NOVA COLLEGE-WIDE COURSE CONTENT SUMMARY
ITE 170 – MULTIMEDIA SOFTWARE (3 CR.)

Course Description

Explores technical fundamentals of creating multimedia projects with related hardware and software. Students will learn to manage resources required for multimedia production and evaluation and techniques for selection of graphics and multimedia software.

General Course Purpose

In this course students will learn the concepts, design, and implementation of multimedia for the web. Students will create professional websites which incorporate images, sound, video, and animation. The materials created will correspond to standards for Web accessibility and copyright issues.

Course Prerequisites/Corequisites

None.

Course Objectives

Upon completing the course, the student will be able to:

a) Plan and organize a multimedia web site
b) Understand the design and layout concepts for creating a multimedia website.
c) Use a web authoring tool to create a multimedia web site
d) Understand the design concepts related to creating and using graphics for the web
e) Use graphics software to create and edit images for the web
f) Understand the design concepts related to creating and using animation, audio, and video for the web
g) Use animation software to create and edit animations for the web
h) Use software tools to publish and maintain a multimedia web site
i) Understand the role of current web hosting from various platforms

Major Topics to be Included

Plan and organize a multimedia web site
- User characteristics and their effect upon design considerations
- Best practice principles of design
- Planning a web site using an appropriate process to include the following:
  - Collect content
  - Organize information for a web audience
  - Define and use site structure and site maps
- Optional/Suggested
  - Design considerations for alternative devices (such as smart phones)

Design a multimedia web site
- Design principles including the following:
  - Unity and consistency
  - Navigation
  - Typography
  - Color schemes
  - Browsers
  - Screen sizes/resolution
- User friendly design
- Accessibility, ADA Compliance, WAI, types of disabilities and design considerations

- Publishing to a web server
- The role of scripting
- Website maintenance
- Search engine optimization
- Web Analytics
- Protocols
- Domain registration and ICANN

Use a web authoring tool to create a multimedia web site
- Create a multimedia web site that includes the following features:
  - HTML
  - Head content and meta tags
  - Text
  - Lists
  - Links and navigation
  - Images
  - Tables
  - CSS Styles
  - Audio
  - Video and Animation

Understand the design concepts related to creating and using graphics for the web
- Vector vs. Bitmap graphic formats
- Transparency
- Color encoding
- Available sources of graphics
- Copyright law as it applies to multi-media usage, fair use and crediting sources

Use graphics software to create and edit images for the web
- List the graphic file types and be able to discuss considerations of each type
- Create graphics and include them on a web site
- Create bitmap and vector objects including use of the following features:
  - Drawing tools
  - Shapes, fills and strokes
  - Color
  - Layers
  - Filters
  - Text
- Be able to edit images using a common graphics software program

Understand the design concepts related to creating and using animation, audio and video for the web
- Identify the advantages and disadvantages of multimedia web sites
- Multimedia file formats and their differences
- Methods of integrating multimedia into a web site
- Common audio formats and the advantages and disadvantages of each format
- Audio compression methods
- File streaming
- Common video formats and the advantages and disadvantages of each format
- Video compression methods

Use video or animation software to create and edit video or animations for the web
- List and describe the different animation types, including
  - Software or CSS keyframe animation
  - HTML 5 support for multimedia
  - JavaScript
  - Major video editors
- Create an animation or video using one of the following tools
  - Software or CSS keyframe animation

- HTML 5 support for media
- JavaScript
- One of the major video editing software packages
- Integrate animations into a web site

Use a smartphone or camera and video editing software to create and edit videos for the web, including
- Mark clips
- Delete clips
- Trim clips
- Insert clips into timeline
- Titles
- Transitions
- Effects
- Sound

Use software tools to publish and maintain a multimedia web site, including
- Discuss an acquisition of a server space and evaluate server considerations
- Be able to apply for domain name registration
- Upload files to a server
- Update web sites
- Monitor traffic

Student Learning Outcomes

Plan and organize a multimedia web site
- Consider user characteristics when creating a multi-media website
- Apply the principles of good design when creating a multi-media website
- Effectively plan a web site using the appropriate process to include the following:
  - Collect content
  - Organize information for a web audience
  - Define and use site structure and site maps
- Apply appropriate design considerations for alternative devices when creating a multi-media website

Design a multimedia web site
- Apply the design principles of
  - Unity and consistency
  - Navigation
  - Typography
  - Color schemes
  - Browsers
  - Screen sizes/resolution

Understand the design concepts for creating a multimedia website
- Create a website with a user-friendly design
- Apply appropriate design for disabled users
- Publish to a web server
- Understand the role of Web scripting
- Understand the process of website maintenance
- Apply search engine optimization techniques when creating a multi-media website
- Understand the usage of Web Analytics
- Be familiar with common Web Protocols
- Understand the process for domain registration and the purpose of ICANN

Use a web authoring tool to create a multimedia web site
- Create a multimedia web site that includes the following features:
  - HTML 5 tags
  - Head content and meta tags
  - Text
  - Lists

- o Links and navigation
- o Images
- o Tables
- o CSS Styles
- o Audio
- o Video

Understand the design concepts related to creating and use graphics for the web
- Understand and select the proper graphic format for images used in a web site
- Understand the differences between vector and bitmap graphic formats
- Apply transparency to an image
- Understand the RGB color coding system
- Be familiar with the available sources of graphics
- Understand and apply copyrights appropriately to multi-media files

Use graphics software to create and edit images for the web
- Create graphics and include them on a web site
- Create bitmap and vector objects including use of the following features:
  - o Drawing tools
  - o Shapes, fills and strokes
  - o Color
  - o Layers
  - o Text
- Be able to edit images using a common graphics software program

Understand the design concepts related to creating and using animation, audio and video for the web
- Identify the advantages and disadvantages of animated web sites
- Understand animation file formats and their differences
- Integrate animation or video into a web site
- Understand common audio formats and the advantages and disadvantages of each format
- Understand audio compression methods
- Understand the process of file streaming
- Understand the common video formats and the advantages and disadvantages of each format
- Understand video compression methods

Use video or animation software to create and edit video or animations for the Web
- List and describe the types of different animation principles, including
  - o Software or CSS keyframe animation
  - o HTML 5 support for animation
  - o JavaScript
- Create an animation using one of the following methods:
  - o Animate style software, such as Adobe Animate or equivalent
  - o HTML 5 support for animation
  - o CSS keyframe animation
  - o JavaScript
- Integrate video or animations into a web site

When using video, use a smartphone or a camera and video editing software to create and edit videos for the web, including
- Mark clips
- Delete clips
- Trim clips
- Insert clips into timeline
- Titles
- Transitions
- Effects
- Sound

Incorporate video or animation into a website.
Use software tools to publish and maintain a multimedia web site, including

- Describe acquisition of server space and evaluate server considerations
- Understand the process of registering a domain name
- Upload or copy files to a server
- Update web sites

Create an integrated course project that incorporates skills learned for graphics, HTML and Multimedia.

Required Time Allocation per Topic
In order to standardize the core topics of ITE 170 so that a course taught at one campus is equivalent to the same course taught at another campus, the following student contact hours per topic are required. Each syllabus should be created to adhere as closely as possible to these allocations. Of course, the topics cannot be followed sequentially. Many topics are taught best as an integrated whole, often revisiting the topic several times, each time at a higher level. There are normally 45 student- contact-hours per semester for a three-credit course. (This includes 15 weeks of instruction and does not include the final exam week so 15* 3 = 45 hours. Sections of the course that are given in alternative formats from the standard 16-week section still meet for the same number of contact hours.) The final exam time is not included in the timetable. The category, Other optional content, leaves ample time for an instructor to tailor the course to special needs or resources.

Topic	Time in Hours	Percentages
Introductory concepts	1	2%
Plan and organize a multimedia web site	1	2%
Design a layout of multimedia web site	2	4%
Design concepts and considerations related to creating multimedia website	7	16%
Copyrights, fair use and credits	1	2%
Accessibility issues, ADA, WAI, types of disabilities and accessible design	1.5	3%
Use a web authoring tool and HTML to create a multimedia web site	8	18%
Understand the design concepts related to creating and using graphics and other media for the web	3	7%
Use graphics software to create and edit images for the web	3	7%
Understand the design concepts related to creating and using audio, video or animation for the web	2	4%
Understand video or animation software to convert, create and edit video or animation for the web	7	16%
Understand the maintenance process for a multimedia web site	1	2%
Use software tools to publish and maintain a multimedia web site	1	2%
Audio and Video concepts	2	4%
Other Optional Content	2.5	6%
Exams and Quizzes	2	4%
Total	45	100%