

**FANSHAWE***Engage, Empower, Excite, Educate*

## COURSE PLAN

<b>Course Title:</b>	Game Engine Frameworks & Patterns
<b>Course Code:</b>	INFO-6044
<b>Program:</b>	GDP1: Game Development – Advanced Programming
<b>School:</b>	ITY
<b>Term:</b>	Fall 2024
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*The Course Plan provides an outline of topics that support the course learning outcomes and essential employability skills. It also provides an overview with respect to the scheduling of topics, required preparation for each topic, and corresponding learning resources and evaluation items. Using the course plan will help you manage your time to get the most from the course and complete the evaluation items on time. Refer to the [academic calendar dates](#) on the Fanshawe College website.*

Time	Topic	Delivery Details: Evaluation
Week 1	C / C++ basic concepts: strong types, arrays (compile time), basics of standard library (string, string stream) and the STL (vector, map, list), file I/O	
Week 2	Memory: managed, unmanaged memory (stack vs. heap), pointers, run-time allocated arrays, reference & value passing	
Week 3 - 4	C++ classes: basics, inheritance, polymorphism, interfaces, overloading, “pimpl” pattern	
Week 5 - 7	Pointers and handles, abstract factory/manager, mediator pattern Inheritance vs. aggregation (is-a vs made-up-of), data designed (array of structures vs. structure of arrays)	
Week 8		Project #1 – 30% Mid-term Exam– 20%
Week 9	Data persistence (load, save, etc.)	
Week 10 – 11	Timing and control (way points, linear speed, ease in/out, acceleration curves, key frame animation & transitions)	
Week 12	Hierarchical animation systems (aka “scene graphs”) for rigid bodies (i.e. not skinned mesh)	
Week 13	Basic animation and control scripting	

### Course Plan – Accessible Version

*Note: The Course Plan may change according to students’ learning needs and/or unanticipated disruptions. You will be notified of any significant change via FOL prior to changes being implemented as specified in Policy A113.*

Time	Topic	Delivery Details: Evaluation
Week 14	Additional Topics	Project #2 – 30%
Exam week		Final Exam – 20%

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