

Glasgow School of Art Course Specification
Course Title: Introduction to 3D Modelling

Please note that this course specification is correct on the date of publication but may be subject to amendment prior to the start of the 2024-25 Academic Year.

Course Code:	HECOS Code:	Academic Session:
PELC242		2024-25

1. Course Title:
Introduction to 3D Modelling

2. Date of Approval:	3. Lead School:	4. Other Schools:
PACAAG April 2022	School of Innovation and Technology	This course is available to students on PGT programmes which include a Stage 2 elective.

5. Credits:	6. SCQF Level:	7. Course Leader:
20	11	Mike Marriot

8. Associated Programmes:
This course is available to students on PGT programmes which include a Stage 2 elective.

9. When Taught:
Stage 2, Taught online only

10. Course Aims:
<p>This course will introduce students to the basics of 3D Modelling and Animation. The main focus of the course is to provide students with the skills to plan, model, texture and animate simple 3D content.</p> <p>Throughout this course, students will gain understanding and experience of the principles and practice of preparing 3D models derived from acquired 2D data for use in real-time and pre-rendered applications.</p> <p>The overarching aims are as follows:</p> <ul style="list-style-type: none"> • Encourage interdisciplinary, critical reflexivity from within an open set of choices; • Foster deep investigative approaches to new or unfamiliar areas of practice and theory; • Cultivate self-directed leadership and initiative-taking in both applied and abstract modes of practice/ study not necessarily associated with a student's particular creative specialism; • Enable flexible, ethical exploration and connection of diverse knowledge and understanding within a specialist programme of study.

11. Intended Learning Outcomes of Course:

By the end of this course students will be able to:

Students completing this course will:

- Demonstrate a critical understanding of a range of specialised principles and concepts of 3D modelling for visualisation.
- Plan and execute a visualisation project, from data provided
- Use a range of software to support and enhance 3D modelling work, and undertake critical evaluations of the range of 3D data and models used and created.

12. Indicative Content:

This course is for students who have no or little experience in working with 3D modelling applications. A range of principles, techniques and tools for effective modelling and optimisation of 3D models using data (3D and texture) acquired from the real world.

Students will learn how to work with and will gain an increased understanding and awareness of the differences in requirements for these types of applications.

The course will cover the following, indicative, topics:

- Fundamental 3D modelling skills and principles
- Model detail and quality: automatic decimation and manual
- Level of detail for pre-rendered and real time applications, and optimisation
- Photo-texturing for games and interactive environments (including: UV mapping, repeating textures
- photo-texturing with different 3D levels of detail
- Normal and bump mapping) for higher quality with lower level of detail
- 3D camera & lighting
- Introduction to post-processing of rendered animations (with e.g. Adobe After Effects)

13. Description of Summative Assessment Methods:

A series of small assessments together with a short written report will together form a portfolio of work for assessment.

Assessment Method	Description of Assessment Method	Weight %	Submission week (assignments)
Individual Journal	Critical Reflection and portfolio	100	Week 11, Stage 2

13.1 Please describe the Summative Assessment arrangements:

For summative assessment, students will develop a detailed 3D scene using data captured from the real world. Presentation will be in the form of 1 x 10sec animation at half HD and 2 x still images at 300 dpi full HD. Students will also be required to submit a 1000 word critical reflection of their project. Students will be given a range of choices and options for subjects, to allow students to situate the project within their own disciplines and domains.

Coursework: 100%

14. Description of Formative Assessment Methods:

Engagement with formative assessment is a mandatory requirement.

Individual feedback is available during tutorials to provide formative assessment. The wide range of coursework will provide the bulk of formative and summative assessment for the full range of 3D modelling and animation skills.

14.1 Please describe the Formative Assessment arrangements:

Formative feedback will be provided regularly at tutorials. All students will have at least one formative assessment peer feedback session on week 5 of the course.

15. Learning and Teaching Methods:

Formal Contact Hours	Notional Learning Hours
20	200

15.1 Description of Teaching and Learning Methods:

Timetable: 10 Weekly classes – 2 hours teaching time per week, Wednesdays or Fridays

16. Pre-requisites:

None

17. Can this course be taken by Exchange/Study Abroad students?	Yes
18. Are all the students on the course taught wholly by distance learning?	Yes
19. Does this course represent a work placement or a year of study abroad?	No
20. Is this course collaborative with any other institutions?	No
20.1 If yes, then please enter the names of the other teaching institutions:	
N/A	

21. Additional Relevant Information:

3D computer graphics are an inherently visual medium, involving working with visual display units. As such, this course may not be suitable for registered blind or severely visually impaired students.

22. Indicative Bibliography:

Vaughan, W , 2012, Digital Modelling, New Riders
 Tickoo,S, 2015, Autodesk 3ds Max 2016 for beginners, CADCIM Technologies
 Tickoo,S, 2015, Autodesk 3ds Max 2016: A comprehensive Guide, CADCIM Technologies
 Birn,J, 2014, Digital Lighting and Rendering, New Riders
 Polygon,R, 2016, Texturing Techniques with 3ds Max 2017: Ultimate Beginners Guide, Rising Polygon

Autodesk, 2017, *3DS Max Design Tutorials*, [online] Available at:
<https://knowledge.autodesk.com/support/3ds> -(July 2017)max

Autodesk, 3ds-Max Essential-Training [online] Available at:
<https://www.lynda.com/3ds-Max-tutorials/3ds-Max-2016-Essential-Training/373552-2.html>