COMP270: Mathematics for 3D Worlds & Simulations

1: Module Induction

FALMOUTH
UNIVERSITY

Module introduction

Aim

To empower you to leverage mathematics and mathematical modelling in the design and implementation of real-time 3D worlds and simulations.

Description

On this module, you learn the fundamental mathematics involved in the design, development and maintenance of real-time 3D worlds and simulations. In doing so, you will leverage mathematics practically to generate and manipulate worlds and simulations relevant to a range of creative computing contexts. Indicatively, content spans topics such as linear algebra (vectors, matrices and quaternions), geometry, trigonometry, 3D transformation, collision detection, Newtonian mechanics, numerical control, calculus, and efficiency and optimisation of numerical methods.

Learning Outcome

- SOLVE
- Apply knowledge of algorithms, data structures, and mathematics to solve well-defined problems.
- Assessment criteria category: PROCESS

Topic schedule

On LearningSpace

Timetable

http://mytimetable.falmouth.ac.uk

Assignments

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- Assignment 1: worksheet tasks

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  - **Four** worksheets — roughly 2 weeks each

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- See MyFalmouth for deadlines

Worksheet A

- Bézier curves
- Due **Monday week 4 (14th October)**