

Course Code Course Title
COMP 4451 **Game Programming**

Course Description

Computer game development touches on many facets of computer science, including computer graphics, artificial intelligence, algorithms, networking, human-computer interaction, music, and sound. This course will cover all of these aspects, with special emphasis on real-time graphics rendering. Students will get hands-on experience on how to design and implement real-world computer games, which will help improve their skills in programming, teamwork, management, and communication. Corequisite(s): COMP 4411

List of Topics

- Game history
- Game design
- Computer graphics for games
- Physics for games
- Artificial intelligence for games
- Networking for multi-player games
- Sound for games
- Virtual reality
- Game testing

Textbook

N/A

Reference books

N/A

Grading Scheme

Exam	30%
Game project <ul style="list-style-type: none">▪ Proposal (10%)▪ Progress (10%)▪ Game submission and report (43%)▪ Class polls and project Q & A participation (7%)	70%
Total	100%

Course Intended Learning Outcomes

- Understand design principles of computer games.
- Learn and implement real-time graphics rendering techniques.
- Learn basic concepts of artificial intelligence that are applicable to computer games.
- Learn basic concepts of networking that are applicable to computer games.
- Learn basic concepts of music and sound that are applicable to computer games.
- Ability to design a game implementing most of the above.

Assessment Rubric

N/A