I. Course Prefix and Number:  CSC 252

Course Name: Multimedia Development

Credit and Contact Hours:  3 credit hours - 3 contact hours

Catalog Description Including Pre- and Co-Requisites:

This course is an introduction to Web-based interactive media development. Students will learn to create interactive media using industry-standard authoring tools. The focus of this course will be on the integration of text, images, animation, audio, and video into Web-based applications. Students will learn to create programming scripts for interactive user interfaces and complex components. Topics covered in this course include: uses of Web-based multimedia, differences between Web-based and standalone multimedia, vector-based image creation and animation, how to incorporate audio, video, and animated components into Web pages, how to deploy multimedia applications over multiple platforms, and object-based scripting.

Prerequisite: Either CSC 115 or 116 with a grade of C or better.

II. Course Outcomes and Objectives:

Learning Outcomes:

Upon completion of the course the participant will be able to:

- Create a well-designed, interactive Web site with respect to current standards and practices
- Demonstrate in-depth knowledge in an industry-standard multimedia development tool and its associated scripting language
- Determine the appropriate use of interactive versus standalone Web applications
- Create time-based and interactive multimedia components
- Identify issues and obstacles encountered by Web authors in deploying Web-based applications

Relationship to Academic Programs and Curriculum:

This course is a required for the:

A.A.S. Information Technology degree: Web and Multimedia Application Development
Online A.A.S. e-Commerce degree
AS New Media degree
A.A.S. Game Programming and Design degree
This course is offered as an elective for the:
AS in Computer Science
AS in Information Systems

College Learning Outcomes Addressed by the Course:

- [x] writing
- [x] oral communications
- [x] reading
- [x] mathematics
- [x] problem-solving
- [x] computer literacy
- [x] ethics/values
- [ ] citizenship
- [x] global concerns
- [x] information resources

III. Instructional Materials and Methods:

Types of Course Materials:

- Textbooks: a tutorial approach to creating multimedia applications
- Software: Web browsers, Multimedia development tools, scripting language

Methods of Instruction (e.g. Lecture, Labs, Seminars ...):

- Lecture
- Discussions
- Demonstrations
- Hands-on lab activities
- Group projects
IV. Assessment Measures (Summarize how the College and student learning outcomes will be assessed):

Student learning outcomes will be assessed through a variety of activities including the following:

1. **Assignments: Tutorials and case problems:**
   Students will develop skills in information resources, problem solving, global concerns and ethics/values as they learn to create well-written, interactive and professional Web-based applications consistent within universal standards. Students will practice a variety of Web technologies and develop Web sites in accordance with the cultural and social aspects of multimedia development for the Internet. Students will learn about the limitations of technologies and how to solve technical problems as they are encountered. In addition students will be introduced to multimedia integration issues, Web services, and professional organizations such as the W3C.

2. **Online text tests:**
   Chapter tests will be given in a current online environment to encourage students to read the course materials. The tests will measure their comprehension of the course concepts as related to multimedia creation and integration into Web-based applications.

3. **In-class quizzes:**
   In-class quizzes will be given routinely to develop student writing capabilities. Students are expected to demonstrate college-level written text and well-reasoned arguments.

4. **Final Project:**
   Students will be required to complete and present a final project that will demonstrate professional competency, well-written presentational material, and a proficiency in a variety of Web technologies.

V. General Outline of Topics Covered:

**Multimedia Development**
- Basic Features of the multimedia development tool
- Types of Web Media
- Bitmap verses Vector images
- Exploring Workspace Components
- Working with Objects
- Drawing Shapes, Adding Text, and Creating Symbols
- Creating Animations
  - Elements of Animation
  - Working with Timelines
  - Motion Tweens and Motion Presets
Classic Tweens
Frame-by-Frame Animations
Shape Tweens

Complex Animations
Motion Path Modifications
Masking
Animating Text and Text Blocks
3D Graphic Effects
Animation and Nested Symbols
Onion Skinning
Inverse Kinematics
Custom Buttons
Sound Effects

Making a Document Interactive
Adding Actions to Buttons
Adding Actions to Frames
Adding Sounds to a Document

Creating Special Effects and Publishing Files
Importing and Animating Bitmaps
Gradients

Creating Flash Web Sites
Site Structure
Navigation System
Planning

Using Components and Video
Adding Video to a Document

Creating Printable and Mobile Content

ActionScript
Navigating the Timeline
Code Snippets
Events and Functions
Creating Animation
External Files
ActionScript and Components to Load Content
Preloaders
Using Arrays and Loops
Controlling Text
Controlling Sound
Working with XML
ActionScript and Components to Control Video
Advanced Graphics and Animation
Printing and Sending Email
Adobe Air