

Description

This module is intended for students in the Game Programming specialisation.

This module enables students to cover more specific concepts in the field of video game development: artificial intelligence, mathematics, procedural animation and content synthesis (low level with noise synthesis and high level with the procedural generation of game levels).

Detailed objectives

- Understand the main principles of artificial intelligence when applied to video games.
- Understand and manipulate generative systems: from a general viewpoint (L systems, grammars, boids, etc. and then more specifically (generating a sample sequence using an algorithm or a mathematical function which is simple yet controlled and knowing how to generate a game level using more advanced algorithms).
- Understand the main procedural animation algorithms and their limits.
- Know how to read and interpret a research article in order to extract and apply an algorithm.
- Be familiar with latest developments in generation systems for game content.

Assessment methods

Session 1

Evaluation method	Percentage of overall mark
Multiple-choice questionnaires in lessons and delivery of projects	60%
Exam in the form of Multiple-choice questionnaire & exercises	40%

Session 2

Improve projects and write a summary bibliographical report on concepts not yet fully mastered.