Montgomery County Community College
CIS 214
Advanced 3D Modeling
3-2-2

COURSE DESCRIPTION:
This course provides the student with an advanced understanding of 3D graphic creation and modeling. Students will learn advanced techniques of rendering, texturing, and lighting on both characters and structures. Students will create a comprehensive class project incorporating the techniques taught throughout the semester. Students will also engage with the practices of the wider 3D entertainment industry to develop specific skills and a personal work flow for 3D modeling and texturing. Current industry standard application software will be used.

REQUISITES:
Previous Course Requirements
- – CIS 177 Introduction to 3D Modeling

Concurrent Course Requirements
None

LEARNING OUTCOMES Upon successful completion of this course, the student will be able to:	LEARNING ACTIVITIES	EVALUATION METHODS
1. Analyze 3D assets.	Lecture/Discussion Hands on Labs Homework Assignments Assigned readings Research	Discussion/Questions Research presentations Chapter Quiz
2. Apply critical reasoning to the selection and use of different 3D modeling workflows.	Lecture/Discussion Hands on Labs Homework Assignments Assigned readings Research	Discussion/Questions Research presentations Chapter Quiz
3. Solve game engine problems using industry best practices.	Lecture/Discussion Hands on Labs Homework Assignments Assigned readings Research	Discussion/Questions Research presentations Chapter Quiz
4. Reflect on the effectiveness of various technological solutions for optimized application of game engine technology.	Lecture/Discussion Hands on Labs Homework Assignments Assigned readings Research	Discussion/Questions Research presentations Chapter Quiz

At the conclusion of each semester/session, assessment of the learning outcomes will be completed by course faculty using the listed evaluation method(s). Aggregated

results will be submitted to the Associate Vice President of Academic Affairs. The benchmark for each learning outcome is that *70% of students will meet or exceed outcome criteria.*

SEQUENCE OF TOPICS:
1. Mastering ZBrush
2. Advanced Maya concepts
3. Mudbox redefined
4. 3D Characters, vehicles and environments
5. Self-managed activity
6. Advanced materials
7. Advanced Character rigging and posing
8. Game Engine lighting
9. Game Engine Materials
10. Exporting Advanced 3D Models
11. Engaging with the wider 3D community
12. Game Engine Cameras and Staging
13. Advanced Character Prototyping
14. Advanced Vehicle and Weapon Prototyping

LEARNING MATERIALS:
Kingslien, Ryan. (2011) ZBrush Studio Projects: Realistic Game Characters (1st ed)
Sybex, ISBN 047087256X

Papstein, Steiner, Aerni et all. (2015) ZBrush Characters and Creatures (1st ed)
3DTotal Publishing, ISBN 1909414131

Other learning materials may be required and made available directly to the student and/or via the College's Libraries and/or course management system.

COURSE APPROVAL:
Prepared by: Anil Datta   Date: 11/6/2015
VPAA/Provost or designee Compliance Verification:
          Victoria L. Bastecki-Perez, Ed.D.   Date: 02/2016

This course is consistent with Montgomery County Community College's mission. It was developed, approved and will be delivered in full compliance with the policies and procedures established by the College.