

<b>Course Title:</b>	Video Gaming 2 - Game Design and Development
<b>Department:</b>	Business/Computers/Technology
<b>Course #:</b>	<b>7555</b>
<b>Grade Level/s:</b>	10-12
<b>Length of Course:</b>	Year
<b>Prerequisite/s:</b>	Computer Programming and Game Design

**UC/CSU (A-G) Req:**

**Brief Course Description:**

Game Design and Development expands on the technical skills and knowledge students gained in Computer Programming and Game Design. This course focuses more on original and creative work side of gaming. The curriculum in this course will concentrated on learning more advanced programming topics and technical skills through an engaging and interactive 3-D and VR gaming worlds through structured programming and 3D modeling. Students will apply programming concepts for simulation and game-based product development using a selected programming language or commercial development tools. Students will use a professional-level game programming/scripting development product set to create user-based simulation and game end-products. At the completion of this course students will have a deep understanding of the elements and principles of game art and game design. The key for students is how these two elements transcend into various market places.

**I. GOALS**

**Course Goals: The course will**

- A. Provide comprehensive understanding and use of the Unity product tool set.
- B. Guide the student to understand product development using simulation and game development programming, tools and techniques.
- C. Guide the student to understand game theory when applied to programming and scripting of simulation and game development.
- D. Guide the student to be able to use the proper syntax, code structure, structured design and object coding to complete working models in team and individual projects
- E. Assist students to be able to generate all required working elements for a simulation.
- F. Assist students to be able to generate all required working elements for a game
- G. Diagram the animation requirements by applying straight lines, paths, curves, cones, and constrains to achieve the desired results.
- I. Compose surface characteristics, applying color, shine, texture, matting, and transparency
- J. Learn how to use camera points in the development of the design
- K. Apply animation to character, create a pathway and render the scene

## **Expected Student Learning Outcomes:**

Students will be able to

1. Demonstrate knowledge of game and simulation development.
2. Demonstrate mastery of the development tools being used.
3. Utilize 3D development programming tools.
4. Generate working code that will demonstrate game play with simulated real-world actions and outcomes.
5. Use software and online tutorial resources.
6. Create computer programs that utilize correct methodologies.
7. Create computer controlled (scripted) objects in a 3D virtual environment
8. Design, build and demonstrate functional products with hands-on activities and exercises.
9. Learners will be completing all game developer documents in the plan of study that will gain a broad understanding of what is involved in the creation of interactive application and video game creation process; from concept inception to final release of a game.

## **II. OUTLINE OF CONTENT FOR MAJOR AREAS OF STUDY**

1. Introduction Gaming Industry/Gaming Content/Scripting/Gaming Modification
2. 3D modeling programs:  
Blender/Maya/Tinkercad([projectignite.autodesk.com](http://projectignite.autodesk.com))/Pixologic/Sculptris/Openscad
3. 3D Game Engine: Unity/Unreal/Amazon Lumberyard/ Autodesk Game Engine

## **III. ACCOUNTABILITY DETERMINANTS**

### **1<sup>st</sup> Semester**

1. **Gaming Industry** (CTE Standards D1.1, D1.2, D2.4, D2.5, D6.3, D6.7)
  - a. Gaming History – Product/Games/Designer
  - b. New technology/Glossary/Game hardware
1. **Game Elements** (CTE Standards:D2.1., D2.2. D2.3. 2.4, D2.6, D2.7, D2.8, D6.7, 10.8)
  1. Intellectual Property and Copyright
  2. Game: Design Cycle
  3. Audio Assets/Model Assets
  4. Interaction Matric/Class Diagrams/Game Flow Diagrams
  5. Create a Game Industry Information Resource Guide:
    - Game Developer Journal (GGJ)
    - Game Design Document (GDD)
    - Game Modification Plan (GMP)
    - Game Modification Task Sheet (GMTS)
2. **3D Modeling, Texturing, and Animation Computer Graphics**  
(CTE Standards:D2.1, D2.2, D2.4, D2.5, D2.6, D2.7, D6.3, D6.7)

3D Modeling lessons: 3D modeling software is a class of 3D computer graphics software used to produce 3D models. Individual programs of this class are called modeling applications. Student will use the software to produce the following

- 1) Introduction to Primitive Shapes - Simple primitive shapes are combined in different ways to sculpt or build a more complex shape.
  - Lesson: Learning the moves result
  - Lesson: Camera Controls

- Lesson: Material from another shape using the hole feature
  - Lessons: Understand how primitive shapes are used in design.
  - Lessons: Identify primitive shapes within a more complex object or design.
  - Lesson: how to scale, copy and paste
    - Lessons: Modeling and Texturing
    - Lesson: Vertex xyz with texture editor
    - Lesson Camera with lighting
    - Lesson Text and fonts
    - Lesson Animation
    - Lesson Wireframe mode with materials
    - Lesson Particle system with animation
2. Project Key chain: CTE Standards:D2.1, D2.2, D2.4, D2.5, D2.6, D2.7, D6.3, D6.7)  
 Student will learn how they can make a keychain by connecting letters together for the lesson. While this could be done with any word, in this example we will use my last name. In the make it your own lesson I provide additional ideas and challenges to get the students to personalize the project to their style. As they learn how to make shapes. Students will make VMHS key chain and a key chain or their choice that is in the gaming/entertainment industry
- 3D printing/modeling
3. Project: create 3 different buttons using 3D modeling program. CTE Standards:D2.1, D2.2, D2.4, D2.5, D2.6, D2.7, D6.3, D6.7)  
 While creating your buttons you will learn about the basics of 3D modeling and 3D printing. After successfully completing this lesson feel free to customize your buttons or create one of your own. Wear your buttons proud, you made them (your initials, VMHS, and your own design)
- grabbing a cylinder and placing it on the work-plane and modifying
4. Project: How to Create an Alien - In this project student will be 3D modeling an alien that is out of this world! CTE Standards:D2.1, D2.2, D2.4, D2.5, D2.6, D2.7, D6.3, D6.7)
- designed to reinforce the knowledge of the Align, Hole Tool and Mirror Tool.
  - Concepts learned to cover are duplicate are select, deselected, rotating, scaling and hot key
5. Other Lessons concepts: CTE Standards:D2.1, D2.2, D2.4, D2.5, D2.6, D2.7, D6.3, D6.7)
- Modeling and Texturing
  - Vertex xyz with texture editor
  - Camera with lighting
  - Text and fonts
  - Animation
  - Wireframe mode with materials
  - Particle system with animation

### 3D Game Engine

#### Unit 1 Unit 1: Introduction to Game Design

CTE Standards:D2.1, D2.2, D2.4, D2.5, D2.6, D2.7, D6.3, D6.7)

Activities in this unit of instruction are designed to provide a high level overview of game design and the game creation process. Learners will be introduced to various game genres during this unit. They will also become familiar with elements of game play and project management concepts, as related to interactive application and video game creation.

- Read this article, take notes and watch video.[http://educade.org/lesson\\_plans/reflect-on-and-modify-games-with-the-help-of-the-games-we-play](http://educade.org/lesson_plans/reflect-on-and-modify-games-with-the-help-of-the-games-we-play)

- Create a brief outline of the room and hallways and outside make a game of your character like the video.
- Introduce learners to this topic by having them complete the following tutorials Unity Editor:
  1. Learning the Interface Tutorial:  
<http://docs.unity3d.com/Manual/LearningtheInterface.html> from the website this is the video  
<https://unity3d.com/learn/tutorials/topics/interface-essentials/interface-overview?playlist=17090>
  2. Editor Basics: <http://unity3d.com/learn/tutorials/modules/beginner/live-training-archive/editor-basics>

## **Unit 2 Critical Thinking In Game Design**

CTE Standards: D2.1, D2.2, D2.4, D2.5, D2.6, D2.7, D6.3, D6.7

Activities in this unit of instruction are designed to develop critical thinking and problem solving skills. Learners will be introduced to various strategies and techniques for idea generation, problem solving, and critical analysis.

- Critical Thinking -definition, create a well-developed arguments to a game
- Idea Generation Techniques -What is brainstorming? How is it useful? What are the rules?
- Critical Thinking for Game Analysis with the purpose in game design, function in game development
- Problem Solving Basics through priorities, methodologies, planning of gaming technique
- Exploring the Unity Editor with the program  
 Unity Editor and should be familiar with the user interface. This unit will allow them to experiment with importing and manipulating game objects. Learners can complete the following brief tutorial on game objects in the Unity Editor: <http://unity3d.com/learn/tutorials/modules/beginner/live-training-archive/gameobjects>
- Learners can reference the Unity Manual for additional background on game objects.  
<http://docs.unity3d.com/Manual/TheGameObject-ComponentRelationship.html>

## **Unit 3: Game Design Theory**

CTE Standards:D2.1, D2.2, D2.4, D2.5, D2.6, D2.7, D6.3, D6.7

Activities in this unit of study are designed to foster an understanding of fundamental game design principles, including: genres, goals, mechanics, player motivation, structure, and gameplay. Learners will analyze different types of 2D and 3D games, create proposals for building common game types, and begin learning the process of building games using the Unity Editor.

Game Genres (e.g. defining characteristics, impact to gameplay)

CTE Standards: D2.1, D2.2, D2.4, D2.5, D2.6, D2.7, D6.3, D6.7)

- Game Environments (2D vs.3D, impact on ease of navigation)
- Game Assets ( models, materials)
- Goals (objectives, logic, challenges)
- Game Mechanics (operational, constitutive, implicit rules)
- Player Motivation (playability; balancing challenge, risk, and reward)
- Symmetry and Balance (“fairness” of the game, appropriateness of the challenge level)
- Game Structure (space, time)
- Game Development Cycles (iterative processes, rapid prototyping models)

Activity One:

CTE Standards:D2.1, D2.2, D2.4, D2.5, D2.6, D2.7, D6.3, D6.7)

Play three games and answer the following:

1. What is the genre? Is there a specific sub-genre? Could the game belong to more than one genre? Be sure to provide information that helps validate your choice.
2. Who is the audience?
3. What are the goals and objectives?

4. What is the overall narrative? (Explain in two or three sentences)
5. How would you describe the overall game? (i.e., look, playability, and entertainment)

Unity activity: The following tutorial will introduce to learners to the importance of models and materials within the game development process and the tools available within the Unity Editor. It will also help learners to continue applying game development knowledge and skills from previous tutorials. Models and Materials in Unity Editor:

<http://unity3d.com/learn/tutorials/modules/beginner/live-training-archive/models-and-materials>

#### **UNIT 4: STORY AND GAME CREATION**

CTE Standards: D2.1, D2.2, D2.4, D2.5, D2.6, D2.7, D4.1, D4.3, D4.4, 6 D6.3, D6.7)

This unit of study introduces the learners to the major elements of narrative for interactive environments. The focus is on the concepts of storytelling in relationship to game design. Learners will explore the fundamentals of narrative creation and the crucial importance of interactive storytelling. Learners will also use storyboards to create a visual sequence of story development and game play.

In this unit, learners will explore the following topics:

- Storytelling (e.g. theme, genre, tone)
- Character development (e.g. archetypes, personality traits, player and non-player characters)
- Storyboards (e.g. pre-visualization of scene flow, interactive sequencing)
- Environment development (e.g. terrain creation)
- Documents associated with gameplay storytelling (e.g. concept, story treatment, Game Design Document (GDD))

Students will be introduced to a basic project charter. In this unit, they will learn how to manage resources (i.e. time and talent) to accurately predict how long a project will take.

Assignment One : CTE Standards D2.1, D2.2, D2.4, D2.5, D2.6, D2.7, D4.1, D4.3, D4.4, 6 D6.3, D6.7))

Based on the Five Card Nancy card game, by [Scott McLeod](#), Five Card Flickr is an exercise in visual storytelling. Players are dealt five random images from a [Flickr](#) tag (*Instructor note: You must set up the Flickr images and the tag to ensure learners do not choose inappropriate images*) or by using this link <http://5card.cogdogblog.com/play.php?suit=etmooc>. Repeat this process four more times, building a coherent storyline from your five photos, during each round.

**Unity lesson:** complete the Terrain Sculpting Tutorial and previous tutorials as necessary to develop ability to begin the actual creation of their game for the *Capstone Project*.

Terrain Sculpting: <http://unity3d.com/learn/tutorials/modules/beginner/live-training-archive/terrain-sculpting> CTE Standards: D2.1, D2.2, D2.4, D2.5, D2.6, D2.7, D4.1, D4.3, D4.4, 6 D3.1, D5.1 D5.3, D5.4 D5.5 D6.3, D6.7))

#### **Unit 5 System Dynamics And Scripting Fundamentals**

CTE Standards: D2.1, D2.2, D2.4, D2.5, D2.6, D2.7, D4.1, D4.3, D4.4, 6 D3.1, D5.1 D5.3, D5.4 D5.5 D6.3, D6.7))

The focus of this unit of study is to introduce learners to the concepts of system thinking. Learners will begin to understand the interdependent elements of game design. Learners will also recognize the need for game documentation requirements and explore concepts in scripting.

Components of a Game Development Plan with System Thinking, Game Documentation

CTE Standards: D2.1, D2.2, D2.4, D2.5, D2.6, D2.7, D4.1, D4.3, D4.4, 6 D3.1, D5.1 D5.3, D5.4 D5.5 D6.3, D6.7))

- System Design - Functional Components and Flow Charts
- Anatomy of Creating Scripts focusing on Class, Declarations, Contents, Event Sequencing, Variables, Operators, Conditionals, Programming/Scripting languages

### **Learner Scripting Skills – Assignment**

CTE Standards:C4.1, C4.2, C4.6, C4.11, C4.8.,C6.0 D2.1, D2.2, D2.4, D2.5, D2.6, D2.7, D6.3, D6.7, D7.3,D7.6, D8.2)

This tutorial section covers the basic coding skills required to create a good game. By this Unit, learners should have experience in the import and setup of objects/models in the Unity Editor. Now, they need to develop the skill of writing scripts that cause actions to occur in the game, beyond the basic functions.

Learners should complete the following tutorials:

1. Spinning Cube: <http://unity3d.com/learn/tutorials/modules/beginner/scripting/assignments/spinning-cube>
2. Simple Clock: <http://unity3d.com/learn/tutorials/modules/beginner/scripting/simple-clock>

### **Building Learner Scripting Skills - Extended Assignment**

CTE Standards: C4.1, C4.2, C4.3, C4.6, C4.11, C4.8, D2.1, D2.2, D2.4, D2.5, D2.6, D2.7, D3.0,, D3.3 , D4.7 D6.3, D6.7)

The tutorials listed below address basic commands within a game. In this assignment, learners will develop their skills and broaden their understanding of creating and writing scripts used to run and manage the games they create. Learners should complete the following tutorials:

1. Scripts as Behavior Components: <http://unity3d.com/learn/tutorials/modules/beginner/scripting/scripts-as-behaviour-components>
2. Variables and Functions: <http://unity3d.com/learn/tutorials/modules/beginner/scripting/variables-and-functions>
3. Conventions and Syntax: <http://unity3d.com/learn/tutorials/modules/beginner/scripting/conventions-and-syntax>
4. C# vs JS syntax: <http://unity3d.com/learn/tutorials/modules/beginner/scripting/c-sharp-vs-javascript-syntax>
5. IF statements: <http://unity3d.com/learn/tutorials/modules/beginner/scripting/if-statements>
6. Loops: <http://unity3d.com/learn/tutorials/modules/beginner/scripting/loops>
7. Classes: <http://unity3d.com/learn/tutorials/modules/beginner/scripting/> classes

### **Unit 6: Game Development Tools, Functions, And Properties**

CTE Standards:D2.1, D2.2, D2.4, D2.5, D2.6, D2.7, D6.3, D6.7)

Activities in this unit of study are constructed to facilitate the design, development, and analysis of existing tools used for game development. This unit will explore software selection, language selection, and technical tools used in the creation of interactive applications and video games.

In this unit, learners will explore the following topics:

- Middleware and 3D engines
- Level editors (e.g. Unity Editor)
- Physics engines (e.g. PhysX)
- Sound editing tools
- Dynamic libraries

Within this unit, learners will gain a deeper understanding of development tools, engines, and level design concepts. They should also continue to develop basic scripting skills required to build any game, and their *Capstone Project*. The tutorials listed below provide additional hands-on learning experiences with the Unity Editor. They also provide skills that can be retroactively applied to the work already completed. Provide adequate time for learners to complete these tutorials as they cover key scripting topics.

CTE Standards:D2.1, D2.2, D2.4, D2.5, D2.6, D2.7, D3.3, D3.2, D4.3, D5.1 D6.1 D6.3, D6.5, D7.2 D7.4)

1. Activating Game Objects: <http://unity3d.com/learn/tutorials/modules/scripting/activating-gameobjects>

2. Scope and Access Modifiers: <http://unity3d.com/learn/tutorials/modules/beginner/scripting/variable-scope-and-access-modifiers>
3. Awake and Start: <http://unity3d.com/learn/tutorials/modules/beginner/scripting/awakeand-start>
4. Update and FixedUpdate: <http://unity3d.com/learn/tutorials/modules/beginner/scripting/update-and-fixedupdate>
5. Enabling and Disabling Components:  
<http://unity3d.com/learn/tutorials/modules/beginner/scripting/enabling-disabling-components>
6. Translate and Rotate: <http://unity3d.com/learn/tutorials/modules/beginner/scripting/translate-and-rotate>
7. Look At: <http://unity3d.com/learn/tutorials/modules/beginner/scripting/look-at>
8. GetButton and GetKey: <http://unity3d.com/learn/tutorials/modules/beginner/scripting/get-button-and-get-key>
9. Get Axis: <http://unity3d.com/learn/tutorials/modules/beginner/scripting/get-axis>
10. OnMouseDown: <http://unity3d.com/learn/tutorials/modules/beginner/scripting/on-mouse-down>
11. GetComponent: <http://unity3d.com/learn/tutorials/modules/beginner/scripting/getcomponent>

Unity Assignment One to be complete: CTE Standards:D2.1, D2.2, D2.4, D2.5, D2.6, D2.7, D6.3, D6.7)  
 Watch: <https://unity3d.com/learn/tutorials/modules/beginner/2d/physics2d> as an introduction to game physics. Then complete this bouncing ball tutorial to understand how physics works in a gaming environment: <http://unity3d.com/learn/tutorials/modules/beginner/physics/assignments/bouncing-ball>  
 Complete the Physics Best Practices Tutorial found at:  
<http://unity3d.com/learn/tutorials/modules/intermediate/physics/physics-best-practices>

Assignment Two Design a game similar to Angry Birds. (creating 1<sup>st</sup> in 3D then in VR camera for HTC Vibe, google card board or Oculus publication) (For example – explore monkeys with slingshots that need to shoot coconuts out of trees.) Your game must incorporate Newton’s Three Laws of Motion and his Law of Universal Gravitation. Remember you must account for vertical acceleration and horizontal velocity, as well as distance traveled, and the effect of gravity. (For this game you may ignore friction due to air resistance). CTE Standards:D2.1, D2.2, D2.4, D2.5, D2.6, D2.7, D6.3, D6.7)

## Final for Class

Students may work in 1, 2, or 3 person teams to create their game. If they choose to work in a team, their project should be graded as a team. At the end of the year, the instructor should ask each learner how much each team member contributed, including themselves. Lack of participation will result in a lower grade for that team member. Great teams have great contributors, each contributing equally. Learners should think carefully about their team members. What skills do the different individuals bring to the team? (e.g. art, design, programming, testing, project management).

And lastly, there is one very important concept to convey: An organized project = a happy game developers! (CTE Standards A1.0, A2.0, A8.0, D1.0, D2.1, D2.2, D2.4, D2.5, D2.6, D2.7, D4.1, D4.3, D4.4,6 D6.3, D6.7, D7.0)

## REQUIREMENTS

Requirements for submission of the *Capstone Project* include:

- An instructor approved *Capstone Project* proposal.
- An instructor approved Milestone Sign-Off Form.
- An original interactive application or video game.
- Game must include story and characters.
- An opening screen that states the title and explains the rules and instructions for playing.
- Graphics in support of the story and the gameplay.
- Player progress tracking throughout the game (e.g. player score, health meter, time limit).
- Challenging, but not impossible gameplay.
- Level of difficulty increases as the game progresses (e.g. multiple levels, objects to collect,

- more enemies, challenge of enemies).
- Multiple, original pieces of artwork (e.g. images or drawings).
- Multiple, original sounds created by the learner; at least one music clip and one player activated sound.
- Three game levels.
- More than one kind of movement property.
- A separate win screen and lose screen (not just a message).
- Create a 3D model first then progress to VR camera production.

#### IV. INSTRUCTIONAL MATERIALS & METHODOLOGIES

##### A) METHODOLOGIES

- Student will produce and create actual 3D video games and avatar models
- Student will use the 3-printing to produce 3D modeling work and game development projects.
- Teacher lecture for course work with direct instruction and video lesson work
- Teacher will demonstrate Blender, Unity, and other programs which are industry standard and educational software for learning object orientated gaming. In use of the software, different programming technique will be learned through step by step lectures of coding, function and variables, 3D techniques, and various other elements needed to complete game fundamentals to print in 3D and execute a game.
- Teacher observations of day-to-day classroom participation, effort, behavior and achievement
- Individual tests, student warm up log, and class assignments
- Student will showcase their video games through debugging processing and peer grading
- Students will add to their electronic portfolio and hard copy, and webpage this year's course work (flash drive, 365 and Haiku – on line learning system)

##### B) Software

- |  |   |
|--|---|
| • Blender 2.72 software<br><a href="http://www.blender.org/">http://www.blender.org/</a> | • <a href="http://projectignite.autodesk.com">projectignite.autodesk.com</a>        |
| • Unity 5 = <a href="http://unity3d/">http://unity3d/</a>                                | • Pixologic   |
| • Adobe Suite  | • Sculpttris  |
| • Sololearn  | • Openscad  |
| • Tinkercad  | • <a href="https://www.mixamo.com/">https://www.mixamo.com/</a>                     |
|  | • <a href="https://remake.autodesk.com/about">https://remake.autodesk.com/about</a> |

##### C) Books

###### Required Text book

- Unity Curricular Framework from Unity free
- Unity Game Development in 24 Hours, Sams Teach Yourself By Mike Geig ISBN-13: 978-0-672-33696-6
- *Game Character Creation with Blender and Unity* by Chris Totten ISBN-13: 9781118172728

###### Supplemental

- *Introduction to Game Design, Prototyping, and Development: From Concept to Playable Game with Unity and C#* by Jeremy Gibson ISBN: 0321933168
- *Beginning 3D Game Development with Unity 4* by Sue Blackman ISBN-13: 9781430248996
- *Game Development with Unity* by Michelle Menard ISBN: 1435456580
- **Learning Game Development With Unity 3D Training** - Infinite Skills SKU: 01819 | **Duration:** 8.5 hours - 87 tutorial videos | **Date Released:** 2013-08-14
- Blender: <http://www.gryllus.net/Blender/3D.html>
- Blender Video tutorials from Vimeo: <https://vimeo.com/nhirsig/channels>



## D) Equipment

- High computer with a high-end graphics card and memory
- Drawing tablets Wacom Intuos
- 3D printer and materials
- Colored Laser Printer build gaming portfolio
- Video Game Controllers
- Headphones
- Microphone
- Materials to make sounds for video games
- Green screen
- Google card board/3D glass/VR glasses
- Xbox and Play Station (Scropio, S, PS4 Pro)
- games of all genres to test and evaluate
- leap motion controller
- Vive and Octulus equipment
- Leap motion for VR development
- VR development kits
- Large screen TV
- Google Cardboard glasses
- Surface Pro/tablets for mobile testing
- Legos for 3D design building/ Lego people for perspective

## E) Websites

- <http://www.sololearn.com/> leaning C# plus other language
- <https://dotnetcademy.net/CSharp/Beginner>
- <http://www.learncs.org/>
- <http://www.programmr.com/>
- <http://www.cgtextures.com/>
- <http://openclipart.org/>
- <http://www.bfxr.net/>
- <https://remake.autodesk.com/about>
- <http://www.jamendo.com/en>
- <http://media.io/>
- <http://www.blender.org/support/tutorials/>
- <http://www.blender-materials.com/materials> and <http://matrep.parastudios.de/>
- <http://blenderdiplom.com/en/tutorials/all-tutorials.html>
- <http://pixologic.com/sculptris/> and <http://www.openscad.org/>
- <http://html-color-codes.info/>
- Microsoft <https://msdn.microsoft.com/en-us/magazine/dn759441.aspx>
- **Unity Courseware Video's:**  
<https://www.youtube.com/channel/UCu3Rs8ltjy5VYBA8EoFsSqA>
- **Courseware Learning Outcomes PDF:**  
[https://certification.unity.com/profiles/cms\\_certification/themes/certification/docs/unity-certified-developer\\_courseware\\_learning-outcomes.pdf](https://certification.unity.com/profiles/cms_certification/themes/certification/docs/unity-certified-developer_courseware_learning-outcomes.pdf)
- **System Requirements:** <http://unity3d.com/unity/system-requirements>
- **feel free to join any by following this link:** <http://www.studica.com/webinars-events>
- **Free Assets along with assets you can buy found here:** <https://www.assetstore.unity3d.com/en/>
- <http://www.wacom.com/en-us> please download the software
- <http://www.wacom.com/en-us/getting-started/intuos-pro>
- <https://www.youtube.com/user/wacom>
- <https://www.bing.com/videos/search?>