CSYE 7270

Building Virtual Environments

3D Model Animation

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3D Model Animation

Counts towards assignment score

### Preparation

Download or create a rigged 3D model. See

<http://tf3dm.com/>

<http://www.creativecrash.com/>

<http://www.turbosquid.com/>

### Part 1 – (50 Points) Animate your 3D Model using a Script

Animate your 3D model using a script. The script must: a) set at least 5 key frames, b) translate c) rotate, d) scale, and e) move the camera.

### Part 2 – (50 Points) Animate a movement cycle

Animate a movement cycle such as a walk cycle, fly cycle, kick cycle, etc. You can download a rigged model for this assignment but must reference where you got the model. The movement cycle must: a) set at least 5 key poses, b) have contrapposto c) complete a full cycle

**Scoring Rubric**

100 points possible

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| --- | --- |
| **Requirement** | **Points** |
| script key frames | 10 |
| script translate | 10 |
| script rotate | 10 |
| script scale | 10 |
| script camera movement | 10 |
| 5 key poses | 10 |
| contrapposto | 10 |
| full cycle | 10 |
| movement cycle animation quality | 20 |

**Submission**

You will submit your assignment via BlackBoard. Upload to the week that you do the assignment. If you submit this in week 4 upload to assignment 4, if you submit this in week 5 upload to assignment 5, etc.

Click the title of assignment (blackboard -> assignment -> <Title of Assignment>), to go to the submission page.

### 3D Animation Resources

Maya Essentials 2: Polygonal Modeling Techniques with George Maestri

<http://www.lynda.com/Maya-tutorials/Maya-Essentials-2-Polygonal-Modeling-Techniques/96715-2.html>

Game Character Creation in Maya with Chris Reilly

<http://www.lynda.com/tutorials/Game-Character-Creation-in-Maya/83095-2.html>

Modeling Vehicles in Maya with Ryan Kittleson

<http://www.lynda.com/Maya-tutorials/Modeling-Vehicles-Maya/114004-2.html>

Character Animation Fundamentals with Maya with George Maestri

<http://www.lynda.com/Maya-tutorials/Character-Animation-Fundamentals-with-Maya/54994-2.html>

Working with HumanIK Rigs in Maya with Adam Crespi

<http://www.lynda.com/Maya-tutorials/Working-Human-IK-rigs-Maya/122440-2.html>

Maya Essentials 5: Animation Tools with George Maestri

<http://www.lynda.com/Maya-tutorials/Maya-Essentials-5-Animation-Tools/96719-2.html>

Facial Modeling Timelapse <http://www.sergicaballer.com/facial-modeling-timelapse/>

*Nice sources of 3D Models*

<http://rigging101.com/>

<http://tf3dm.com/>

<http://www.creativecrash.com/>

<http://www.turbosquid.com/>

<http://www.turbosquid.com/Search/?keyword=ufo&sort_column=A5&sort_order=asc>

<http://www.turbosquid.com/Search/Index.cfm?keyword=rocket&sort_column=A5&sort_order=asc>

<http://www.turbosquid.com/Search/Index.cfm?keyword=robot&sort_column=A5&sort_order=asc>

*SpringerLink Books*

Understanding 3D Animation Using Maya

Authors: John Edgar Park <http://link.springer.com/book/10.1007/b138279>

Principles of Computer Graphics Theory and Practice Using OpenGL and Maya®

Authors: Shalini Govil-Pai

<http://link.springer.com/book/10.1007/b135398>

References and Links:

* <https://www.youtube.com/watch?v=s7EIp-OqVyk>
* <https://answers.unity.com/questions/30622/how-to-animate-character-in-unity.html>
* <https://learn.unity.com/tutorial/controlling-animation>
* <https://forum.unity.com/threads/how-do-i-trigger-animations-through-script.471021/>