithms • Define and use correct animation terminology, including: frame, key frame, tweening, mathematical algorithm, cel, path, zoetrope, color cycling, sound file, scripting, cast member, persistence of vision, color palette, digital video, export • Explain the features, advantages and limitations of main animation software tools • Analyze the movement of a natural object or character into primary elements • Develop an animated character and demonstrate techniques of character animation that allow that character to display emotion and tell a story • Effectively use cyclical animation in the animation process • Effectively use motion along an arc to animate an object • Effectively use exaggeration in an animated sequence • Design, create and troubleshoot animation sequences, integrating objects and characters with backgrounds • Add a simple audio track to a digital animation sequence	Many of the competencies are introduced or emphasized in: • 2-D Animation (Media 235) Some of the competencies are also introduced or covered in: • Computer Essentials for Digital Media (Media 109) Every project requiring students to produce 2D animation sequences helps students practice many of these competencies.

	• Export finished animation sequence with audio track into a distributable format • Develop a portfolio of animation sequence for various applications • Utilize Macromedia Flash or similar software to create a sequence that exhibits non-moving animation with color cycling, scaling, and rotation • Utilize Macromedia Flash or similar software to create a sequence that demonstrates path animation • Utilize Macromedia Flash or similar software to create a sequence that demonstrates cel animation • Utilize Macromedia Flash or similar software to create a sequence that demonstrates animation with multiple layers	

Animation 3D -- *Technical Learning Component*		
Learner Program Outcomes • Demonstrate the ability to define and use the basic terminology of 3D animation • Demonstrate the ability to use the tools and skills needed to create 3D digitally animated objects and characters • Demonstrate a basic understanding of 3D animation in its current and projected uses in multimedia	**Key Competencies** *Demonstrate the ability to:* • Give examples of, and explain the instructional/informational applications of animation and its role in the communication process • Analyze the effectiveness of the style of an animation sequence in light of its purpose and application • Explain the features, advantages and limitations of main animation software tools • Analyze the movement of a natural object or character into primary elements • Develop an animated character and demonstrate techniques of character animation that allow that character to display emotion and tell a story • Effectively use cyclical animation in the animation process • Transfer a finished animation sequence with its attendant audio track to a video tape in real time • Export a finished animation sequence with its attendant audio track to a production created with a non-animation software product by means of a digital video movie or analog video tape • Apply various post-production recording and output options to animation sequences • Develop a portfolio of animation sequence for various applications • Explain and apply the principles of Cartesian 3-Space • Describe the history of 3D computer animation • Discuss the specialized hardware concerns of 3D animation • Describe the processes by which objects in 3 dimensions are rendered to a 2D computer screen • Utilize LightWave 3D or similar software to create a three-dimensional object • Utilize LightWave 3D or similar software to set a three-dimensional object's surface attributes including: luminosity, diffusion, specular, glossiness, reflectivity, refraction, bump map, and texture • Utilize LightWave 3D or similar software to create a sequence of a three-	**Course Map** Many of the competencies are introduced or emphasized in: • 3-D Animation (Media 237) • Character Animation (Media 239) Every project requiring students to produce 3D animation sequences helps students practice many of these competencies.

	dimensional object that exhibits texture mapping • Utilize LightWave 3D or similar software to create a sequence of a three-dimensional object that moves the point of view or camera • Modify color, texture, surface, camera placement, and lighting to create a realistic non-animated object utilizing LightWave 3D or similar software • Explain and apply the principles of Bones and Inverse Kinematics in LightWave 3D or similar software, and create an animated sequence using these principles • Explain and apply Spline Based and NURBS modeling techniques in LightWave 3D or similar software, and create a 3D object using these techniques • Explain and apply morphing animation techniques in LightWave 3D or similar software, and create a an animated sequence using these techniques	

Audio Production -- *Technical Learning Component*

Learner Program Outcomes	**Key Competencies**	**Course Map**
• Demonstrate the ability to define and use the basic terminology of audio production • Demonstrate the ability to use the tools and skills needed to create and edit audio for multimedia projects	*Demonstrate the ability to:* • Accurately define and describe the nature of sound, sound waves, frequency, amplitude, pitch, loudness, interference, and distortion • Apply effectively the basic principles of sound to enhance audio production • Define and use correct audio terminology • Explain the features and purpose of various sound recording equipment • Compare and contrast different microphone types and the directional characteristics of each type • Correctly select, set up & operate microphones for recording in different settings • Compare and contrast the different properties of different audio storage media and explain the advantages and disadvantages of each media • Compare and contrast the basic operational principles of different recording devices and explain the advantages and disadvantages of each device • Explain the differences between analog and digital recording and the basic different technological requirements for each type of recording • Describe the applications and operation of audio signal processing equipment • Describe the signal-to-noise ratio of an audio tape and describe methods to enhance audio signal quality • Describe the main software tools used in sound processing • Edit, process, and modify a simple computer-based audio signal for utilization in a computer application • Explain and correctly use audio industry standards, protocols and file formats • Use various analog- and digital-audio editing, processing and enhancing techniques and tools • Digitize analog audio into a computer-usable form • Record and mix multiple audio tracks into final master tape • Integrate audio into the multimedia project • Create and export an audio file for use in an Internet streaming application • Analyze final audio production for effectiveness; make recommendations for process modification • Assess effectiveness of audio style in light of the intended purpose and audience • Organize and manage the audio production process • Select and utilize a suitable distribution method for an audio production	Many of the competencies are introduced or emphasized in: • Video Field Production (Media 210) • Studio Video Production (Media 212) • Intermediate Video Production (Media 214) • Graduation Production (Media 245) Some of the competencies are also introduced or covered in: • Visual Literacy (Media 103) • Computer Essentials for Digital Media (Media 109) • Web/ Multimedia Foundations (Media 110) • Digital Video Editing (Media 220) • 2-D Animation (Media 235) • 3-D Animation (Media 237) Every project requiring students to produce audio sequences helps students practice many of these competencies.

Computer Utilization – *Technical Learning Component*		
Learner Program Outcomes • Demonstrate the ability to use proficiently office computer software and hardware	**Key Competencies** *Demonstrate the ability to:* • Define and use appropriately basic computer terminology, such as RAM, CPU, internal and peripheral hardware, and network terminology • Correctly use the Macintosh operating system, desktop, control panel and settings, including extensions, preferences and drivers • Correctly use of the Windows/PC operating system, desktop, control panel and settings, and directories • Perform file management procedures such as saving, transferring, deleting and copying of files on floppies, cartridges, networks and other directories • Perform memory management procedures for running various software • Use hardware and software in a safe manner, with respect to connecting, disconnecting and powering up peripheral hardware and the CPU • Correctly use peripherals, including scanners, CD-ROMS and cartridge drives • Define typical file types such as TIFF, EPS, PICT, BMP, JPEG, GIF and perform file conversion within and between platforms • Explain the difference between shareware, freeware, and proprietary software in terms of copyright and fair use, and define what constitutes software piracy • Access, select and load clip art and clip media from floppies, CD's and network pub folders on both platforms • Successfully transfer files from a Macintosh version of a file to a PC version of that same or similar software • Use email effectively and appropriately • Explain & utilize Internet based search engines to seek & retrieve specific info • Incorporate effective search strategies into Internet-based information retrieval • Create word-processing documents, such as letters, memos, reports, and newsletters, with graphics and objects from multiple software applications • Use, modify and troubleshoot simple databases • Use presentation software & hardware to develop & deliver business overviews • Run multiple applications at same time; import/export data between applications • Install and perform basic configuration on office software products • Download and install upgrades from the Internet • Use and perform basic configuration and troubleshooting on hardware	**Course Map** Many of the competencies are introduced or emphasized in: • Computer Essentials for Digital Media (Media 109) Some of the competencies are also introduced or covered in: • Web/ Multimedia Foundations (Media 110) These competencies are practiced to a varying degree in most of the program courses.

Copyright and Law -- *Technical Learning Component*		
Learner Program Outcomes • Demonstrate the ability to explain the trends in copyright laws and legal issues in the use and development of media communication • Demonstrate the ability to work within the media copyright and legal regulatory environment	**Key Competencies** *Demonstrate the ability to:* • Define copyright terminology and resent copyright regulations • Explain how copyright laws affect your ability to use and reproduce others' work • Explain the process of obtaining permission to use copyrighted material • Explain the process of protecting one's work from general use • Define and explain the concept of "fair use" and its application to electronic media • Explain the primary types, elements and limitations of licensing agreements, and give examples • Explain and analyze typical terms set by publishing companies for the use of copyrighted media content • Negotiate licensing agreements for media content from a wide range of providers • Discuss the current issues and trends affecting ownership of media content • Discuss the issues of, and the general terms covering intellectual property in the context of employer/employee or employer/consultant agreements • Explain the legal and union issues involved in hiring professional talent for media projects • Negotiate employment terms with talent agencies • Explain and analyze typical terms set by union organizations and agencies in talent contractual agreements • Discuss the responsibilities and limitations enforceable or implied in a contractual agreement • Discuss the financial and professional ramifications of failing to meet contractual obligations (both on the client and contractor side) • Discuss what legal and arbitration processes and resources are available to contractors and clients to resolve contractual issues • Discuss the legal issues and trends of publishing and selling on the Internet	**Course Map** Many of the competencies are introduced or emphasized in: • Media Law (Media 108) • Script Writing for Film, Video, and Multimedia (Media 216) Some of the competencies are also introduced or covered in: • Computer Essentials for Digital Media (Media 109) • Raster Graphics (Media 225) • Vector Graphics (Media 227) Every project requiring students to produce multimedia products using media content produced by others helps students practice many of these competencies.

Database -- *Technical Learning Component*		
Learner Program Outcomes • Demonstrate the ability to define and use the basic terminology of relational databases • Demonstrate the ability to use the tools and skills needed to create and utilize databases • Demonstrate a basic understanding of databases in their current and projected uses in multimedia	**Key Competencies** *Demonstrate the ability to:* • Present the basic principles of database theory and database organization • Present and discuss issues of database and server security • Explain database design concepts and define database components • Utilize relational databases effectively • Design simple database structures • Create and edit tables • Identify and create relationships between tables • Create and modify simple queries • Explain the different types of queries and their purpose • Use appropriate Boolean functions (AND, OR, NOT) in designing query statements • Create, modify and customize simple reports • Create, modify and customize simple forms • Import and export database information from and to other applications • Explain the use of databases and information in the business environment • Explain the use of databases in multimedia projects • Develop database business applications • Establish different levels of user permissions for reading and entering data into a database • Integrate an existing database into an Internet document	**Course Map** Many of the competencies are introduced or emphasized in: • Web/ Multimedia Foundations (Media 110)

Drawing and Graphic Design -- *Technical Learning Component*

Learner Program Outcomes	**Key Competencies**	**Course Map**
• Demonstrate the ability to define and use the basic terminology of drawing and graphic design • Demonstrate the ability to use the tools and skills needed to create drawings and graphics for a wide range of applications	*Demonstrate the ability to:* • Use drawing to effectively render a concept • Effectively use line, space, and perspective in a drawing • Define and use appropriately drawing and graphic design terminology • Explain and use 2-D design principles including lighting and perspectives • Explain and use the various color systems and standards • Explain and use the principles of color selection and balance • Explain the differences and use of various image file formats, and convert between formats • Explain the main features of, and use effectively main graphic software programs • Explain how the application impacts the selection of design, layout & colors • Create effective illustrations for a wide range of applications • Explain and appropriately use printing terminology and standards • Compare various graphic software programs for features and performance • Select best graphic software programs for specific application • Analyze illustrations and designs for effectiveness of conveying message • Analyze illustrations and designs for style and fit with the rest of the production • Develop a portfolio of drawings and graphic designs for a wide range of multimedia applications • Compare and contrast raster and vector graphics Raster Graphics • Define the term "raster" and explain its importance in digital graphics • Explain the photographic metaphor inherent in raster graphics • Explain the term pixel and how it relates to raster graphics • Scan an image and convert it into a raster image, and explain the importance of the term resolution in this process • Use a raster graphic application to perform photo correction on a raster image	Many of the competencies are introduced or emphasized in: • Digital Imaging Foundations (Media 125) • Raster Graphics (Media 225) • Vector Graphics (Media 227) Some of the competencies are also introduced or covered in: • Visual Literacy (Media 103) • Computer Essentials for Digital Media (Media 109) • Web/ Multimedia Foundations (Media 110) Every project requiring students to create drawings or graphics helps students practice many of these competencies.

	• Accurately mask a predetermined area of a bitmapped image in order to apply special effects, color correction, and other modifications • Convert a 32bit raster image to an 8bit image, and explain the role of a color palette in this process • Discuss the process of image compression, apply compression to a raster image, and compare the relative size of the compressed and uncompressed files • Discuss the file formats that are relevant to raster image manipulation • Use batch processing to size and convert a number of raster images • Create an illustration using a raster graphic application Vector Graphics • Define and explain the characteristics of vector graphics • Explain the relevance of a path and use one to help crate a vector image • Discuss the difference between Bezier curves in vector graphics and their manipulations in raster graphics applications • Use fills and gradients in a vector-based shape • Discuss the merits of vector graphics for resolution-independent imaging and printing • Create an illustration using a vector graphic application	

Industry History and Trends -- *Technical Learning Component*

Learner Program Outcomes	**Key Competencies**	**Course Map**
• Demonstrate the ability to explain industry trends in technology and applications • Demonstrate an understanding of the legal, ethical, and moral issues of media communication • Demonstrate an understanding of the social impact of media communication and technology	*Demonstrate the ability to:* • Give a generic definition of, and explain the differences between multimedia, interactive media and hypermedia • Explain the evolution in the use of media communication • Explain the evolution of media technology • Discuss how the trends in media technology impact the use of media communication • Present the trends and history of specific media genres, such as animation, video, illustrations, in the context of multimedia applications • Explain the different uses of media communication in business, education and society • Discuss the impact of media communication on business, education and society • Present the issues of copyright, ownership and licensing in the context of media publishing and product development • Present the ethical and moral issues in the use of media communication in business, education and society • Explain the different features that make a computer media development workstation • Present the current and possible future trends in media technology • Discuss what social and legal factors will impact the use of media communication in the future • Discuss the history and trends in Internet use, and the implication of Internet commerce on the media business and society	Many of the competencies are introduced or emphasized in: • Exploring the Digital Future (Media 101) • The Media of Persuasion (Media 102) • Multi-Cultural Media Images (Media 104) • Script Writing for Film, Video, and Multimedia (Media 216) • Web Design (Media 230) • 2-D Animation (Media 235) • 3-D Animation (Media 237) • Internet Objects (Media 238) • Portfolio and Employment (Media 248) • Internship in Media (Media 250) Some of the competencies are also introduced or covered in: • Visual Literacy (Media 103) • Media Law (Media 108)

		• Video Foundations (Media 112) • Digital Imaging Foundations (Media 125) • Video Field Production (Media 210) • Studio Video Production (Media 212) • Multimedia Authoring (Media 223) • Programming for Web Authors (Media 240)

Interface Design -- *Technical Learning Component*		
Learner Program Outcomes • Demonstrate the ability to explain the basic principles of effective interface design • Demonstrate the ability to design effective interfaces • Demonstrate the ability to adapt interface design to audience and subject	**Key Competencies** *Demonstrate the ability to:* • Identify the needs of the target audience • Incorporate project goals into interface design specifications • Organize project content into logical components • Map navigational links to logical project components • Explain screen layout impact on product usability • Explain media selections impact on product usability • Explain how an interface should be designed to adapt to the psychological profile of the user • Identify commonly used interface elements and explain their use • Utilize effective metaphors in interface design • Identify and utilize effective interface feedback • Apply basic design principles of page layout to interface design including color, line, balance, white space, contrast, repetition, alignment, and proximity • Explain why consistency is important in interface design, and apply consistency in actual design • Design and implement interface testing, analyze test results, and modify design accordingly • Analyze interface for usability and effectiveness in accomplishing project goals • Create an interactive interface that exhibits the essential aspects of good interface design	**Course Map** Many of the competencies are introduced or emphasized in: • Multimedia Authoring (Media 223) Some of the competencies are also introduced or covered in: • Script Writing for Film, Video, and Multimedia (Media 216) • Graduation Production (Media 245) Most multimedia production projects help students practice many of these competencies.

Math, Science and Logic for Multimedia -- *Technical Learning Component*

Learner Program Outcomes	Key Competencies	Course Map
• Demonstrate the ability to explain and apply the basic math and science principles as they relate to multimedia	*Demonstrate the ability to:* • Explain and apply the principles of perspectives and lighting in 2-D design • Explain and apply the principles of perspectives and lighting in 3-D design • Explain and apply the principles of proportion as it applies to design • Explain and apply the principles of perspective and lighting in moving shapes • Explain and apply the principles of decomposition of movement • Explain and apply the principles of color combination • Define and measure sound waves, frequency, amplitude, pitch and loudness • Explain and apply the principles of sound interference and distortion to improve sound quality • Explain the difference between analog and digital signal, and convert between the two forms • Explain the principles of, and use electronic equipment for sound recording • Explain the principles of signal-to-noise ratio and increase signal-to-noise ratio in a given system • Explain and apply the principles of optics and show how they apply to photography • Explain and exercise logic principles and reasoning, and apply to planning, production and problem solving • Apply logic principles when structuring computer instructions • Explain and apply basic statistical analysis in the context of designing and analyzing test and survey programs • Discuss how and where specific math and science principles come into play in a media project • Discuss how a thorough understanding of underlying math and science principles would enhance a media production	Some of the competencies are introduced/covered in: • Web/ Multimedia Foundations (Media 110) • Video Foundations (Media 112) • Digital Imaging Foundations (Media 125) • Video Field Production (Media 210) • Studio Video Production (Media 212) • Intermediate Video Production (Media 214) • Digital Video Editing (Media 220) • Digital Audio (Media 222) • Multimedia Authoring (Media 223) • Raster Graphics (Media 225) • Vector Graphics (Media 227) • 2-D Animation (Media 235) • 3-D Animation (Media 237) • Internet Objects (Media 238) • Character Animation (Media 239) • Programming for Web Authors (Media 240)

Multimedia Authoring -- *Technical Learning Component*		
Learner Program Outcomes • Demonstrate the ability to define and use the basic terminology and principles of multimedia authoring • Demonstrate the ability to use the tools and skills needed to create multimedia products	**Key Competencies** *Demonstrate the ability to:* • Briefly explain the concept of hypermedia and compare its processes with that of the human perception-analysis-response process • Define and correctly use multimedia terminology, such as authoring, import, media, script, sprite, handler, event interface, feedback, user • List and explain file formats commonly used in multimedia authoring in the areas of graphical images (raster and vector), animation formats, digital video, digital sound, and text • Present and discuss the following multimedia production metaphors: card, frame, and object • Explain the main features of the different programming languages used in authoring systems • Compare the primary features of commonly used authoring tools • Select the appropriate authoring tool for the specific platform and the specific application • Use proficiently most commonly used authoring tools for both the MacIntosh and PC/Windows environments • Discuss the current and future trends in authoring tools • Discuss issues of hardware and software compatibility as they relate to authoring tools • Explain the importance of style, layout, introduction, credits, flow, and animation in a multimedia production • Present the selection criteria for each communication medium and select an applicable digital media to adequately support a given communication message • Create a multimedia project that utilizes two or more digital media in a hypermedia application that successfully performs a specific communication task • Successfully port a multimedia application authored on one platform to another platform, and discuss the similarities and differences in authoring for each platform • List the personnel of a multimedia development team and explain the roles	**Course Map** Many of the competencies are introduced or emphasized in: • Video Field Production (Media 210) • Studio Video Production (Media 212) • Intermediate Video Production (Media 214) • Multimedia Authoring (Media 223) Some of the competencies are also introduced or covered in: • Comp. Essentials for Digital Media (Media109) • Digital Video Editing (Media 220) • 2-D Animation (Media 235) • 3-D Animation (Media 237) • Internet Objects (Media 238) • Graduation Production (Media 245) Every multimedia project helps students practice many of these competencies.

	of each team member • Present and perform the production steps of a multimedia development project, including: design of individual module's graphics and navigation, development of individual modules as part of a production team, production and digitization of video sequences, creation of final interactive sequences and appropriate navigational pathways through the use of authoring software, testing and evaluation of modules • Explain the basic elements of a production budget, including above-the-line and below-the-line budget items and making a profit	

Script Writing -- *Technical Learning Component*

Learner Program Outcomes	**Key Competencies**	**Course Map**
• Demonstrate the ability to create an effective message and develop a well written script for a wide range of media projects	*Demonstrate the ability to:* • Develop a script outline that effectively supports the message and flow of the project • Research a specific topic to support accuracy and completeness of script • Adapt style of writing, level of detail and complexity, and organization to audience and message • Use a creative writing style that holds the interest of the client • Use the right balance of emotions, information, imagination and persuasion to achieve intended purpose • Sustain a definite focus and point of view, and link ideas in a progressive, flowing sequence • Develop script that supports the navigation schema of the media project • Write draft, revise and finalize script • Validate script with other members of the team and clients • Integrate script with the media elements in an cohesive manner • Analyze the effectiveness of the script in the final product • Develop a portfolio of scripts for a wide range of media applications and audiences • Write effectively in a wide range of styles, such as dialogue, documentary, educational and promotional	Many of the competencies are introduced or emphasized in: • The Media of Persuasion (Media 102) • Video Foundations (Media 112) • Video Field Production (Media 210) • Studio Video Production (Media 212) • Intermediate Video Production (Media 214) • Script Writing for Film, Video, and Multimedia (Media 216) • Multimedia Authoring (Media 223) • Internet Objects (Media 238) • Graduation Production (Media 245) • Written Composition (ENGL 101) Some of the competencies are also introduced or covered in: • 2-D Animation (Media 235) • 3-D Animation (Media 237) • Character Animation (Media 239)

Scripting and Programming -- *Technical Learning Component*		
Learner Program Outcomes • Demonstrate a knowledge of basic programming principles and programming structures • Demonstrate the ability to design, code, build, test and troubleshoot basic custom programs for multimedia applications	**Key Competencies** *Demonstrate the ability to:* • Explain the purpose and applications of computer programs in multimedia • Describe and explain the steps of program development and program life cycle • Describe and explain the main differences between programming languages and programming styles, and explain which ones are best suited for multimedia applications • Explain and apply the principles and process of program design • Explain the differences between object oriented programming and an object model • Explain the differences between object oriented programming and procedural programming • Explain the terms method, property, and birth in relation to object oriented programming • Discuss data types and explain their differences: string, character, floating point, value • Utilize simple data structures, such as using an array to store values • Use appropriate operators, functions and procedures in the writing of a program • Discuss the importance of events and handlers in the creation of an interactive application • Write a function that is called from a handler, is passed and argument list, and returns a value • Discuss the role of variables in an application, and write a program that takes advantage of variables • Define the following terms: syntax, parsing, string, integer, floating point value • Write a program that uses a looping structure (for loop) for program control • Write a program that uses a conditional statement (if statement) for program control • Explain the role of predefined functions and objects in a programming	**Course Map** Many of these competencies are introduced or emphasized in: • Internet Objects (Media 238) • Programming for Web Authors (Media 240)

	language and write a program that takes advantage of functions and objects • Use Boolean logic to create a compound Boolean statement that uses an "AND" (&&) or "OR" (||) operator • Explain the importance of creating an algorithm as part of program design and discuss the role of pseudo code in this process • Explain the importance of, and the recommended practices for testing and debugging in program development • Present and use appropriately debugging tools and principles • Explain and apply the documentation process throughout the program life cycle • Explain the difference between an interpreted and compiled programming language and how each relates to modern day program creation • Create a program that uses an array as a data structure and uses indexing to access elements of the array • Develop programs for specific multimedia applications	

Story Telling -- *–Technical Learning Component*		
Learner Program Outcomes • Demonstrate the ability to develop a creative and cohesive story that supports the media theme and style	**Key Competencies** *Demonstrate the ability to:* • Develop and summarize the overall theme for the media project • Present idea/theme for a project to potential clients using persuasive techniques • Research a specific topic to support accuracy and completeness of the story • Adapt style of story, level of detail and complexity, and organization to audience and message • Identify the main components of the story, including setting, characterization, plot, climax, conflict and resolution • Develop story outline that effectively supports the message and the flow • Identify conflicts in the story line, and explain the relevance of conflict as a story telling vehicle • Show creativity in resolving conflicts in story-line • Create interesting and coherent characters, and identify the protagonists and antagonists of the story • Discuss how the audience might identify with the characters, and how this supports or undermines the purpose of the story • Create interesting dialogs consistent with the characters & style of the story • Create interesting story-lines with creative transitions and turns • Thoroughly and effectively present the setting at the beginning of the story to orient and anchor the audience • Use humor when appropriate, create excitement and a sense of adventure that is appropriate for the purpose and audience • Explain the need for developing a voice in the story, and establish coherence and continuity of voice throughout the story • Write stories from very different perspectives and points of views, such as first person, third person and omniscient • Develop stories in a wide range of styles for various purposes and audiences • Validate story-line with other members of the team and customers • Analyze the effectiveness of the story in the final product • Develop stories in a wide range of styles	**Course Map** Many of the competencies are introduced or emphasized in: • Video Foundations (Media 112) • Video Field Production (Media 210) • Studio Video Production (Media 212) • Intermediate Video Production (Media 214) • Script Writing for Film, Video, and Multimedia (Media 216) • Character Animation (Media 239) • Graduation Production (Media 245) • Written Composition (ENGL 101) Some of the competencies are also introduced or covered in: • The Media of Persuasion (Media 102) • Visual Literacy (Media 103)

Testing and Validation -- *Technical Learning Component*		
Learner Program Outcomes • Demonstrate the ability to develop and implement an effective testing and user validation program that supports all phases of the development process	**Key Competencies** *Demonstrate the ability to:* • Develop a test plan that meets the goals and scope of the project, and company policies • Develop specific testing processes and procedures • Design specific performance and usability tests to measure critical elements of the project at critical times in the project schedule • Design testing program to uncover hardware compatibility and functionality problems during the development phase of the project • Select and apply efficiently appropriate testing tools and techniques • Conduct tests in the most efficient way • Analyze and document test results in a complete and unbiased manner • Define the sample population characteristics for user validation testing • Define the target audience, the feedback process and the testing procedure for each series of validation tests • Plan and coordinate client acceptance testing • Summarize test results and draw appropriate recommendations • Implement changes based on test results, and communicate results and recommendations to appropriate team members • Evaluate the effectiveness of the testing plan and procedures on a continuous basis • Assess overall product effectiveness and performances, and perform summative evaluation • Explain the impact of company policies on test plans • Identify appropriate timing at different phases of the project to implement testing • Analyze effectiveness of overall testing plan and make recommendations • Develop cost/benefit analysis of alternate testing plans	**Course Map** Many of these competencies are introduced or emphasized in: • Multimedia Authoring (Media 223) • Graduation Production (Media 245) Every project requiring students to validate their production with a client helps students practice many of these competencies.

Video Production -- *Technical Learning Component*

Learner Program Outcomes	**Key Competencies**	**Course Map**
• Demonstrate the ability to define and use the basic terminology of video production • Demonstrate the ability to use the tools and skills needed to create video productions	*Demonstrate the ability to:* • Describe the NTSC video scanning process and explain how an image is transferred from reality to video tape • Describe helical magnetic recording and its role in video • Describe the process involved in converting analog video to digital video • Correctly and safely set up and operate a VHS video camcorder to record a stable, focused, usable image with correct color balance and audio • Correctly set up and operate a synched video playback system based on decks and monitors • Explain the differences between current scanning systems such as NTSC, PAL, SECAM, etc. • Identify and create different video shot compositions such as Extreme Close-up, Close-up, Medium Shot, Long Shot, etc. • Explain "ten basic laws of composition" and apply them to a video production • Use an analog video editor for assemble and insert editing • Correctly set up & operate video support equipment in a field setting, such as: video monitor, audio monitoring equipment, external power sources & batteries • Select and apply proper auxiliary lighting in a field setting to satisfy the three standard requirements of video lighting (base light, natural look, mood) • Select, operate, and monitor auxiliary microphones and mixing equipment to achieve high quality audio • Apply editing techniques (e.g., pacing, continuity, beat edits, back-timing, etc.) to the video project • Explain and show the basic operation of an industrial studio video camera, its adjustment and controls, and its support equipment, as well as its role in the studio production process • Effectively & efficiently serve in one of the following studio production personnel positions in a T.V. studio: floor director, camera person, lighting director, audio director, technical director, associate director, director, producer • Identify, install, maintain, and operate the main types of studio lighting instruments and lighting circuitry found in a television studio • Apply production planning techniques of camera blocking, talent direction, shot selection, and audio planning to a talk-show-format studio production	Many of the competencies are introduced or emphasized in: • Video Foundations (Media 112) • Video Field Production (Media 210) • Studio Video Production (Media 212) • Intermediate Video Production (Media 214) • Digital Video Editing (Media 220) • Graduation Production (Media 245) Some of the competencies are also introduced or covered in: • Visual Literacy (Media 103) • Computer Essentials for Digital Media (Media 109) • Web/ Multimedia Foundations (Media 110) Every project requiring students to produce video sequences helps students practice many of these competencies.

	• Direct a 60-second commercial that includes camera movement, multiple shots, audio, lighting, and talent • Direct a 15-minute, 3-person-on-camera discussion program including at least one video insert, music at opening and closing, and electronic titles and credits • Apply advanced off-line and on-line editing techniques in the production of commercials, informational videos, and theatrical productions • Use effective layout techniques for video graphics • Incorporate three-point lighting techniques in the field and studio to achieve different moods and effects • Direct talent, equipment, and crew in an on-location production • Write and manage a video production timeline • Set up and operate a non-linear editing system • Explain and apply effective digital video compression techniques • Explain gamma correction and apply it to a digital video clip • Compare and contrast digital video file formats such as video for Windows (AVI), QuickTime, MPEG, etc. • Explain the difficulties of synchronizing a video signal with audio and present current digital solutions • Explain the principles involved in digital video streaming technologies and create a streaming video clip • Compare and contrast the differences between analog and digital video and between linear and non-linear editing • Utilize a video capture solution to perform the following tasks: capture and save analog video clips, edit captured clips to suitable length to maximize storage efficiency, compress clips to further enhance storage efficiency, capture still images as digital video files, and capture audio as digital video files • Use a computer-based editing system to perform the following tasks: import and edit raw video clips, construct simple video sequences, utilize A/B roll-style transitions, utilize superimposed and layered video effects, create and utilize title and graphic sequences, create and utilize simple video animation • Compare and contrast the system requirements for computer output to VHS, SVHS, and other broadcast video formats • Capture and edit an audio sequence; combine it with a digital video sequence • Explain the basic elements of a production budget, including above-the-line and below-the-line budget items and making a profit	

Visual Design -- *Technical Learning Component*		
Learner Program Outcomes • Demonstrate the ability to create and implement the overall look and feel of a multimedia project in a functional and aesthetic manner	**Key Competencies** *Demonstrate the ability to:* • Select design ideas that can be implemented within the scope, timeline and budget of project • Present ideas to the team and clients, and refine ideas to meet project requirements • Discuss and show the importance of alignment, proximity, repetition, and contrast in visual design • Discuss the rule of thirds and the golden mean; discuss their role in visual design • Discuss color theory and the terms: additive, subtractive, complimentary, color psychology, HSL, RGB, and CMYK • Discuss and show the importance of perspective in visual design • Define and show an example of the following terms: figure, ground, proportion, grid, line, shape, box, border, color, balance, rhythm, harmony, proximity, alignment, repetition, contrast • Compare and contrast the visual elements that make up two-dimensional design • Compare, contrast and give examples of the principles that make up quality design • List, explain and create six spatial cues that give the illusion of depth in a two-dimensional image using vector illustration software • Select and implement a cohesive color scheme that supports the message and the goals of the project • Select a look and colors that supports readability and is pleasing to the audience • Integrate human factors and user interface for visual design • Create and implement basic visual design that is creative and aesthetic, while supporting functionality • Assess visual design for appeal and functionality, and validate visual design with the audience • Integrate all media elements in a cohesive form and aesthetic manner	**Course Map** Many of the competencies are introduced or emphasized in: • Visual Literacy (Media 103) • Video Foundations (Media 112) • Digital Imaging Foundations (Media 125) • Video Field Production (Media 210) • Studio Video Production (Media 212) • Intermediate Video Production (Media 214) • Script Writing for Film, Video, and Multimedia (Media 216) • Digital Video Editing (Media 220) • Raster Graphics (Media 225) • Vector Graphics (Media 227) • Web Design (Media 230) • 2-D Animation (Media 235) • 3-D Animation (Media 237) • Internet Objects (Media 238)

	• Produce and evaluate interactive simulations to finalize the look and feel of the project • Make recommendations for improvement in design process and end product	• Character Animation (Media 239) • Graduation Production (Media 245) Some of the competencies are also introduced or covered in: • Computer Essentials for Digital Media (Media 109)

Web Authoring and Internet Technology -- *Technical Learning Component*		
Learner Program Outcomes • Demonstrate the ability to define and use the basic terminology of Internet technology and web design • Demonstrate the ability to use the tools and skills needed to create web pages • Demonstrate a basic understanding of web design in its current and projected uses in multimedia	**Key Competencies** *Demonstrate the ability to:* • Explain the basic principles and technology behind access and posting of information on the Internet • Define and appropriately use Internet and web terminology • Explain network topology, and describe the functions of Internet related hardware and software • Explain and use basic Internet services including: telnet, email, ftp, www, chat, and newsgroups • Evaluate the services and features of available Internet providers, and, based on client needs, select an appropriate Internet provider • Identify and apply elements of good web page design • Use Internet languages and apply to the development of web documents, including HTML, ASP, JavaScript, Cascading Style Sheets, Dynamic HTML, XML, and Perl • Explain and utilize client and server side scripting • Select and utilize scripting/programming tools to satisfy specific needs • Explain and utilize Internet based streaming technologies • Import object files and convert into appropriate format to imbed into a web page • Add downloadable media-type files to a web page • Create web pages for a wide range of business applications • Compare the features and performance of various web authoring tools • Select and utilize a hit tracking and analysis tool to satisfy specific needs • Select and utilize an appropriate web authoring tool to satisfy specific needs • Select and utilize an appropriate maintenance tool to satisfy specific needs • Create web pages with various levels of complexity, and develop a portfolio of web pages for a wide range of applications • Discuss the future trends in web page applications, and how they may affect web page design and tools	**Course Map** Many of the competencies are introduced or emphasized in: • Web/ Multimedia Foundations (Media 110) • Web Design (Media 230) • Internet Objects (Media 238) • Programming for Web Authors (Media 240)

Analysis and Synthesis– *Foundation Learning Component*

Learner Program Outcomes	**Key Competencies**	**Course Map**
• Demonstrate the ability to gather data to identify project requirements, and to interpret and evaluate the requirements • Demonstrate the ability to identify constraints, generate alternatives, consider risks, and evaluate options • Demonstrate the ability to define the scope of work to meet project requirements and constraints, and develop a proposal outline	*Demonstrate the ability to:* • Identify relevant sources of information for the project • Gather data and extract relevant information to identify project requirements, resources and risks • Analyze information for completeness, relevance, accuracy and consistency and synthesize the information • Identify missing information and find sources to complete requirement set • Identify and analyze areas of conflict in specifications and requirements, make individual assessments of the data set, and synthesize into solution • Identify time, technology and resource constraints • Analyze and resolve conflicts between requirements and constraints • Synthesize information and validate requirement set with clients • Develop concepts including alternatives • Prepare a cost/benefit estimate for each alternative and make recommendations • Identify risks and their impact on the overall project • Analyze and synthesize information and make recommendations, including need for further information • Define general scope of work to meet requirements and constraints • Develop proposal outline including recommendations, alternatives, risks, cost/benefit summary and scope of proposed work • Summarize, communicate and document the information presented in the proposal outline • Develop feedback strategies to monitor the processes of analysis and synthesis • Evaluate the processes of analysis and synthesis, and make recommendations for improvement	Many of the competencies are introduced or emphasized in: • Intermediate Video Production (Media 214) • Script Writing for Film, Video, and Multimedia (Media 216) • Multimedia Authoring (Media 223) • Web Design (Media 230) • Graduation Production (Media 245) Some of the competencies are also introduced or covered in: • Multi-Cultural Media Images (Media 104) • Comp. Essentials for Digital Media (Media 109) • Video Field Production (Media 210) • Studio Video Production (Media 212) • Internet Objects (Media 238) Every course requiring students to research and define the scope of a project helps students practice many of these competencies.

Business Organization and Environment -- *Foundation Learning Component*

Learner Program Outcomes	Key Competencies	Course Map
• Demonstrate the ability to present and discuss contemporary business principles, practices and organization • Demonstrate the ability to present and discuss how computer systems impact the operation and management of business and society	*Demonstrate the ability to:* • Present contemporary business economic issues, principles and practices • Explain the internal and external forces and economic conditions that affect the operation of a business • Explain the legal and social aspects of the business environment • Discuss the social responsibility of business and business ethics • Explain different business organizations, their respective advantages and disadvantages, and how they operate • Discuss the main differences between small businesses and mid-to-large size businesses • Discuss the issues particular to international corporations • Explain the purpose of functional business areas including marketing, finance, accounting, research and development, manufacturing and management • Discuss the role and interactions between different functional groups • Discuss the concepts and issues of business management • Discuss the concepts and issues of human resource management • Explain the concepts and issues of marketing products and services • Explain the basics of promotion and distribution • Explain and appropriately use general business terminology • Explain how and where computers are used in today's business • Describe how computer systems are used in different parts of a business organization • Discuss the impact of information systems on business operations • Describe the impact of computers on access to information and information exchange worldwide • Present ethical issues as they relate to the use of computers and information in today's society • Define information privacy and describe how it has been and is currently affected by computers • Present the positive and negative impacts of computer technology on business and society, and discuss ethical issues in respect to the information age • Give input and analyze long term strategic business plans, and explain the potential impacts on group and individual roles	Many of these competencies are introduced or emphasized in: • Graduation Production (Media 245) • Portfolio and Employment (Media 248) • Internship in Media (Media 250) Some of the competencies are also introduced or covered in: • Script Writing for Film, Video, and Multimedia (Media 216) • Multimedia Authoring (Media 223) • Web Design (Media 230) • Internet Objects (Media 238)

Client Relations -- *Foundation Learning Component*		
Learner Program Outcomes • Demonstrate the ability to effectively listen and ask critical questions to identify clients' issues and concerns • Demonstrate the ability to resolve clients' issues and concerns in a timely and appropriate manner	**Key Competencies** *Demonstrate the ability to:* • Explain the importance of clients in business • Identify client groups in various types of organization • Explain the responsibilities of business towards clients • Summarize and analyze client's inputs • Ask questions that solicit productive input and feedback from clients • Differentiate between clients' actual needs and desires • Communicate product features-cost compromises • Communicate alternatives and options • Respond effectively to clients needs and concerns • Negotiate with clients in a productive manner to arrive at a best-fit solution • Recognize when clients' requests are unreasonable or counter-productive; use creative and effective interpersonal techniques to resolve differences • Recognize when conflicts or issues with clients needs to be escalated, and appropriately involve higher levels in the organization • Communicate project plan, status, risks and contingencies to the clients in a timely manner and in an appropriate level of detail • Solicit feedback from clients and apply input to improve quality of service • Schedule and manage effectively multiple clients requests • Recognize the clients level of experience and expertise, and tailor training and communication accordingly • Deliver solutions that meet client's needs in a timely & appropriate manner • Recognize when a client concern needs to be referred to someone else in or outside the organization • Act as a liaison between technical groups to coordinate delivery of service or product • Recognize proprietary information and respect clients confidentiality • Assess the effectiveness of the client interaction process • Make recommendations for improvement in the client relation process • Follow-up with clients to evaluate the effectiveness of product over a period of time	**Course Map** Many of these competencies are introduced or emphasized in: • Script Writing for Film, Video, and Multimedia (Media 216) • Multimedia Authoring (Media 223) • Graduation Production (Media 245) • Portfolio and Employment (Media 248) • Internship in Media (Media 250) Some of the competencies are also introduced or covered in: • Intermediate Video Production (Media 214) Every project requiring students to interact with a user of a multimedia product helps students practice many of these competencies.

Marketing and Advertising -- *Foundation Learning Component*

Learner Program Outcomes	**Key Competencies**	**Course Map**
• Demonstrate the ability to present and apply the basic principles of marketing and advertising	*Demonstrate the ability to:* • Explain the role of marketing and advertising in an organization • Explain the differences between marketing and advertising, and give examples • Explain the role and impact of media communication and technology on marketing and advertising • Explain and analyze for effectiveness the different forms of marketing and advertising for a wide range of applications • Define the characteristics of the target audience for a specific marketing or advertising campaign • Explain the impact of specific audience characteristics on the selection of the advertising message and medium • Explain the differences between educational and promotional advertising • Explain how marketing campaigns differ between profit and non-profit organizations • Analyze the elements and effectiveness of a wide range of advertisement pieces • Develop effective marketing and advertising messages for a wide range of audiences and products • Analyze the effectiveness of various advertisement pieces in the interaction between the visuals and the message • Explain, apply and analyze the various testing strategies used in marketing and advertising • Explain and work within the legal and ethical environment that affects marketing and advertising campaigns • Explain how ethical and legal constraints on advertising vary between industries and markets • Develop the outlines of a marketing or advertising campaign for a specific audience and product • Develop a portfolio of advertising and promotional samples	Many of the competencies are introduced or emphasized in: • The Media of Persuasion (Media 102) • Visual Literacy (Media 103) • Multi-Cultural Media Images (Media 104) • Script Writing for Film, Video, and Multimedia (Media 216) • Multimedia Authoring (Media 223) • Portfolio and Employment (Media 248) Some of the competencies are also introduced or covered in: • Exploring the Digital Future (Media 101) • Video Foundations (Media 112) • Digital Imaging Foundations (Media 125) • Video Field Production (Media 210) • Studio Video Production (Media 212) • 2-D Animation (Media 235) • 3-D Animation (Media 237)

Oral Communication -- *Foundation Learning Component*

Learner Program Outcomes	**Key Competencies**	**Course Map**
• Demonstrate the ability to select and evaluate appropriate oral communication strategies and styles for a specific purpose • Demonstrate the ability to develop and deliver effective oral presentations • Demonstrate the ability to effectively adapt oral communication strategies and styles to specific audiences	*Demonstrate the ability to:* • Explain the purpose and different uses of oral communication in business and industry, and give examples • Identify appropriate communication process for a specific purpose and situation • Communicate effectively using a wide range of oral communication styles • Use clear, focused, specific, and grammatically correct language • Use precise and accurate technical terminology • Listen and paraphrase effectively to enhance communication process • Sustain a definite focus, and link ideas in a progressive, flowing sequence • Present information persuasively and sustain an argument using appropriate evidence or examples • Be courteous and professional when communicating with others using a degree of formality appropriate to the situation • Ask relevant and clarifying questions; listen effectively for content and underlying issues • Recognize and appropriately respond to audience focus, expertise and need for detail • Communicate effectively with audiences with various degrees of expertise in a wide range of technical and business contexts • Compose and present well organized presentations • Use various presentation technologies • Evaluate effectiveness of communication on a continuous basis by observing the audience and asking for feedback • Be responsive to audience; adjust communication style and content accordingly • Effectively address and resolve conflicts in communication • Prepare and deliver professional presentations appropriate to purpose and intended audience • Show creativity and a positive attitude when technical problems, or other unforeseen difficulties, arise during a formal presentation, and communicate the message effectively through informal methods • Project a professional, confident and upbeat attitude during presentations and interviews	Many of these competencies are introduced or emphasized in: • Exploring the Digital Future (Media 101) • The Media of Persuasion (Media 102) • Multi-Cultural Media Images (Media 104) • Intermediate Video Production (Media 214) • Script Writing for Film, Video, and Multimedia (Media 216) • Multimedia Authoring (Media 223) • Portfolio and Employment (Media 248) • Internship in Media (Media 250) Every course requiring the student to participate in class or in a team, or to make oral presentations, helps students practice many of these competencies.

Planning and Organization -- *Foundation Learning Component*		
Learner Program Outcomes • Demonstrate the ability to develop a project plan that is realistic and that effectively serves the project goals • Demonstrate the ability to organize the different phases of the project in an efficient manner	**Key Competencies** *Demonstrate the ability to:* • Explain the principles of planning for a media project, and identify critical elements of a successful plan • Develop media idea to identify what multimedia elements will be used in the project • Identify media content to be acquired and media content to be developed to complete project • Identify necessary hardware and software, and what is currently available to the project team • Identify current team skills and the need for outside help • Estimate time and resources for each phase of the project • Refine and finalize media idea based on available and negotiable resources and time • Develop project plan organizing project elements, development tasks, resources, schedule and cost in a coordinated framework • Identify necessary feedback and checkpoints at critical steps in the project • Use software tools to support the planning phase, and represent the overall project plan • Communicate project plan with team and solicit feedback from team members to refine plan • Explain the purpose and processes of prototyping and pilots • Develop and organize detailed task list and task schedule, and allocate resources according to task schedule and priority • Identify critical path failure, and develop contingency plans • Document project plan with the level of detail required by the project scope and complexity, and by organization policies • Organize the team to most effectively accomplish the project tasks within schedule and budget	**Course Map** Many of the competencies are introduced or emphasized in: • Computer Essentials for Digital Media (Media 109) • Video Field Production (Media 210) • Studio Video Production (Media 212) • Intermediate Video Production (Media 214) • Script Writing for Film, Video, & Multimedia (Media 216) • Multimedia Authoring (Media 223) • Web Design (Media 230) • Internet Objects (Media 238) • Graduation Production (Media 245) Every project requiring students to develop a multimedia product helps students practice many of these competencies.

Problem Solving -- *Foundation Learning Component*		
Learner Program Outcomes • Demonstrate the ability to select, implement and evaluate appropriate problem solving techniques and tools • Demonstrate the ability to effectively adapt problem solving techniques to specific situations	**Key Competencies** *Demonstrate the ability to:* • Recognize a wide range of problems, and assess their impact on the system • Use a wide range of troubleshooting methods and tools to isolate problems • Select the appropriate approach to identify causes of the problem based on the given situation • Perform systematic analysis and a logical process to identify problem causes using the best available tools and resources • Listen for input and ask critical questions to identify the problem and its possible causes • Select the tools and methods most appropriate to resolve the problem • Identify, develop and test potential solutions, and develop resolution plan in line with available resources • Identify potential risks in implementation, assess cost/benefit of alternatives (including non-implementation), and make recommendations • Assess the risks and benefits of parallel solutions • Communicate and implement solution in a manner that minimizes risk and disruption to productivity • Document and communicate problem, analysis and resolution process, solution and outcome • Develop a solution implementation strategy; document and communicate the implementation plan • Monitor the implementation process and readjust to better meet goals • Communicate problem causes and resolution with users and other critical parties • Follow-up after resolution to ensure system performance and user satisfaction • Develop recommendations for prevention of problem recurrence • Evaluate effectiveness of processes, tools and communication used in problem resolution; develop recommendations for continuous improvement • Assess the team process in problem solving and make recommendations for improvement	**Course Map** Most courses in this program help students practice many of these competencies. In particular, courses involving multimedia production.

Professionalism -- *Foundation Learning Component*		
Learner Program Outcomes • Demonstrate successful work environment-related attitudes and skills • Demonstrate the ability to establish and maintain professional relationships	**Key Competencies** *Demonstrate the ability to:* • Explain the basics of, and rationale for work ethics • Give examples of behaviors that support and behaviors that undermine the functioning of the organization • Discuss issues of confidentiality, and explore behaviors and procedures to support company's policies in data confidentiality • Explain the purpose of a hierarchical structure and the various forms of organizational structures • Explain what contributes to a productive environment • Give examples of behaviors that contribute to professionalism • Explain how personal values impact one's work performance • Explain cultural differences and how they affect an organization • Explain how organization culture/goals impact performance & attitude expectations • Identify characteristics of effective leaders • Identify employer expectations regarding job performance and attitudes • Define one's role and responsibilities in a given context • Take pride in one's work and assume responsibility for personal actions • Work effectively within the organization hierarchy and reporting procedures • Display positive attitude & professional image; foster productive environment • Make effective decisions and display initiative in a wide range of contexts • Display leadership skills in a variety of contexts • Assess one's performance against expectations • Ask for, and accept constructive criticism; exhibit continual growth based on feedback and performance evaluation • Seek/use feedback on personal performance and effectiveness from a wide range of sources • Develop personal strategies to improve performance • Explain the need and benefits of maintaining a strong professional network • Recognize/effectively use opportunities & forums to establish professional relationships • Foster and develop a successful professional network • Adapt one's professional network to one's professional goals	**Course Map** Many of the competencies are introduced or emphasized in: • Graduation Production (Media 245) • Portfolio and Employment (Media 248) • Internship in Media (Media 250) Some of the competencies are also introduced or covered in: • Web/ Multimedia Foundations (Media 110) Every course should emphasize the practice by students of many of these competencies.

Project Documentation -- *Foundation Learning Component*		
Learner Program Outcomes • Demonstrate the ability to select and use documentation formats, meeting the intended purpose and the guidelines of the organization • Demonstrate the ability to develop effective and accurate documentation appropriate to various audiences and purposes	**Key Competencies** *Demonstrate the ability to:* • Explain the purpose and different uses of documentation formats in business and industry • Give examples of different documentation formats, and select appropriate format for specific purpose • Use various project documentation styles and formats, and analyze effectiveness in meeting the intended purpose and the needs of the target audience • Develop an outline for the project document that meets the purpose • Use clear, focused, specific, and grammatically correct language and terminology • Develop complete and accurate technical specifications • Present information in a well organized pattern and sustain a definite focus • Summarize, paraphrase and synthesize information effectively • Present complex ideas and pose critical questions • Present information persuasively and objectively • Integrate multiple items of information and reconcile conflicting information • Write in a concise and precise form appropriate for project communication with the appropriate level of technical detail and complexity • Incorporate appropriate visual elements in documents to support the text • Adapt writing style and technical content to suit different technical levels and different audiences • Discuss the impact of and use appropriate guidelines in the development of documents • Learn and use effective strategies for collaborative work in preparing documents	**Course Map** Many of the competencies are introduced or emphasized in: • Intermediate Video Production (Media 214) • Web Design (Media 230) • Internet Objects (Media 238) • Graduation Production (Media 245) Some of the competencies are also introduced or covered in: • Multimedia Authoring (Media 223) Most multimedia projects require the students to practice many of these competencies.

Project Management -- *Foundation Learning Component*		
Learner Program Outcomes • Demonstrate the ability to explain the basic terminology, principles and techniques of project management • Demonstrate the ability to select, implement and evaluate appropriate project management techniques and tools • Demonstrate the ability to effectively adapt project management techniques to specific situations	**Key Competencies** *Demonstrate the ability to:* • Explain and appropriately use project management terminology • Explain the different phases and elements of project management • Evaluate project requirements; clearly define and articulate project scope and goals • Identify stakeholders, decision-makers and escalation procedures • Develop detailed task list and analyze relationships between tasks and the overall project • Organize and prioritize tasks, develop general project flow chart, identifying critical tasks and task interdependencies • Identify project time, personnel, budget and equipment requirements • Map resource requirements to resource availability, secure necessary resources and use resources effectively • Identify, evaluate and monitor risks throughout the project, and prepare contingency plans • Develop performance measurement processes • Identify critical milestones, project performance, budgets & use of resources • Anticipate and resolve conflicts as they arise • Identify and implement escalation procedures when appropriate • Use evaluation information to adjust activities to meet goals • Identify a critical path failure; implement contingency plans when necessary • Participate in and actively contribute to project reviews • Document & report project status in timely manner using appropriate channels • Work effectively within the system, with team members and the organization • Adapt project management style to project team and specific environment • Adapt and redirect the project management process and project tasks to meet changing requirements and unanticipated events • Analyze project management process and make recommendations for improvement	**Course Map** Many of the competencies are introduced or emphasized in: • Video Field Production (Media 210) • Studio Video Production (Media 212) • Intermediate Video Production (Media 214) • Script Writing for Film, Video, and Multimedia (Media 216) • Multimedia Authoring (Media 223) • Web Design (Media 230) • Internet Objects (Media 238) • Graduation Production (Media 245) • Internship in Media (Media 250) Some of the competencies are also introduced or covered in: • Comp. Essentials for Digital Media (Media109) Every in- or out-of-class project helps students practice many of these competencies.

Research -- *Foundation Learning Component*

Learner Program Outcomes	**Key Competencies**	**Course Map**
• Demonstrate the ability to identify and use traditional and non-traditional sources of information. • Demonstrate the ability to apply effectively and choose appropriately from a variety of research methods and tools. • Demonstrate the ability to analyze, organize and present research material.	*Demonstrate the ability to:* • Clearly state the purpose of the research for a given project • Estimate the scope for the research based on goals and available resources • Identify resources and topics in line with scope of the project • Use effectively a wide range of research strategies and sources of information • Use effectively oral, written and on-line sources of information • Identify non-traditional sources of information such as business leaders, community leaders, museum staff, field trips and advisory committees. • Use various Internet search techniques and tools to locate information. • Develop and implement research process • Gather and organize research information • Analyze the information for relevance to project • Analyze the research results for completeness and accuracy • Recognize and resolve conflicts between information from different sources • Present and analyze different points of view on a given topic • Synthesize and summarize the information • Present the research results in an appropriate format and language, including references • Analyze the effectiveness of different research tools and sources based on the research goals • Reformat the research and summary findings for different purposes and audiences	Many of the competencies are introduced or emphasized in: • The Media of Persuasion (Media 102) • Multi-Cultural Media Images (Media 104) • Web/ Multimedia Foundations (Media 110) • Graduation Production (Media 245) • Portfolio and Employment (Media 248) Some of the competencies are also introduced or covered in: • Exploring the Digital Future (Media 101) • Raster Graphics (Media 225) • Vector Graphics (Media 227) Many multimedia projects require the students to practice these competencies.

Self Development -- *Foundation Learning Component*		
Learner Program Outcomes • Demonstrate the ability to identify and close gaps between one's knowledge and skills, and those required by the situation • Demonstrate the ability to identify sources of learning/training most appropriate for the topic and context, and for one's personal learning style • Demonstrate the ability to formulate and implement a personal development plan	**Key Competencies** *Demonstrate the ability to:* • Describe different learning styles, and explain which learning strategies best apply to each style • Identify own learning style and preferences in acquiring information • Assess the effectiveness of various learning forums in light of the subject or skill being taught • Recognize what skills and knowledge are needed to work on a specific project or in a specific environment • Anticipate the needs for new skills and knowledge based on changes in responsibilities and/or technologies • Assess personal skills and knowledge against identified needs • Research options for training and education • Evaluate effectiveness of training and education in the context of identified needs, and available time and resources • Acquire new knowledge and skills in a wide range of contexts and formats • Take advantage of on-the-job/on-the-project self-learning opportunities • Ask for informal training from others, and learn from others' experience and knowledge • Build upon one's strengths to effectively meet the needs of the project and the environment • Assess one's readiness for further training • Evaluate the portability of one's skills to new areas of application • Develop a personal training and education plan • Follow through with commitments to develop new skills and knowledge, or further develop existing skills and knowledge • Select training or education forums that best meet needs, and available time and resources • Explain the importance of continuous learning in a technology environment • Explain the impact of the organization culture on skill expectations	**Course Map** Many of the competencies are introduced or emphasized in: • Graduation Production (Media 245) • Portfolio and Employment (Media 248) • Internship in Media (Media 250)

Task Management -- *Foundation Learning Component*		
Learner Program Outcomes • Demonstrate the ability to organize multiple tasks in the most effective way, and allocate time and energy according to task complexity and priority • Demonstrate the ability to evaluate task outcomes and continuously improve organization process	**Key Competencies** *Demonstrate the ability to:* • Break down projects and activities into a series of tasks • Develop task list that is realistic and in line with expectations • Identify task priorities and interdependencies, and organize in a logical sequence • Explain impact of one's work on the project and other project members • Estimate time and resources necessary to complete specific tasks • Recognize conflicts in the use of resources or in goals between separate tasks • Develop personal work schedule and processes that meet expectations and align with personal work style • Conduct effectively and monitor several tasks simultaneously • Show initiative in task accomplishment and scheduling • Accomplish tasks in an efficient manner and on schedule • Assess one's work process in terms of effectiveness • Devise ways to improve one's work processes • Develop and implement monitoring processes and check-points • Monitor and evaluate tasks performance and completion against project plan and standards • Make process improvements and adjustments as tasks progress • Communicate and report problems in a timely manner • Generate and communicate task status reports to peers and managers • Recognize when a task is completed to expectations • Be flexible in task organization and be responsive to unplanned demands • Anticipate and prepare for changing work loads • Assess task assignments against perceived role and responsibilities • Delegate responsibilities to others when appropriate	**Course Map** Every course should emphasize the practice by students of these competencies.

Team Work -- *Foundation Learning Component*		
Learner Program Outcomes • Demonstrate the ability to work collaboratively in a team setting • Demonstrate the ability to work and communicate effectively with people of different backgrounds and expertise in a group environment • Demonstrate the ability to recognize expertise and to learn from others	**Key Competencies** *Demonstrate the ability to:* • Explain the role of team work in various settings and organizations • Explain different team processes, roles and group dynamics, their purposes, advantages and disadvantages • Select a specific team process to meet the team's goals • Use effectively a variety of listening, communication and interactive styles and strategies, and recognize their appropriateness depending on environment and goals • Listen actively and contribute ideas in an effective manner • Take risks in contributing to the team process • Support other team members when appropriate • Ask for help from the team when needed • Learn from and teach other members of the team • Share knowledge with others in a collaborative environment • Communicate with other team members in a timely manner • Be flexible with one's own style of participation to accommodate changes in the team dynamics and focus • Respect differences in backgrounds, opinions and communication styles • Recognize and respect cultural, ethnic and linguistic diversity • Recognize and leverage strengths in one's self and others to further the goals of the team • Foster an environment that supports risk taking in freely disclosing ideas and opinions • Identify and support productive ideas and processes that contribute to the team goals • Function effectively in different roles within the team, demonstrate leadership when appropriate, and show flexibility in accepting others' leadership • Manage conflicts in a productive manner, and work collaboratively to set and accomplish team goals • Discuss the advantages of a diverse culture and its benefits to the overall	**Course Map** Many of the competencies are introduced or emphasized in: • Video Field Production (Media 210) • Studio Video Production (Media 212) • Intermediate Video Production (Media 214) • Multimedia Authoring (Media 223) • Web Design (Media 230) • Internet Objects (Media 238) • Graduation Production (Media 245) Every project or activity performed in a team helps students practice many of these competencies.

	productivity of the organization • Present the issues encountered in a diverse organizations and effective strategies to address these issues • Recognize and foster processes that contribute to the overall team purpose • Assess the effectiveness of the team process in a given context, and make recommendations for improvements • Organize, manage and facilitate a wide range of team processes	

Visual Communication -- *Foundation Learning Component*		
Learner Program Outcomes • Demonstrate the ability to select and evaluate appropriate visual communication strategies and styles for a specific purpose • Demonstrate the ability to develop and deliver effective visual presentations • Demonstrate the ability to effectively adapt visual communication strategies and styles to specific audiences	**Key Competencies** *Demonstrate the ability to:* • Explain the purpose of visual communication in business and society, and give examples • Explain and demonstrate the concepts of visual communication • Use appropriate visual communication terminology • Identify the appropriate visual communication style for a specific purpose and situation • Communicate effectively using a wide range of visual communication styles • Use the right balance of emotions, information, imagination and persuasion to achieve intended purpose • Adapt visual communication to the degree of formality appropriate to the situation • Adapt visual style and content of presentation to audience need and preferences • Evaluate effectiveness of visual communication on a continuous basis by observing the audience and asking for feedback • Be responsive to audience, and adjust visual style and content accordingly • Prepare oral presentations that are visually pleasing and that are appropriate for various audiences • Sustain a definite visual theme and style throughout the communication piece • Balance visual and verbal elements in presentations • Use the visual elements to enhance the purpose of the communication • Display a strong sense of esthetics in visual communication	**Course Map** Many of the competencies are introduced or emphasized in: • Exploring the Digital Future (Media 101) • The Media of Persuasion (Media 102) • Visual Literacy (Media 103) • Multi-Cultural Media Images (Media 104) • Computer Essentials for Digital Media (Media 109) • Video Foundations (Media 112) • Digital Imaging Foundations (Media 125) • Video Field Production (Media 210) • Studio Video Production (Media 212) • Intermediate Video Production (Media 214) • Script Writing for Film, Video, and Multimedia (Media 216) • Digital Video Editing (Media 220) • Raster Graphics (Media 225) • Vector Graphics

		(Media 227) • Web Design (Media 230) • 2-D Animation (Media 235) • 3-D Animation (Media 237) • Internet Objects (Media 238) • Character Animation (Media 239) • Graduation Production (Media 245)

Written Communication -- *Foundation Learning Component*		
Learner Program Outcomes • Demonstrate the ability to select and evaluate appropriate written communication strategies and styles for a specific purpose • Demonstrate the ability to develop effective written communication pieces • Demonstrate the ability to effectively adapt written communication strategies and styles to specific audiences	**Key Competencies** *Demonstrate the ability to:* • Explain and appropriately use written communication terminology • Explain the purpose and different uses of written communication in business and industry, and give examples • Identify appropriate written communication format for a specific purpose and situation • Communicate effectively using a wide range of written communication formats • Use the right balance of emotions, information, imagination and persuasion to achieve intended purpose • Use clear, specific, and grammatically correct language • Use precise and accurate technical terminology • Sustain a definite focus and point of view, and link ideas in a progressive, flowing sequence • Be courteous and professional when communicating with others using a degree of formality appropriate to the situation • Analyze written communication to effectively extract content and underlying issues • Adapt style and content of communication to audience need and feedback • Recognize and appropriately address audience focus, level of expertise and need for detail • Compose and present well organized written pieces • Balance visual and verbal elements and text in written communication • Be responsive to audience; adjust communication format and content accordingly • Evaluate effectiveness of communication on a continuous basis by asking for feedback • Present information persuasively and sustain an argument using appropriate evidence or examples • Prepare professional memos and reports that are appropriate to purpose and intended audience	**Course Map** Many of the competencies are introduced or emphasized in: • Exploring the Digital Future (Media 101) • Multi-Cultural Media Images (Media 104) • Script Writing for Film, Video, and Multimedia (Media 216) • Internet Objects (Media 238) • Graduation Production (Media 245) • Portfolio and Employment (Media 248) • Internship in Media (Media 250) • Written Composition (ENGL 101) Every course requiring the writing of reports helps students practice many of these competencies.