MODULE CODE: DH3BAGA01C

MODULE TITLE: Intro to Modelling for Games

Level: 4
Credit Value: 30
Pre-Requisites: NONE

Module Description
This module is designed to develop theoretical knowledge of topology and geometry within the context of 3D modelling and to build a vocabulary around this subject area. Skills in concept art for computer games will be explored and 3D modelling principles within the digital domain. It is also a practical introduction to virtual modelling, lighting and applying texture to wireframe models, designed to provide the student with a technical preparation for further inclusion of games assets in computer games systems. The module allows development of analysis and self-evaluation, vital for skill development and career planning (Personal Development Planning). Work created here will be added to the student's accompanying portfolio. This portfolio of design and realisation will be developed, in additional modules to aid course progression and employment.

Learning Outcomes
On completion of this module, students will be able to:

1. Demonstrate knowledge of 3D modelling software in order to design games assets effectively for a specific target audience.
2. Exhibit an understanding of the theory and applications of 3D.
3. Devise 3D Models using knowledge of the underlying concepts and principles of computer based design.
4. Generate thoroughly thought through designs for 3D models showing creativity and industry standard skills.
5. Demonstrate the basic principles of texturing and lighting models.
6. Demonstrate skills in art asset creation, involving low / high-poly modelling.
7. Evaluate and evidence the process of creating game assets.

Assessment

Hand-in	**Aggregate (Yes/No)**	**Semester Due**
Digital portfolio including Concept Art, Image Planes, Games Assets and 1000 word evaluation (100%) LO1, L02, L03, L04, L05	N/A	Sem 1 End

Submit via Moodle

Indicative Content:

- 3D modelling and mesh construction
- Concept art and image planes
- Applications of 3D modelling
- Rendering
- Character pipeline: highpoly, lowpoly, baking and texturing, materials, presentation and optimisation.
- Anatomy
- Modelling techniques in Maya & Unity
- Geometric and topology theory
- Digital techniques of virtual lighting and texture application
- Peer and Self-Evaluation

Learning and Teaching Strategies
Practical sessions, lectures, workshops, group and individual sessions and tutorials are combined to give a balanced programme of study. The course is supported by the use of varied ICT, and independent learning. Media terminology and vocabulary relating to all areas of digital media will be taught through varied strategies to enable learners to develop their use of appropriate technology for each stage and module.

Applied and creative skills will be developed through a range of practical work including conceptual planning, 3D exploration, concept art, construction of image planes, topology, digital based audio-visual production and post-production and testing used to inform critical, evaluative and reflective practice.

Media production skills are developed through a series of practical tasks which are designed to build on students' skills at entry to the programme leading to the development of secure technique, imagination and creativity as applied to the digital media industry. A suite of computer / video game consoles and a library of PC and console games – including retro equipment will be developed in addition to the students' own home facilities and access to online gaming resources.

Specific Learning Resources

- 2D and 3D design and modelling software
- Graphics editing software such as Photoshop
- PC or Mac suites
- Games Suite
- Internet resources via Moodle

Reading Lists
Recommended

Derakhshani, D. (2015) Introducing Autodesk Maya 2016: Autodesk Official Press. Chichester: Sybex.

Lilly, E. (2015) The Big Bad World of Concept Art for Video Games: An Insider's Guide for Beginners. CA: Design Studio Press.

McKinley, M. (2006) The Game Animator's Guide to Maya. Indiana: Chichester: Wiley Publishing.

McKinley, M. (2010) Maya Studio Projects: Game Environments and Props. Indiana: Sybex.

Schell, J. (2016) The Art of Game Design: A Book of Lenses, Second Edition. Florida: CRC Press.

Sorlarski, C. (2012) Drawing Basics and Video Game Art. New York: Watson Guptill.

Watkins, A. (2011) Creating Games with Unity and Maya: How to Develop Fun and Marketable 3D Games. Oxford: Focal Press.

Assessment Grading Criteria:

FIRST CLASS 70%+	• Provides evidence of a sustained and distinguished capability in self-evaluation. • Applies practical skills in a very assured and distinguished manner. • Demonstrates a rigorous and broad grasp of relevant principles and concepts in a distinguished manner. • Written work whose presentation is comparable with industry examples
UPPER SECOND CLASS 60%-69%	• Provides consistent evidence of an assured capability in self-evaluation. • Applies practical skills commendably and in an assured manner. • Demonstrates a strong grasp of relevant principles and concepts in a commendable manner. • A fluent document with only minor mistakes or omissions
LOWER SECOND CLASS 50%-59%	• Offers, with guidance, a firm evaluation of own strengths and weaknesses. • Applies practical skills firmly and soundly. • Demonstrates a sound grasp of relevant principles and concepts in a sound manner. • Written work which is largely accurate, though may be unclear in some details
THIRD CLASS 40%-49%	• Evaluates own strengths and weaknesses adequately • Applies practical skills adequately. • Demonstrates adequate awareness of relevant principles and concepts in a broadly satisfactory manner. • Written work which is not always accurate, but largely decipherable, perhaps lacking some important detail
FAIL 0%-39%	• Fails to demonstrate an adequate ability to evaluate own strengths and weaknesses adequately. • Inadequate in the application of practical skills. • Fails to demonstrate adequate awareness of principles and concepts. • Mistakes and ambiguities in written work which affect understanding