UNIVERSITY of BRADFORD

Module Details

Module Title	3D Character Creation
Module Code	GAV5012-B
Academic Year	2024/5
Credits	20
School	School of Built Environment, Architecture & Creative Industries
FHEQ Level	FHEQ Level 5

Contact Hours

Type	Hours
Lectures	6
Practical Classes or Workshops	4
Laboratories	24
Directed Study	166

Availability

Occurrence	Location / Period
BDA	University of Bradford / Semester 2

Module Aims

To introduce students to digital sculpting for the creation of ultra-high detail 3D character models used in animation, visual effects, and detail maps for real time rendering (e.g. games), using industry standard sculpting software.

Outline Syllabus

0. Classical sculpting techniques;
1. Using the Wacom tablet for 3D;
2. Anatomical study and gathering useful reference for likenesses;
3. Topology and planning a base mesh;
4. Exporting and Importing;
5. Sculpting tools and techniques for soft surfaces;
6. Sculpting tools and techniques for hard surfaces;
7. Managing Complexity and Performance;
8. Outputting maps to other programs;
9. Baking maps to low polygon target meshes;
10. Editing maps in 2D programs;
11. Texture and surface creation using sculpting programs.

Learning Outcomes

Outcome Number	Description
O1	Break down a character into separate components for sculpting, as used in industry standard sculpting software. Identify the landmarks of anatomy, physiology and costume to re-create a passable character likeness.
O2	Create ultra-high detail 3D meshes comprising of organic and man-made elements in a sculpting program, in the form of soft and hard surfaces. Create convincing surfaces using standard sculpting methods for texture map creation. Bake high detailed mesh information onto low polygon meshes for real time systems.
O3	Observe visual detail and effectively use visual reference for practical projects.

Learning, Teaching and Assessment Strategy

The module will be delivered via a series of practical lab classes with an emphasis on hands-on sculpting experience. As such, the theory of sculpting is for the most part embedded within the lab session structure, with key concepts discussed in lectures with seminar elements. An additional session of traditional sculpting practice with clay is designed to underpin 3- dimensional awareness and understanding. Practical skills, as well as an applied understanding of the key concepts of sculpting, are assessed in the coursework through the creation of a high detail digital sculpting project. Students who can demonstrate via portfolio an acceptable body of knowledge equivalent to the pre-requisites shown, EM-0139D, EM-0140D and EM-0149L, may be permitted to study this module. Supplementary assessment is to repair deficiencies in the original submission.

Mode of Assessment

Type	Method	Description	Weighting
Summative	Coursework - Written	'Character Prep' of reference imagery and sculpt-ready base 3D mesh.	30%
Summative	Coursework - Written	A 'Sculpt' of a ultra-high detail character model	40%
Summative	Coursework - Written	A low resolution 'Retopologized mesh' of the high detail character model using detail maps.	30%

Reading List

To access the reading list for this module, please visit https://bradford.rl.talis.com/index.html

Please note:
This module descriptor has been published in advance of the academic year to which it applies. Every effort has been made to ensure that the information is accurate at the time of publication, but minor changes may occur given the interval between publishing and commencement of teaching. Upon commencement of the module, students will receive a handbook with further detail about the module and any changes will be discussed and/or communicated at this point.