COURSE SPECIFICATION DOCUMENT

Academic School / Department: School of Liberal Arts

Programme: Computer Science

***FHEQ* Level:**   6

Course Title: Computer Graphics

Course Code: DGT 6104

Student Engagement Hours: 160

Lectures: 22.5
Lab: 22.5
Supervision: 40
Independent / Guided Learning: 75

Credits: 16 UK CATS credits
                8 ECTS credits
                4 US credits

Course Description:
This course covers the knowledge required in hardware and software aspects of graphics technology and relevant theory. It enables programmers to create efficient code for images and animations.

Prerequisites:
DGT 4101 Introduction to Programming.

Aims and Objectives:
By the end of this course, students will have the knowledge and skills required to create and manipulate graphics including images and animations by programming. They will also have an understanding of how hardware supports the necessary graphics capabilities in a computer system.

Programme Outcomes:
COMPSC: A2, A3, A5, B5, C2, C3 and C4

A detailed list of the programme outcomes are found in the Programme Specification.

This is located at the archive maintained by Registry and found at:
https://www.richmond.ac.uk/programme-and-course-specifications/

Learning Outcomes:
By the end of this course, successful students should be able to:

- Understand the hardware required to support still and moving images
- Critically evaluate the hardware and software requirements and needs for using graphics in a professional context
- Understand and apply image processing techniques
- Write code for creating and animating 2D and 3D images

Indicative Content:
- Core Terminology (pixels, colour, space)
- Image processing with effects and rasterization
- Animation using physics
- Spatial data and coordinate based movement
- Illusion and impression of movement
- Graphics hardware
- Signal processing

Assessment:
This course conforms to the University Assessment Norms approved at Academic Board and located at: https://www.richmond.ac.uk/university-policies/

Teaching Methodology:
- Lectures, practical demonstrations and step-by-step software tutorials, class workshops, one-to-one tutorials.

Indicative Text(s):
"Fundamentals of Computer Graphics" by Steve Marschner and Peter Shirley, 5th Edition, 2021, CRC Press

"Computer Graphics Programming in OpenGL with JAVA" by V Scott Gordon and John L Clevenger, 2nd Edition, 2018, Mercury Learning and Information.

Journals
Click here to enter text.

Web Sites

See syllabus for complete reading list

Change Log for this CSD:

Nature of Change	Date Approved & Approval Body (School or AB)	Change Actioned by Registry Services
Revision – annual update	May 2023	