



ID101V Artificial Intelligence (AI) in Computer Games 7.5 credits

Artificiell intelligens (AI) i spel

This is a translation of the Swedish, legally binding, course syllabus.

If the course is discontinued, students may request to be examined during the following two academic years

Establishment

Course syllabus for ID101V valid from Autumn 2007

Grading scale

A, B, C, D, E, FX, F

Education cycle

First cycle

Main field of study

Technology

Specific prerequisites

Language of instruction

The language of instruction is specified in the course offering information in the course catalogue.

Intended learning outcomes

On successful completion of this module students should be able to:

1. reflect on when and where AI techniques might be useful in computer games and when they are not.
2. apply AI techniques in game development projects.
3. compare different AI techniques, knowing their weaknesses and strengths.
4. explain how the different AI techniques presented in module work.

Course contents

The following areas are treated during the module:

- Search - enabling AI controlled entities to navigate.
- Smoothing - enabling AI controlled to move in a more realistic (human) fashion.
- Decision algorithms - enabling AI controlled entities to make good decisions.
- Tactical techniques - enabling AI controlled entities to interact and to cooperate.
- Machine learning - enabling AI controlled entities to change their behavior and to adapt to a changing environment.
- General architecture for supporting AI in computer games.
- Specific architecture for supporting AI in a specific type of computer game.

Disposition

Lectures, lessons, assignments

Course literature

Steve Rabin (ed.): AI Game Programming WisdomUpplaga : 1:a ISBN 1-58450-077-8

Examination

- INL1 - Assignment, 4.5 credits, grading scale: A, B, C, D, E, FX, F
- TEN1 - Examination, 3.0 credits, grading scale: A, B, C, D, E, FX, F

Based on recommendation from KTH's coordinator for disabilities, the examiner will decide how to adapt an examination for students with documented disability.

The examiner may apply another examination format when re-examining individual students.

Written exam and three assignments. Students that failed on the written exam but are judged to be close to pass will be given the opportunity to do an additional assignment to pass the exam. The students that are in question for this will be informed as the result of the written exam is made public. These students then have three weeks to finish the additional assignment.

Other requirements for final grade

The final grade of the whole course is based on the grade of the written examination.

Ethical approach

- All members of a group are responsible for the group's work.
- In any assessment, every student shall honestly disclose any help received and sources used.
- In an oral assessment, every student shall be able to present and answer questions about the entire assignment and solution.