

**ART 315 New Media Studio / 4 Credits**  
**Spring 2015**  
**T/R 2:30 PM – 5:30 PM**

**Instructor: Dengke Chen**  
**Office: 403 Patterson**  
**Office hours: T 6 PM – 8 PM (by apt.)**  
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**Course description**

This is an introductory course for game character weapon creation, rigging and animation, and mobile game development using Unity, Maya, Blender, MudBox, Z-Brush, Topogun, Photoshop on the computer. No previous animation experience required.

**Supply and equipment list**

External Hard Drive or Flash Drive for Backup (10+ GB)  
Headphones (for in-class tutorial viewing)

**Recommended Books**

- (1) Introduction to Game Design, Prototyping, and Development: From Concept to Playable Game with Unity and C#  
ISBN-10: 0321933168
- (2) Introducing Autodesk Maya 2015 (Autodesk Official Press) ISBN-10: 1118862848

**Software**

Unity, Maya, Blender, MudBox, Z-Brush, Topogun, Photoshop, After Effects, Premiere.

**Course Objectives**

Upon completing the course each student will have:

- Learned the basics of Unity game development, and understood the game character/weapon creation workflow.
- Learned the basics of Rigging and 3D Animation, and applied them to your own characters to create captivating and stunning games.
- Completed technical/conceptual projects (assignments) as set out by the instructor, accompanied by an game design statement.
- Participated actively in all group discussions.

**Sequence and description of projects**

(1) Project One – Unity Game Development

- Introduction to Unity
- Game assets, materials, components, prefabs, lights, and custom player game object.
- Animation and physics
- Character rig and animation clips

- Scripting, variables and functions
- ★Presentation on project one. (Feb. 19, 2015)

(2) Project Two – Character Design & Weapon Design

- Introduction to Z-Brush and MudBox
- Modeling techniques
- Poly-Painting
- Topology in Topogun
- UV mapping
- Lighting and Rendering
- ★Presentation on project two. (Mar. 26, 2015)

(3) Project Three – Animation

- Introduction to Maya and Blender
- Joints and Binding
- Skinning tools and techniques (Weight Hammer, Paint Skin Weight Tool, etc.)
- Control Objects and Constraints
- Animation Timeline and Keyframe
- Principles of Animation (squash and stretch, anticipation, secondary action, etc.)
- Walk Cycle and Run Cycle
- Character Interaction
- Facial Animation
- ★Final presentation. (Apr. 30, 2015)

**Grading policy**

Three projects will be given throughout the semester. It is expected that you will address the assignments in each project creatively and with considerable thought. The class participation and attendance will be worth 30 % of your final semester grade and the exercises and projects will be worth the remaining 70 %.

- Class participation/Attendance = 30%
- Exercises (approx. 10) = 15%
- Project 1 = 20%
- Project 2 = 15%
- Project 3 = 20%

**Grades will reflect the students' ability to clearly demonstrate:**

- Success in relation to course and assignment objectives.
- Resolution and quality of work understanding of concept and ability to express that understanding.
- Inventiveness and ambition.
- Participation and commitment in all course activities.

### **Grading Scale**

94 – 100 = A (EXCELLENT) exceptional work, pushing the limits of the assignment and challenging yourself, excellent concepts and outstanding use of techniques.

90 – 93 = A-

89 – 87 = B+ (GOOD) work – well done, executed with care and attentiveness; good use of concepts and techniques from class and reading assignments.

86 – 84 = B

83 – 80 = B-

79 – 77 = C+ (SATISFACTORY) average work, assignment guidelines were properly followed, acceptable, and satisfactory achievement.

76 – 74 = C

73 – 70 = C-

69 – 67 = D+ (POOR) work barely meets assignment requirements, no effort or time invested.

60 – 66 = D

below 60 = F (FAILURE), does not meet the minimum requirement. Incomplete work. Please note that it's better to submit something than nothing. Even if you get 30/100 it will still help your grade. Not submitting an assignment will give you a 0.

### **Class Attendance**

It will be important for all students to attend class regularly, and to review the material missed should an absence occur. Up to 3 absences will be accepted unconditionally, but each further absence will cause the attendance grade to be lowered by 20 (100 to 80, etc.). Attendance will be recorded during the first 10 minutes of class. If you should have a medical reason to miss more than the allotted absences, please keep me apprised with notes from your doctor.

### **ALWAYS BACK UP YOUR WORK**

You will need an external hard drive or flash drive at least 10+ GB from which to work from and store your projects. Please remember to backup your files to an additional drive or DVD-r to avoid a tragic loss of your work. Loss of data is not a valid excuse for submitting a project late.

### **Safety Information**

Students in the School of Visual Arts may find themselves working in the shop or in their studios or classrooms using a variety of materials and power and hand held

equipment, which may cause injury. Given this possibility, equipment is provided and ventilation systems have been installed that are regularly inspected and maintained to ensure the safety of all students working in classrooms, studios and the shop. Students should use the shop only after having received an orientation in the use of such equipment and when supervised by faculty or shop personnel. Should any injuries occur, in the shop, studios, or classrooms in the School of Visual Arts please report them to Jerry Bierly, Shop Supervisor, Room 108 – A Visual Arts Building, Phone: 814-865-3962, email: jib7@psu.edu.

### **Academic Integrity Statement**

*University Policies and Rules Guidelines* states that academic integrity is the pursuit of scholarly activity in an open, honest and responsible manner. Academic integrity is a basic guiding principle for all academic activity at The Pennsylvania State University, and all members of the University community are expected to act in accordance with this principle. Consistent with this expectation, the University's Code of Conduct states that all students should act with personal integrity, respect other students' dignity, rights and property, and help create and maintain an environment in which all can succeed through the fruits of their efforts. Academic integrity includes a commitment not to engage in or tolerate acts of falsification, misrepresentation or deception. Such acts of dishonesty violate the fundamental ethical principles of the University community and compromise the worth of work completed by others.

Academic dishonesty includes but is not limited to acts such as cheating on exams or assignments; plagiarizing the words or ideas of another; fabricating information or citations; facilitating acts of academic dishonesty by others; claiming authorship of work done by another person; submitting work completed in previous classes; and/or submitting the same work to multiple classes in which a student is enrolled simultaneously.