**INTRO TO GAME DESIGN**

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**COURSE DESCRIPTION:**

Digital Animation and Video Game Design is an exciting and growing field with many career possibilities. Whether in major entertainment studios, independent film production, or new media practice such as video games, internet, portable devices, animation is in high demand. It is also an integral part of many other disciplines such as architectural, scientific or medical imaging, leading to research career opportunities. Students begin with a fundamental understanding of the art of movement. They work in 2D hand-drawn animation, 3D computer imaging, stop-motion and history of animation and innovative combinations of these processes.

This introductory course gives students the background necessary to animate in any media/software with strong skills in one of several specialty areas of animation, such as character animation and special effects animation. Students in the animation concentration would typically be aiming for careers in 3D animation, 2D animation, motion graphics, character animation, and video game production.

Students will gain hands-on experience with the industry standard Maya, ADOBE Flash Professional, ADOBE Photoshop and additional “add-on” software as well as learn to use professional-grade equipment.

**CURRICULUM AREAS:**

Study of the fundamental principles and mechanics of motion through hand-drawn animation. Students explore timing, spacing, and staging an image for clarity, gravity, emotion and storytelling, and learn to apply and manipulate the fundamental concepts to creatively animate an idea. The coursework will serve as a foundation for comprehending the underlying principles and mechanics for any form of animation. Study of 3-D as it relates to the basic principles of animation. Students will learn to create believable and natural animations. This production course focuses on dynamic animation strategies to visualize physical actions. Students will explore rigid and soft bodies, particle animation, and rendering in both theory and practice. Additional topics include:

***Digital Animation***

***Stop-Motion and Cel Animation***

***Storyboarding for Animators***

***History of Animation***

**COURSE OBJECTIVES:**

By the end of this course students will have learned:

* The basics of animation timing
* How to design a character for both 2D and 3D animation
* The importance of walk cycles and their basic construction
* The purpose of keeping a sketchbook as an animator
* The drawing principles used to create a believable background
* How to create an animation show reel
* An introduction to the development and evolution of animation

**UNIT PLANS:**

UNIT 01: Week 1

Digital Animation Overview

UNIT 02: Week 2

2-D Character Design / History of Animation / Fundamental Concepts of Animation

History of Animation Outline:

1. Origins of Animation
2. Winsor McCay to Mickey Mouse
3. Disney
4. UPA, Warner Bros., and MGM
5. The Canadian National Film Board
6. Animation in Asia
7. The Beginning of Computer Animation
8. Pixar
9. Future of Animation

UNIT 03: Weeks 3-5

Maya Overview

In this session we cover all the basics of Maya, getting you comfortable with the main aspects of the interface, navigating in 3D space, and working with basic objects. In this session we dive into Maya’s animation toolset and interface. By the end of this session you will have a basic understanding of how to animate within Maya.

UNIT 04: Weeks 4-7

Character Animation in Maya I

In this session we look at the basic tools, techniques, and workflows of character animation within Maya. We’ll cover the basics of working with one of our biped characters.

3D DESIGN

1. Creating 3D Objects
2. Creating 3D Figures

2D ANIMATION - TIMING

1. Ball Bounce
2. Wave
3. Walk Cycles

3D ANIMATION - TIMING

1. Ball Bounce
2. Rising Door
3. Train
4. Wave
5. Walk Cycles

UNIT 05 Week 8

UNIT 06 Week 9

UNIT 07 Week 10

**ESSENTIAL QUESTIONS:**

1. How can an animator control the speed / timing of an animation?
2. Why is it important to sketch out designs before animating?
3. How do the principles of art and design fit into animation?
4. Who are the important figures in the history of animation?

**SOFTWARE:**

Adobe Flash CS6

Adobe Premiere CS6

Autodesk Maya 2016

**TEACHER RESOURCE BOOKS:**

Adobe Flash Professional CS6: The official training workbook from Adobe Systems. (2012). San Jose, Calif: Adobe.

Blair, P. (1994). Cartoon animation. Tustin, Calif: W. Foster Pub.

Furniss, M. (2008). The animation bible: A practical guide to the art of animating, from flipbooks to flash. New York: Abrams.

Naas, P. J. (2013). Autodesk Maya 2014 essentials: Autodesk official press. S.l.: John Wiley & Sons Inc.

Thomas, F., Johnston, O., & Thomas, F. (1995). The illusion of life: Disney animation. New York: Hyperion.

Williams, R. (2001). The animator's survival kit. London: Faber.