2021 COMPUTER GRAPHICS ONLINE COURSE SYLLABUS

COURSE OVERVIEW

Students will be introduced to the character pipeline for games and animation. It is an essential bases for Technical Art and Engineering for games and animation. It will include design, anatomy, modeling, texturing, rigging, programming, and animation overall, while focusing on character modeling in depth. It is a strong blend of design and engineering in 3D. And, students will learn to think in 3D artistically and learn how to manipulate 3d graphics technically.

The day will be divided into live lectures and two different lab sessions (to accommodate various time zones). This is a project-based class that includes a teaching strategy of short lectures, project demonstrations and one-on-one training in the virtual lab. The students will learn how to use the tools from multiple perspectives allowing them to think through problems that occur in the art asset pipeline for developing characters. The final projects are broken into many stages with the goal of creating a base mesh for a complex character project of the students' choosing. The projects will be worked on each day during classes and in the labs—with the goal to teach students technical art, project design, visual art principles, tools and extension through the pipeline. The modeling strategy and philosophy taught combines level one (low), and level two (smoothed once) resolution models that can be adapted for use in games, machinima, animations and movies. The techniques are specific and are taught with the assumption of no prior knowledge of the specific techniques. Each student's project will advance through the production pipeline at different rates, depending on the background of student and the complexity of character chosen; although, all students will be taught the entire process with the focus on base character modeling. The students will be organized into groups of 3 to 4 online peers. Each group will work on their individual final project characters as a part of the group. All of the students in the group will work together to make each of their individual characters as a part of a story. Together each member will design and create a character that fits one unified art direction as agreed on by its members (the group). They can choose a protagonist, antagonist, villain, side-kick, or minor-character to design, develop and model within a story that fits the chosen theme, genre, culture, and setting.

The course will feature some guest speakers who will expose you to different aspects of computer graphics.

Here are more details about each component, as well as requirements for the course:

LIVE LECTURE AND LAB SESSIONS

The instructor will be delivering daily lectures in MDT and the following sample times:

Week Daily Session 1 with Professor and all Students:

Philadelphia   8:00 AM – 11:00 AM

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Beijing	8:00 PM – 11:00PM
Utah MDT	6:00 AM – 9:00 AM
California	5:00 AM – 8:00 AM
Amsterdam	2:00 PM – 5:00 PM

Week Daily Session 2 with Professor and all Students:

Philadelphia	8:00 PM – 11:00 PM
Beijing	8:00 AM – 11:00 AM
Utah MDT	6:00 PM – 9:00 PM
California	5:00 PM – 8:00 PM
Amsterdam	2:00 AM – 5:00 AM

ALL students must attend both lecture sessions

Week Daily Lab Western Hemisphere Students with TA:

Philadelphia	2:00 PM – 5:00 PM
California	11:00 AM – 3:00 PM
Amsterdam (either lab session)	8:00 PM – 11:00 PM

Week Daily Lab Eastern Hemisphere Students with TA:

Beijing	2:00 PM – 5:00 PM
Philadelphia (TA)	2:00 AM – 5:00 AM
Amsterdam (either lab session)	8:00 AM – 11:00 AM

ALL students must attend one lab session

All lectures will be conducted via Zoom (or some equivalent software) and the recordings will be posted after the lecture.

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COURSE HARDWARE & SOFTWARE REQUIREMENTS

Students are required to have their own computer or laptop with access to a microphone and a webcam (this is built-in on most modern machines). You must also have strong/ reliable internet service. Any course-specific software will be provided free of charge and installation instructions will be given prior to the start of the course (or on the first day of class).