

Module Title Interactive 2D Graphics	Reference CM3063 SCQF Level SCQF 9 SCQF Points 15 ECTS Points 7.5 Created May 2002 Approved April 2005 Amended September 2012 Version No. 5
Keywords Image Processing And Animation, Scan Conversion, 2d Transformations, 2d Viewing Systems, Fractals, 2d Graphics Applications.	

This Version is No Longer Current

The latest version of this module is available [here](#)

Prerequisites for Module

None, in addition to SCQF 9 entry requirements.

Use of graphics tools to create 2D graphics applications.

Indicative Student Workload

Corequisite Modules

None.

<i>Contact Hours</i>	Full Time
Assessment	10
Laboratories	36
Lectures/Tutorials	12

Precluded Modules

None.

Directed Study

Coursework preparation	14
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Information gathering	24
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Aims of Module

To provide the student with the ability to evaluate the use of 2D graphics primitives, and the principles of modelling and rendering used in 2D graphics. To provide the student with the ability to build interactive 2D graphics applications.

Private Study

Private Study	54
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Mode of Delivery

Key concepts are introduced and illustrated through lectures. The understanding of students is tested and further enhanced through interactive laboratories, where the

Learning Outcomes for Module

On completion of this module, students are expected to be able to:

1. Use algorithms for the rasterisation of straight line primitives.
2. Evaluate and implement general 2D drawing techniques.
3. Evaluate and implement techniques for processing 2D images.
4. Evaluate and assess techniques for creating fractal images in 2D.

Indicative Module Content

Display systems: raster refresh graphics displays, frame buffers, RGB colour systems.

Scan Conversion: rasterisation algorithms for lines.

Fractals iterative function sets, snowflakes.

2D image processing: reading and changing pixels, adjusting contrast and brightness, zooming, rotating and filtering images.

students will progress through a sequence of exercises to develop sufficient knowledge of 2D graphics to enable them to complete the practical design and implementation of a 2D graphics drawing application and a 2D image processing application.

Assessment Plan

	Learning Outcomes Assessed
Component 1	1,2,3,4

Component 1 - Coursework

Indicative Bibliography

1. HARDY, V.J., 2000. Java 2D API Graphics. The Sun Microsystems Press.
2. FOLEY, J.D., VAN DAM, A., FEINER, S.K., and HUGHES, J.F., 1996. Computer Graphics - Principles and Practice. 2nd ed. Addison Wesley.
3. HEARN, D. and BAKER, M., 1997. Computer Graphics. 2nd ed. Prentice Hall.