

IS51030A: GRAPHICS

Level: 4

Credits: 15

Aims

This module will cover the technical fundamentals of computing techniques used in digital media with a particular focus on graphics.

Topics will include manipulating images for creative contexts, image processing, application of 2D and 3D geometry for animation and interaction, creating simple physics simulations.

Students will practice this knowledge through a series of practical and creative exercises, undertaken throughout the module. These will be undertaken using appropriate programming environment with graphics capabilities.

Subject-related Knowledge

K1 Write basic but complete graphics software systems.

K2 Procedurally manipulate digital media for use in creative contexts.

K3 Understand and apply rudimentary image processing techniques.

K4 Understand and apply basic geometrical transformations in 2D and 3D to create simple graphics.

Indicative Book List

- Shiffman, D., Fry, S. and Marsh, Z. (2012) The nature of code: Simulating natural systems with processing. 10th edn. United States: The Nature of Code.
- Shiffman, D. (2009) Learning processing. United States: Morgan Kaufmann Publishers.
- Dunn, F. and Parberry, I. (2011) 3D math Primer for graphics and game development, 2nd edition. 2nd edn. Boca Raton, FL: A K Peters/CRC Press.
- Vince, J.A. (2005) Mathematics for computer graphics. 2nd edn. London: Springer London.

Assessment

100% Coursework

Assignments

A1 Coursework and lab exercises

Resource/Timetabling

2 contact hours per week