Department of Multimedia Design

The Department of Multimedia Design offers programs leading to the Associate in Applied Science and the Bachelor of Science Degree in Multimedia Design. The two programs are offered in a two-plus-two arrangement. Students may either earn the AAS degree first and proceed to the BS degree or earn the BS degree directly.

ASSOCIATE IN APPLIED SCIENCE (510) MAJOR IN MULTIMEDIA DESIGN

The purpose of this program is to prepare individuals with technical multimedia development skills to function as team members in the systematic design and development of technology based, interactive, user-friendly instructional applications.

I. General Education Requirements...18 hours

ENGL 1113, ENGL 1213, PS 1113, HIST 1483 or HIST 1493, COMM 1113,
MATH 1813 or MATH 1513

II. MAJOR ............................. 43 hours

Technical-Occupational Specialty .................. 30 hours
MM 1013, MM 1133, MM 1143, MM 1154, MM 2024, MM 2034, MM 2123, MM
2132, MM 2804

Technical-Occupational Support Courses ........ 7 hours
CIS 1013 and RTV 2104

Technical-Occupational Related Course Work .... 6 hours
(To be selected by student with approval of academic advisor)

TOTAL 61 hours

BACHELOR OF SCIENCE MAJOR IN MULTIMEDIA DESIGN (420)

The purpose of this program is to prepare individuals with technical multimedia development and management skills. Graduates will be prepared to maximize the opportunities presented by the media explosion through the development of technical multimedia skills and through management training.

I. GENERAL EDUCATION REQUIREMENT ........ 50 hours

General Education Requirements

II. MAJOR-MINOR ........................... 57 hours
Specialty Courses From A.A.S. ....................... 30 hours
MM 1013, MM 1133, MM 1143, MM 1154, MM 2024, MM 2034, MM 2123, MM 2132, MM 2804

Technical-Occupational Support Courses from AAS ...... 7 hours
CIS 1013, RTV 2104

Advanced Specialty Courses .......... 20 hours
MM 3013, MM 3113, MM 4003, MM 4023, MM 4414, MM 4804

III. SUGGESTED ELECTIVES .................. 18 hours

MGMT 4443 and 15 hours selected from the following:
MGMT 2213, TECH 3013, CS 3133, MGMT 3013, COMM 3383, MKTG 3413, and MM 2023

IV. RELATED (MM 3203) .......... 3 hours

V. ELECTIVES (Approved by Department Chair) ... 5 hours

TOTAL ................................. 128 hours

MULTIMEDIA COURSES (MM)

1013 FUNDAMENTALS OF MULTIMEDIA DESIGN, 3 hours credit
An introduction to the study of multimedia design, including principles of graphic design; introduction to authoring; on-screen layout; and introduction to authoring tools. With a basic understanding of Instructional Systems Design, students will learn to create desktop and on-screen multimedia applications. This class will also include a brief introduction to authoring software. Prerequisite or concurrent enrollment in CIS 1013. Lecture 2 hours, lab 2 hours.

1133 MULTIMEDIA PRODUCTION TECHNIQUES, 3 hours credit
This course familiarizes students with basic techniques, using hardware and software tools to create various media for multimedia productions. Students will learn basic techniques such as scanning and enhancing photographs, creating simple animations and incorporating graphics into presentations with an understanding of display color. Prerequisite: MM 1013 and MM 1143. Lecture 2 hours, lab 2 hours.

1143 INSTRUCTIONAL DESIGN, 3 hours credit
Introduction to the systematic design of instruction that includes learner, task and content analysis, writing performance objectives, developing instructional strategies, materials and assessment instruments, and evaluating and revising instructional materials. Lecture 2 hours, lab 2 hours.

1154 INTRODUCTION TO MULTIMEDIA AUTHORING, 4 hours credit
Introduction to program logic and problem solving techniques within the context of an authoring tool. This course makes extensive use of structure charts, flow charts and story boarding to illustrate the logic necessary to create instructional materials using authoring software. Prerequisite: MM 1133 and MM 1143. Lecture 2 hours, lab 3 hours.

2024 CORPORATE MULTIMEDIA PRODUCTION, 4 hours credit
Planning and development of modern interactive educational applications in a corporate
environment using modern learning theory. Students will plan corporate context. They will also produce educational programs conforming to e-learning principles based on cognitive learning theory. This course will incorporate a second authoring tool. Prerequisites: MM 1154; concurrent enrollment: RTV 2104. Lecture 2 hours, lab 4 hours.

2034 WEB COMMUNICATIONS AND DESIGN, 4 hours credit
This course introduces students to purpose-driven web browsing and web page creation. Students will incorporate multimedia components into created pages. Prerequisite: CIS 1013. Lecture 2 hours, lab 4 hours.

2123 CORPORATE MULTIMEDIA PRODUCTION II, 3 hours credit
An advanced course refining and integrating more advanced authoring techniques. Prerequisite MM 2024. Lecture 2 hours, lab 4 hours.

2132 LEGAL AND ETHICAL ISSUES, 2 hours credit
A survey of current ethical and legal issues, such as copyright, that impact the development and use of multimedia instructional material. Lecture 2 hours.

2191-3 SPECIAL PROBLEMS IN MULTIMEDIA, 1-3 hours credit
Individual and group projects in multimedia. May be repeated with permission of the department chairman. Prerequisite: Permission of the department chair and faculty member supervising the project. Can be taken for a maximum of 6 hours. Lab 2-6 hours.

2804 CAPSTONE PROJECT, 4 hours credit
Application of appropriate skills necessary to develop user friendly and instructionally sound interactive, technology based educational applications. Students will be given guidance in setting project goals. This course will provide information for program outcomes assessment and establish a basis for continued follow-up and evaluation after program completion. Prerequisite or concurrent enrollment MM 2123. Lecture 1 hour, lab 6 hours.

3013 ADVANCED COMPUTER GRAPHICS, 3 hours credit
A study of artistic elements and software techniques used to create advanced 2D/3D computer graphics for multimedia products. Prerequisites: MM 1013. Lecture 2 hours, lab 2 hours.

3023 WEB PUBLISHING AND GRAPHICS, 3 hours credit
This course helps students develop the creative and critical thinking skills required in a web/animation design and development environment. Students learn to plan for and implement interactivity in their web and animation designs. They are required to incorporate a mixture of audio, video, graphics, and animation dependent on website objectives (e.g., marketing, instructing, or entertainment). Techniques for automating the design process will be covered. State-of-the-art web animation and web-development tools are introduced and used as the catalyst for learning. Lecture 2 hours, lab 2 hours. Prerequisites: Permission of Instructor.

3113 DISTANCE LEARNING DEVELOPMENT, 3 hours credit
Development of multimedia instructional materials for distance learning using current technology. Lecture 2 hours, lab 2 hours. Prerequisites: MM 1143, MM 2034 or permission of Department Chair.

3203 ADVANCED INSTRUCTIONAL DESIGN, 3 hours credit
An advanced course in instructional systems design (ISD) exploring the relationships between the ADDIE process and various ISD models. Also explored are learning theories underpinning ISD and their application in professional – level designs. Prerequisite MM 1143. Lecture 2 hours, lab 2 hours.
4003 ADVANCED AUTHORING, 3 hours credit
Advanced authoring using scripting languages. Prerequisite: MM 1154 and MM 3013 or concurrent enrollment. Lecture 2 hours, lab 2 hours.

4023 ADVANCED WEB COMMUNICATIONS, 3 hours credit
Advanced web authoring using programming languages. Prerequisite: MM 2034. Lecture 2 hours, lab 2 hours.

4191-3 ADVANCED PROBLEMS IN MULTIMEDIA, 1-3 hours credit
Individual and group projects in multimedia. May be repeated with permission of the department chairman. Prerequisite: Permission of the department chair and faculty member supervising the project. May be taken for a maximum of 6 hours. Lab 2-6 hours.

4414 SIMULATION, 4 hours credit
Demonstration of effective methods for visualizing objects and data through designing and creating animations for use in video, multimedia and virtual environments. Prerequisite: MM 3013. Lecture 2 hours, lab 2 hours.

4804 CAPSTONE, 4 hours credit
Demonstration of the appropriate skills necessary to direct and manage an instructional materials project. Students will serve as program managers for MM 2104, completing a needs analysis, developing objectives and writing specifications given a training need for an internship. This course will provide information for program outcomes assessment and establish a basis for continued follow-up and evaluation after program completion. Prerequisite: MM 4003, 4414, and 4023 or concurrent enrollment. Lecture 1 hour, lab 6 hours.

Fundamentals of Multimedia Design

Courses

1013 Fundamentals of Multimedia Design, 3 hours credit
A study of elements necessary to develop and produce appealing images that will promote effective learning, using commercial software. With a basic understanding of Instructional Systems Design, students will learn to create desktop and on-screen multimedia applications. This class will also include a brief introduction to authoring software. Prerequisite or concurrent enrollment in CIS 1013. Lecture 2 hours, lab 2 hours.

Goals
This course teaches an introductory level of multimedia design, provides a study of elements necessary to develop, and produce appealing images and helps students to develop a basic understanding of Instructional Systems Design. In addition to knowledge based exams, students will use commercial software to create entertainment and educational multimedia products. Students will:

- Gain an overall understanding of the historical development of multimedia and comprehend the importance of multimedia in everyday life.
- Become acquainted with the tools of the trade and the basics of the project planning process.
- Develop a working knowledge of 2D graphics development and popular image editing tools.
- Understand what makes a good screen layout.
- Gain a basic understanding of 3D graphics creation and animation.
- Build basic 3D animation knowledge and skills.
- Have the knowledge necessary to use 3D animation in multimedia.
- Become acquainted with digital editing considerations and methods. Get hands-on experience with nonlinear video editing.
- Understand the terminology and the technology involved in creating digital sound.
- Give students hands-on experience with sound editing and basic understanding of the procedures used to edit sound.
- Gain a basic understanding of the procedures in multimedia authoring.
- Hands on experience with authoring your project.
- Gain a little experience and understanding of the use of Flash, Java applets and HTML in multimedia projects.

**Objectives**

- Differentiate between the meaning of multimedia and interactive multimedia.
- Arrange the evolution of multimedia technology in its proper sequence.
- Choose the correct definition of key terms.
- Match multimedia related companies or persons with their accomplishments.
- Assess the importance of multimedia in a non-technology professional's occupation of your choice (i.e. a gardener).
- Recall the adage to keep in mind when creating an intuitive design.
- List the makeup of an intuitive interface.
- Explain the importance of multimedia interfaces.
- Assess a before and after interface example.
- List the basic hardware requirements for a multimedia computer system.
- List and explain the purpose of the six optional software programs for multimedia producers presented in your text.
- Explain the advantage of a multi-sync monitor.
- Differentiate between optical resolution and interpolated resolution.
- Defend your company's decision to buy a Sound Blaster instead of another brand of sound card.
- Evaluate your company's decision to buy a digital camera that makes a 620X440 pixel image.
- Defend your company's choice of a video capture card that has full screen (640X480), full motion (30 fps) video capture and playback with the capability to print to video.
- Generate a list of minimum requirements for a Windows (or a Macintosh) multimedia development system.
- Explain the purpose of a specification sheet.
- Sequentially order major multimedia development milestones.
- Explain the purpose of a storyboard.
- Explain purpose of listing and classifying your media components.
- Differentiate between the preproduction and the production phase of multimedia development.
- Compare Alpha and Beta testing.
- Contrast and compare the type of portfolio you develop for a career in multimedia web site development as opposed to a career spent creating multimedia supplements in industry.
- Distinguish between the staging area and control area
- Give four examples of how to create a sense of visual depth
- State the purpose of image and photo editing software
- Compare and contrast Paint Shop Pro and Photoshop
- Explain why Corel Paint is considered a "natural-media" graphic design tool
- Explain the purpose of a little tick in the bottom corner of some buttons
- Choose the flat image file format from a group of formats
- Explain how the four attributes affect balance can be used to increase an object’s optical weight
- Explain how size, position, color, and space affect balance
- Contrast asymmetrical design with symmetrical design
- Explain what factors are included in "planning for usability"
- Defend the use of visual responses to user action
- Contrast the use of raised and depressed images for buttons or other controls
- State where to place the raised and depressed button when creating 3D buttons.
- List two design elements and subsequent objects created when making an interface
- Explain why a background image should have pixel dimensions that match the intended application’s size
- Explain the psychological effects of using embossing and drop shadow effects for controls
- Match common file formats used in 3D modeling and animation applications with their file extensions
- Explain why you would save the frames of an animation as individual images instead of a video clip
- List five tips for effective 3D graphics generation
- Explain the relationship of keyframes and tweening
- Explain the purpose of the animation script
- Contrast Ambient light with radiosity
- Explain the purpose of cleaning your computer hard drive
- Discuss the pros and cons of using the wireframe view
- Contrast the pipeline and extrusion methods for extrapolating a complex shape from a cross-sectional curve
- Differentiate among infinite light, point light and spot light
- Select the most appropriate digital animation format needed for cross-platform compatibility.
- Explain the analogous animation technique of Macromedia film loops and animated GIFs.
- Contrast the benefits of using GIF or JPEG formats for digital images
- Differentiate between the animation format requirements of disk-based and web-based multimedia applications
- Explain the purpose of using a standard palette when developing web content
- List the benefits of animation postprocessing
- Defend your decision to buy a digital video editing application to be used for animation postprocessing
- Identify the special considerations required for online video streaming
- Differentiate the meaning of keyframe with reference to computer animation and digital video
- Differentiate between symmetric compression and asymmetric compression
- Explain the difference between the SMPTE and Sony’s RC format
- Explain the difference between video and interactive video
- Explain the purpose of transitions as a technique in video editing and give examples
- Explain the purpose of superimposing as a technique in video editing and give examples
- Explain the purpose of filters as a technique in video editing and give examples
- Explain how a morphing program works
- List two morphing tips
- List the five factors to be considered when buying a video capture device
- Explain how to overcome the problem of proprietary codecs when creating digitized software and codec
- List four different ways to capture still images for a multimedia project
- List the requirements of a video delivery system for the web
- Describe the digital video project production process 37. Identify video output options
- Differentiate between PAL and NTSC format video
- Define Chroma key
- Explain the purpose of jog control
- Explain the use of scrubbing in video editing
- Explain the differences in analog and digital sound
- Describe how to convert between analog and digital sound
- Describe how sound files are used on the web
- List the different sound formats for the web
- Distinguish between the sound file parameters that affect the quality and the performance of the digital sound file
- Describe how digital sound is recorded
- Identify copyright concerns when using a digital sound file
- Describe how digital MIDI sound files are recorded
- Explain how you can decrease the digital sound file by reducing three sound quality factors
- Explain why it is important to start with the best-quality sound file when you begin editing sound for your project
- Describe the eight-step process and parameters for recording digital sound on your computer
- Describe the four-step sound cropping method using Sound Forge
- Choose the most appropriate sound file format and compression codec for a given multimedia need
- Explain how sound data is implemented in the multimedia application and web site development process
- Defend your choice to internalize your multimedia applications sound
- Defend your choice to use audio streaming in your web-based multimedia product
- Differentiate between PowerPoint, Macromedia Director, and Multimedia Fusion
- Define authoring
- Give an example of a development metaphor
- List the four essentials of an interactive presentation
- List Peck’s three factors that gauge the effectiveness of a presentation
- List and explain the purpose of Vaughn’s five stages of a multimedia project
- Explain the purpose of target platform and delivery planning during the initial design phase of your project
- Describe the multimedia application and Web site development process
Multimedia Production Techniques

Courses

1133 Multimedia Production Techniques, 3 hours credit

This course familiarizes students with basic techniques using hardware and software tools to create various media for multimedia productions. Students will learn basic techniques such as scanning and enhancing photographs, creating simple animations and incorporating graphics into presentations with an understanding of display color. Prerequisite: MM 1013 and MM 1143. Lecture 2 hours, lab 2 hours.

Goals
Students will develop an understanding of scanning procedures, color relationships and composition techniques (both composition for slides and photographs) that exhibit an understanding of color schemes, balance, and perspective as well. Students will create PowerPoint presentations that incorporate graphics, audio, video and animation in a balanced, well organized format that includes the various skills learned in the course.

Objectives
Students will create various media for multimedia productions utilizing graphic creation; audio capture; video capture; and animation. Students will demonstrate an understanding of scanning procedures, color relationships, image manipulation, and composition techniques (both composition for slides and photographs) that exhibit an understanding of color schemes, balance, and perspective as well.
Instructional Design

Courses

1143 Instructional Design, 3 hours credit

Introduction to the systematic design of instruction that includes learner, task and content/analysis, writing performance objectives, developing instructional strategies, materials and assessment instruments, and evaluating and revising instructional materials. Lecture 2 hours, lab 2 hours.

Goals

Students will: 1) explain the reason for using a systems approach to multimedia design; 2) explain the use of the ADDIE model in an instructional setting, for a website and in a marketing setting; and 3) design a multimedia instructional product using the five phases of the Instructional Systems Design (ISD) process (ADDIE).

Multimedia instructional products will meet a valid instructional need or performance deficiency. Multimedia instructional products will provide criteria for learner performances that are measurable, observable, and replicable. Instructional products will include a method for evaluating learner performance. Multimedia instructional products will demonstrate instructional strategies that incorporate branching and remediation.

Objectives

Students will design and produce a multimedia instructional product using the five phases of the Instructional Systems Design (ISD) process. Multimedia instructional products will meet a valid instructional need of performance deficiency. Multimedia instructional products will provide criteria for learner performances that are measurable, observable, and replicable. Instructional products will include an evaluating learner performance. Multimedia instructional products will demonstrate instructional strategies that incorporate branching and remediation.

- Student will demonstrate knowledge of the tasks involved in the five phases of the Instructional Systems Design (ISD) approach to Instructional development.
- Students will demonstrate knowledge of the professional vocabulary of ISD practitioners.
- Students will demonstrate procedures for deriving criteria for instructional objectives that are measurable, observable, and replicable.
- Students will develop test items to evaluate learner performance.
- Students will develop content outlines and course maps using electronic instructional design tools.
- Students will develop flowcharts for interactive courseware.
- Students will create storyboards.
- Students will develop design guides that meet the requirements of best industry practices.
Intro to MM Authoring

Courses

1154 Introduction to Multimedia Authoring, 4 hours credit

Introduction to program logic and problem solving techniques within the context of an authoring tool. This course makes extensive use of structure charts, flow charts and story boarding to illustrate the logic necessary to create instructional materials using authoring software. Prerequisite: MM 1133 and MM 1143. Lecture 2 hours, lab 3 hours.

Goals
Students will learn basic authoring skills, professional production tools and scaffolding as they need as they to develop sound education, training, and entertainment oriented multimedia products.

Objectives
The student will be able to: create a concept, develop conceptual and production storyboards, create design strategy documents, use the basic tools provided by Director 8 to create interactive learning and entertainment packages, develop graphics, work with sprites, use blends, use inks, create text fields, work with and edit sounds, program behaviors, use Interactive library and use basic Lingo.

Corporate MM Production I

Courses

2024 Corporate Multimedia Production I, 4 hours credit

Planning and development of modern interactive educational applications in a corporate environment using modern learning theory. Students will plan corporate context. They will also produce educational programs conforming to e-learning principles based on cognitive learning theory. This course will incorporate a second authoring tool. Prerequisites: MM 1154; concurrent enrollment: RTV 2104. Lecture 2 hours, lab 4 hours.

Goals
- Students will describe the process of setting up a training development team and describe the tasks to be done by team members.
- They will give a rationale for using the ISD process in developing instruction.
- They will define and select methods of instruction in an e-learning environment.
- They will define emerging e-learning technologies and specifications.
- They will then develop 2 small projects with Macromedia Authorware in which all media and navigation buttons and links perform as designed.

Objectives
• Develop an “Action Notebook” that provides quick access to resources that are needed in the Instructional Design/Training Development environment.
• Describe ISD and production processes in writing.
• Explain differences in choosing graphic file formats.
• Outline a project in chronological order of major tasks that your team must accomplish. Include descriptions of the ISD tasks that your must be accomplished.
• Give the background of SCORM and discuss the implications of this specification on instructional design and development.
• Develop modularized content that is suitable for revising into SCORM specifications.
• Incorporate various media types into interactive educational applications.
• Package applications for distribution over the internet.
• Explain pros and cons of outsourcing narration, video production, and video postproduction.
• List and explain professional elements of effective computer- and web-based, multimedia training.
• Use scripts and story boards to develop instructional applications for both computer-based (i.e., for delivery on zip disk, floppy disk, CD-ROM or hard drive) and web-based delivery.
• Determine whether learner needs are addressed in contemporary multimedia instructional and marketing title.
• List and explain the needs of the adult learner.

Web Communication and Design

Courses

2034 Web Communications and Design, 4 hours credit

Use of multimedia instructional techniques to develop instruction to be delivered via the Internet. Prerequisite: CIS 1013. Lecture 2 hours, lab 4 hours.

Objectives
Students will incorporate multimedia components into created web pages.

Corporate MM Production II

Courses

2123 Corporate Multimedia Production II, 3 hours credit

2123 CORPORATE MULTIMEDIA PRODUCTION II, 3 hours credit
An advanced course refining and integrating more advanced authoring techniques. Prerequisite MM 2024. Lecture 2 hours, lab 4 hours.

Goals
Students will describe the process of setting up a training development team, the
tasks to be done by team members, and develop two small projects with Macromedia Authorware in which all media and navigation buttons and links perform as designed.

Objectives

- Use the ISD to develop advance products using Authorware as the development tool.
- Describe how SCORM Conformant products will be distributed without violating copyrights of developers or their employers.
- Give the background of SCORM and discuss the implications of this specification on instructional design and development.
- Develop modularized content that is suitable for revising into SCORM specifications.
- Develop file management scheme for computer-based and web-based titles.
- Incorporate various media types into interactive educational applications.
- Use a simple database to populate Authorware display icons with text.
- Develop simple XML-based manifests for a product.
- Use scripts and story boards to develop instructional applications for both computer-based (i.e., for delivery on zip disk, floppy disk, CD-ROM or hard drive) and web-based delivery.
- List and explain the needs of the adult learner.

Legal and Ethical Issues

Courses

2132 Legal and Ethical Issues, 2 hours credit

A survey of current ethical and legal issues, such as copyright, that impacts the development and use of multimedia instructional material. Lecture 2 hours.

Goals

Students will identify and resolve ethical and legal implications of instructional and multimedia design in the workplace. They will demonstrate the ability to communicate effectively in visual, oral and written form by summarizing their understanding of current issues through a series of writing assignments.

Objectives

- Develop and appropriately use the vocabulary related to legal and ethical issues.
- Demonstrate knowledge of the origins of morality, moral codes and the law.
- Demonstrate knowledge of ethical theories.
- Demonstrate knowledge of technology’s impact on ethics.
- Demonstrate knowledge of the development of ethics in the “Professions.”
- Demonstrate knowledge of Anonymity, Security, and Privacy issues.
- Demonstrate knowledge of intellectual property rights in the internet world...
- Demonstrate knowledge of supervisor-worker ethics issues in the workplace.
- Demonstrate knowledge of contractor-client and manufacture-user software issues.
- Demonstrate knowledge of Ethical and Social Issues related to the internet.
- Develop a code of ethics/code of conduct specifically for multimedia design professionals.

Special Problems in MM

Courses

2191-3 Special Problems in Multimedia, 1-3 hours credit

Individual and group projects in multimedia. May be repeated with permission of the department chairman. Prerequisite: Permission of the department chair and faculty member supervising the project. Can be taken for a maximum of 6 hours. Lab 2-6 hours.

2191-3 Special Problems in Multimedia (Johari)

This workshop provides learners with some organizational and performance skills in both macro and micro levels. It explains the underlying psychological principles of human behavioral training. Learners will read the assigned books (one in organization and another in training) and will develop a personal organizing system, incorporating all elements of the design -- analysis, strategy, and implementation.

Objectives

- All learners will read assigned chapters and classroom materials.
- Each student will develop a personal organizing system, incorporating all elements of the design -- analysis, strategy, and implementation.
- Each student will present his or her organizing system project to the class.
- Each student’s grade will be based on class participation and cooperation, conceptual test, and the organizing system project and presentation.

Behavioral Organization

Courses

2191 Behavioral Organization

Goals
This seminar is about a systematic approach to behavioral organization. It provides learners with some organizational and performance (clutter free) skills in both macro and micro levels. It briefly explains the underlying psychological principles of human behavioral training. Learners will read the assigned books (one in organization and the other in training) and will develop a personal organizing system, incorporating all elements of the design-analysis, strategy, and implementation. Students’ letter grade will be based on class participation and cooperation, conceptual test, and the organizing system project and presentation.
Capstone Project

Courses

2804 Capstone Project, 4 hours credit

Application of appropriate skills necessary to develop user friendly and instructionally sound interactive, technology based educational applications. Students will be given guidance in setting project goals. This course will provide information for program outcomes assessment and establish a basis for continued follow-up and evaluation after program completion. Prerequisite or concurrent enrollment MM 2123. Lecture 1 hour, lab 6 hours.

Objectives

- Each student will read assigned material.
- Each student will read and apply the PRIDE model at work.
- Each student will construct a print based and online portfolio with its appropriate format.
- Each student (in a group) will participate in presenting his or her portfolio site (and its draft) project to the class.
- Each student's grade will be based on (a) mentor satisfaction evaluation report, (b) portfolio, (c) punctuality, and (d) presentation. The following describes the factors in detail:

Advanced Computer Graphics

Courses

3013 Advanced Computer Graphics, 3 hours credit

A study of artistic elements necessary for instructional systems design and development of advanced computer graphics. Prerequisites: MM 1013. Lecture 2 hours, lab 2 hours. Students will create a 2D poster, 2D animation, 2D/3D poster, 3D poster, and a two minute project which combines 2D/3D animation.

Goals

Students will attain working knowledge of basic 3D and intermediate/advanced 2D graphics, animation principles/concepts, get hands on experience with photographic manipulation, 2D animation, 3D modeling, texture mapping, lighting techniques, virtual cameras, animation timelines, motion paths, forward and inverse kinematics, character animation, and rendering.

Objectives

- Read required texts
- Create background images, layer effects, transparent GIFs, image maps, slices, rollovers, and animated GIFs
- Import and export file formats other than .psd, .gif, and .jpg.
• Display knowledge of basic 3D graphics/animation terminology and concepts
• Model and shade objects
• Set up Lights
• Add and position different cameras
• Create Key Frames
• Apply tweeners and behaviors
• Animate Extrusion Path
• Create text objects, environmental primitives, geometric primitives, and polymesh objects
• Use Mesh Form Modeling [Extruding & Sweeping, Lathing, Lofting]
• Work with Vertices
• Use Deformers
• Arrange Objects
• Build 3D scenes and hierarchical structures
• Create animation by moving objects and cameras

Distance Learning and Development

Courses

3113 Distance Learning Development, 3 hours credit

Development of multimedia instructional materials for distance learning using current technology. Lecture 2 hours, lab 2 hours.

Goals

• The student will use learning theory and an Instructional Design (ID) model to analyze learning situations.
• The student will use visual design and ID processes to design, develop and analyze web-based instructional sites.
• The student will use JavaScript and Flash to add functionality and visual appeal to web-sites.
• The student will create projects that can be used in an on-line portfolio as part of an on-line resume.

Objectives

• Create an on-line portfolio that includes all course mini-projects.
• Use online communications capabilities to participate in online class discussions.
• Use online communications capabilities to participate as an online peer tutor.
• Use online communications capabilities to participate in online class activities.
• Use an Instructional Design (ID) model to design an instructional system within a (web-based) distance-learning site.
• Use JavaScript to create test items in a web system.
• Use Flash to add functionality and visual appeal to web systems.
• Develop a prototype instructional system for use on the web.
• As part of a team, construct a web-based instructional system, within a (web-based) distance-learning site.
• Incorporate visual design theory into an instructional system.
• Evaluate distance-learning sites using ID theory.
- Write a publishable journal article on a topic related to distance learning
- Add interactivity to existing, Cameron University faculty, and web sites.

**Advanced Instructional Design**

**Courses**

**3203 Advanced Instructional design, 3 hours credit**

**3023 WEB PUBLISHING AND GRAPHICS, 3 hours credit**

This course helps students develop the creative and critical thinking skills required in a web/animation design and development environment. Students learn to plan for and implement interactivity in their web and animation designs. They are required to incorporate a mixture of audio, video, graphics, and animation dependent on website objectives (e.g., marketing, instructing, or entertainment). Techniques for automating the design process will be covered. State-of-the-art web animation and web-development tools are introduced and used as the catalyst for learning. Lecture 2 hours, lab 2 hours. Prerequisites: Permission of Instructor.

**Advanced Authoring**

**Courses**

**4003 Advanced Authoring, 3 hours credit**

Advanced authoring using scripting languages. Prerequisite: MM 1154 and MM 3013 or concurrent enrollment. Lecture 2 hours, lab 2 hours.

**Goals**

Students will develop creative and critical thinking skills while learning advanced authoring techniques and Lingo Scripting using Macromedia Director MX.

**Advanced Web Communication and Design**

**Courses**

**4023 Advanced Web Communications, 3 hours credit**

Advanced web authoring using programming languages. Prerequisite: MM 2034. Lecture 2 hours, lab 2 hours.

**Objectives**

- Students will demonstrate performance competencies in all textbook lessons (chapters) and the assigned mini projects.
- Students will participate equally in his or her group in the design, construction, and evaluation of an HTML-JavaScript site, incorporating ID,
graphic design elements, and some elements of Web interactivity (for example: alerting the user, redirecting, scrolling status bars, indicating status bar messages, creating rollovers, banners, and forcing a page into a frame, selecting menu items, customizing messages, etc.).

- Students will construct an online portfolio (in light of the guidelines of the Designer's book) that includes the class syllabus, all mini projects, and the final report and turn them in prior to the final tests.
- Students (in a group) will present their instructional final (and its draft) project to the class.
- Student's grade will be based on the number of mini projects completed according to their designated format, online class discussion, participation and cooperation, midterm and final conceptual and procedural tests, and the final instructional project.

Advanced Problems in MMD

Courses

4191-3 Advanced Problems in Multimedia, 1-3 hours credit

Individual and group projects in multimedia. May be repeated with permission of the department chairman. Prerequisite: Permission of the department chair and faculty member supervising the project. May be taken for a maximum of 6 hours. Lab 2-6 hours.

Advanced Problems Web Communications and Graphics

Courses

4193 Advanced Problems: Web Publishing and Graphics (Dr. Smith)

Goals
Students will develop creative and critical thinking skills while learning how to create web graphics/animations and interactive webpages with Macromedia Flash and Dreamweaver.

Advanced Problems Web Authoring

Courses

4193 Advanced Problems: Web Authoring / Flash, 3 Hours Credit (Dr. Johari)

Objectives

- The student will read assigned chapters and classroom materials.
- The student will write his/her answers to the conceptual understanding questions.
- The student will take two conceptual understanding exams by checking on the multiple-choice questions, filling in the blank, and writing short essays.
- The student will take two hands-on performance tests in the lab.
The student will monitor a session by preparing and applying assigned how-to instructional materials.
The student will demonstrate conceptual and performance competencies in all classroom assignments.
The student will design, develop and evaluate a final multimedia educational presentation project via Flash.
The construction of the final project will include the implementation of all elements of multimedia including principles of graphic design and an instructional learning instructional model.

Simulations

Courses

4414 Simulation, 4 hours credit

Demonstration of effective methods for visualizing objects and data through designing and creating animations for use in video, multimedia and virtual environments. Prerequisite: MM 3013. Lecture 2 hours, lab 2 hours.

Goals

- Students will demonstrate an understanding of ways to create and use cognitive simulations.
- Students will write and discuss the different forms of simulation and what distinguishes each from the other.
- Students will create interactive multimedia cognitive simulations.

Capstone

Courses

4804 Capstone, 4 hours credit

Objectives

- Students will read and apply the PRIDE model at work.
- Students will construct a print based and online portfolio with its appropriate format.
- Students (in a group) will participate in presenting his or her portfolio site (and its draft) project to the class.
- Each student’s grade will be based on (a) mentor satisfaction evaluation report, (b) portfolio, (c) punctuality, and (d) presentation.