

Course Description

This course provides students with a background in digital media, multimedia applications development, and multimedia systems. Topics include digital media fundamentals, authoring, and multimedia systems design issues. Weekly laboratory and programming assignments introduce students to media editing tools and programming issues. A final project challenges students to apply what they learn. *Exclusion(s):* COMP 4431 *Prerequisite(s):* (COMP 1021 OR COMP 1022P OR COMP 1022Q (prior to 2020-21)) AND (ELEC 2100 OR ELEC 2100H)

List of Topics

Week 1	Course Overview, Digital Media, Multimedia Application
Week 2	Design Principles, Image Representation, Pixel, Bitmap, Data Size, CULT
Week 3	Digital Image Processing, Designs of Image, Crowd Accelerated Innovation
Week 4	Designs of Images, 3D Image, Image Formats, Bitmap vs. Vector, Sound
Week 5	Digital Audio, Sound Effect, Stereo Sound
Week 6	Audio Formats and Devices, Digital Video, Video Editing and Transitions, Styles of video
Week 7	Storytelling, Camera Position, Camera Angle, Roles of Video Production, Art and Design, After Effect
Week 8	Art and Design 2, Chroma Key, Video Concepts, Video Delivery, Video and Audio Format
Week 9	Compression, Lossless Compression, Lossy Compression, MPEG, Streaming
Week 10	Animation, Animation – Basic, Generating Animation, Interactivity, Medium of Interactivity, HTML and JavaScript, Interactive Media, Interaction Design
Week 11	Multiple Active Control, Symbols, Mobile Gaming, Game Design, Game Design Document (GDD)
Week 12	GDD 2, Randomizer & interval, Game Review, Social Media
Week 13	Social Media 2, Digital Media, Course Review

Statement of Objectives/Outcomes:

On completion of this course, students will be able to:

CO1 - come up with design concepts of a digital media presentation that demonstrates their insights on a societal issue;

CO2 - analyze and evaluate digital media from artistic, business, and technical perspectives;

CO3 - create digital media (eg. web, image, animation, video) using multimedia tools;

CO4 - adopt online multimedia systems/ networks with their prepared digital media to convey for themselves, companies and organizations.

Textbook(s) and References:

Topic	References
Audio Processing - Adobe Audition	<ol style="list-style-type: none"> <u>1.Basic acoustic principles</u> <u>2.Adobe Audition basic tutorial</u> <u>3.Adobe Audition video tutorial</u>
Image Processing - Adobe Photoshop	<ol style="list-style-type: none"> <u>1.The 10 best alternatives to Photoshop</u> <u>2.How to use Photoshop to create a sketch effect</u> <u>3.Turn a photo into a collage of poloroids with Photoshop</u> <u>4.Na vi avatar photo manipulation</u> <u>5.Create a color infrared effect in Photoshop</u>
Video Editing - Adobe Premier	<ol style="list-style-type: none"> <u>1.Video transitions</u> <u>2.Slice and blend videos</u> <u>3.Animating the PSD layers</u> <u>4.CMZ Equipment list</u>
Animation (HTML 5)	<ol style="list-style-type: none"> <u>1.HTML5 examples in lecture</u> <u>2.Drawing with HTML 5</u> <u>3.Making a portfolio with HTML 5</u> <u>4.50 amazing examples of HTML5</u> <u>5.Editor for HTML5</u>
HTML5 game samples	<u>2012 american election</u>
Mobile App with HTML 5	<u>1.How to design a mobile game with HTML5</u>
Others Materials	<ol style="list-style-type: none"> <u>1.IOS6 reference</u> <u>2.step by step "Hello World" in IOS6</u> <u>3.Ruby</u> <u>4.Mechanize</u>

Relationship of Course to Program Outcomes:

Please refer to the Report Section 4.3.2 (iii).

Grading Scheme:

Mid-term Examination	10 %
Mid-term Project	22 %
Final Project	22 %
Laboratory	24 %
In- and Out-of-Class Activity	22 %