Faith Christian Academy: 3D Animation

Syllabus Updated 2013-05-22

**Course Description:** Create animations & recreations in 3D using Blender. Learn about 3D cinematography (virtual camera technique), 3D simulation, creature rigging, & mechanical rigging.

**Instructor**: Jake Gustafson, 215-257-4577 x3328, [jgustafson@my-fca.com](mailto:jgustafson@my-fca.com)

**Materials Used**: “Using Blender 2.6 for Animation” written by Jake Gustafson (17 yrs. animation exp. in various software); Example animations & video tutorials by Blender Foundation team & various other animators; Public domain and free-licensed objects, imagery & sounds, for use in projects.

**Software Used**: Blender a free, community-driven open-source program used in many independent films worldwide. For free short films by the Blender Foundation, see “Big Buck Bunny” and “Sintel” on YouTube, or Play store on Android.

**Goals**: Gain a foundation in 3D modeling & animation tools & techniques, to create prepare for further education in software which is used in similar ways for cinema, commercial product visualization, engineering simulation, forensic simulation, & interactive media.

**Grading**: Regular assignments for each part are worth 10 points and generally involve mastering one tool or technique in one week. Creative projects, which require a combination of tools and techniques (& sometimes two weeks) are worth 20pts. Each quarter has about 100pts, so each project is worth about 10% or 20% of the grade for that quarter.

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| **Point Value** | **Part & Name** | **Due** | **Quarter** |
| 10 (participation) | Introduction |  | 1 |
| 10 | Part 1 - Location Keyframes | 8/31 | 1 |
| 10 | Part 2 - Point of Reference | 9/7 | 1 |
| 10 | Part 3 - Text and Indirect Lighting | 9/14 | 1 |
| 10 | Part 4 - ChildOf & Properties | 9/21 | 1 |
| 10 | Part 5 - Booleans & Fluid Simulation | 9/28 | 1 |
| 10 | Part 6 - Physics and Controllers | 10/5 | 1 |
| 10 | Part 7 - Render Physics with Materials | 10/12 | 1 |
| 10 | Part 8 - Motion Blur | 10/19 | 1 |
| 10 | Part 9 - Using a Premade Human Rig | 10/26 | 1 |
| 20 | Part 10 - Walk Cycles | 11/7 | 2 |
| 10 | Part 11 - Box Method Modeling | 11/9 | 2 |
| 10 | Part 12 - Basic Creature Rigging | 12/5 | 2 |
| 10 | Part 13 - Animating a Rigged Creature | 12/10 | 2 |
| 10 | Activity 1 - Clouds |  | 2 |
| 10 | Activity 2 - Terrain Using Proportional Editing |  | 2 |
| 20 | Part 14 - Using Views for Texture Paint | 1/18 | 2 |
| 20 | Part 15 - Dramatic Animation | 2/4 | 3 |
| 10 | Part 16 - Smoke Simulation | 2/15 | 3 |
| 10 | Part 17 - Camera Animation | 2/27 | 3 |
| 20 | Part 18 - Using Views for Sound | 3/6 | 3 |
| 10 | Part 19 - Lofting & Textures - Using Blender | 3/15 | 3 |
| 20 | Part 20 - City Scene with Fracture Simulation | 4/9 | 3 |
| 10 | Activity 3 - Particles | 4/14 | 4 |
| 10 | Part 21 - Lighting & Rendering Techniques | 4/25 | 4 |
| 10 | Part 22 - Extruding Curves (Spline-Based Modeling) | 5/2 | 4 |
| 10 | Part 23 - Pivot Point & Screw Modifier | 5/9 | 4 |
| 10 | Part 24a - Interior Design Structure | 5/16 | 4 |
| 10 | Part 24b - Interior Design Arrangement & Animated Tour | 5/23 | 4 |
| 10 | Part 25a - Dramatic Story Summary | 5/30 | 4 |
| 20 | Part 25b - Dramatic Story Animation (Final Project) | 6/4 | 4 |