The Art Institute of Vancouver℠

Course Number:	VGP336
Course Title:	Gameplay Programming

Course Description: This course is an introduction to game play programming that is focused around working with modern game programming architectures to produce, and prototype game mechanics. Gameplay programming will focus on developing, expanding, and utilizing existing technologies to produce fun and interactive game mechanics. A high level of emphasis will be working hands-on with numerous game sub-systems including enemy behaviors, artificial intelligence, pathfinding, audio, animations, player interactions, physics and networking.

Class Meetings:	Room 234, Saturday from 1:30pm to 5:30pm
Instructor:	Peter Chan
Email Address:	ptychan@hotmail.com or petertychan@gmail.com
Instructor Availability:	ptychan@hotmail.com or petertychan@gmail.com
Course Length/Contact Hours:	11 weeks/44 hours
Credit Value:	3.0 units

Quarter Credit Hour Definition
A quarter credit hour is an amount of work represented in intended learning outcomes and verified by evidence of student achievement that is an institutionally established equivalency that reasonably approximates not less than:
- One hour of classroom or direct faculty instruction and a minimum of two hours of out-of-class student work each week for 10-12 weeks, or the equivalent amount of work over a different amount of time; or
- At least an equivalent amount of work as required in paragraph (1) of this definition for other academic activities as established by the institution including laboratory work, internships, practica, studio work, and other academic work leading to the award of credit hours.

Course Competencies: Upon successful completion of this course, the student will be able to:
- Understand the trade off between different game architectures
- Implement game logic using the component-based game object system
- Prototype various gameplay mechanics
- Gain experience working with a software development team

Course Prerequisites: GE128 Geometry and Linear Algebra and VGP130 Object-Oriented Programming in C++ II

Instructional Methods: Lectures and code tutorials

Material and Supplies: Will be available through eCompanion

Est. Homework Hrs: 4 to 8 hours per week

Technology Needed: Microsoft Visual Studio

Required Textbook(s): None

Suggested Reading: Provided through eCompanion

Process for Evaluation:

Assignments		70%
Final Project		30%

Late assignment Policy
Assignments are due at the beginning of class. A student who does not submit an assignment will automatically **receive zero** on that assignment. If the student is unable to complete the assignment for the due date, he/she is to contact the instructor **before** the deadline.

Attendance Policy
The Art Institute of Vancouver is committed to learning-centred, hands-on instruction, which can only be accomplished when students attend class. **There are no excused absences.** The satisfactory explanation of an absence does not relieve the student from responsibility for the course work assigned and/or due during his/her absences. A student who does not attend class during the first week of school or starts late is still held responsible for his/her absences.

A student who is absent for three cumulative weeks will be withdrawn from the course and will receive a Withdrawal (W) grade during weeks 1 through 9 of an 11 week term and a Withdrawal/Fail (W/F) grade after week 9 of an 11 week term for that course (after week 4 of a 5.5 week Mid-quarter ground term) unless the student submits an appeal to remain in class that is accepted by the instructor and department director/dean. A student is allowed only one appeal per class. In other words, if a student submits an appeal and it is approved, the next absence will initiate a non-appealable withdrawal from the course. The Attendance Appeal Request Form may be found in the Registrar's Office (and is appended to this syllabus).

It is your responsibility to stay in communication with your instructor about absences in order to stay current with assignments. **You are expected to spend the entire amount of scheduled class time in the classroom.** If you are dropped from the class and you have a documented mitigating circumstance, you may have the opportunity to appeal. It is your responsibility to ensure that your attendance in class is brought to the faculty member's attention if you arrive late.

Students who are not marked present in any of their scheduled classes for fourteen (14) consecutive calendar days before the end of the ninth week of the 11 week term (week 4 of a 5.5 week Mid-quarter ground term), will be withdrawn from the Institute and will receive W's (withdrawals, with no grade penalty), or if the withdrawal occurs after the end of the ninth week of an 11 week term (after week 4 of a 5.5 week Mid-quarter ground term) students will be withdrawn from the Institute and will receive WF's (Failures due to late withdrawal). Calendar days include days that the student does not have any scheduled class. All calendar days that the school is not in session (e.g., school closings and holidays) do not count in the fourteen (14) calendar days as well during the active term. Students who have been withdrawn due to violation of the consecutive absence policy, but are still in good academic standing, if otherwise eligible, will be able to return the following term through the normal readmissions process. Students who have been withdrawn and the withdrawal results in a violation of the satisfactory academic progress policy (SAPP) must follow the procedure for appealing the academic dismissal.

Students are encouraged to make all schedule changes early in the first week of the quarter to minimize absences. Failure to sit in all classes during the first two weeks of school will result in termination from school for the quarter. Detailed information about scheduled adjustment periods can be found on the back of your official schedule or in the Academic Calendar.

If you are going to miss class, regardless of the reason, you should notify your instructor. You are responsible for gathering any information from the missed class period in a timely manner.

Grading Scale

Letter	GPA	%	Description
A	4.00	88-100 %	A grade of "A" represents superior work that goes above and beyond the requirements of the course. "A" work shows creativity and insight
A-	3.7	85-87 %	A grade of "A-" represents excellent work that exceeds one or more of the requirements of the course. "A-" work shows creativity and initiative
B+	3.4	82-84 %	A grade of "B+" represents commendatory work with clear and consistent improvement over the duration of the course. "B+" work meets all course requirements.
B	3.00	78-81 %	A grade of "B" represents good, solid work with clear improvement over the duration of the course. "B" work meets all course requirements.
B-	2.7	75-77%	A grade of "B-" represents satisfactory work with some improvement over the duration of the course. "B-" work meets all course requirements.
C+	2.4	72-74 %	A grade of "C+" represents work that meets course requirements and demonstrates an average competency level for the course.
C	2.00	68-71 %	A grade of "C" represents work that meets course requirements and demonstrates the minimum competency level for the course.
C-	1.7	65-67 %	A grade of "C-" represents work that meets at least half of the course requirements, but demonstrates deficiencies.
D+	1.4	62 - 64%	A grade of "D+" represents work that meets up to half of the course requirements, but demonstrates significant deficiencies.
D	1.00	55-61%	A grade of "D" represents work that meets one or more of the course requirements, but demonstrates significant deficiencies.
F	0.00	0 – 54%	A grade of "F" represents general failure to meet the requirements of the course.

Ai Unearned F (UF) Grade Definition
Unearned F Grade: students who failed the course AND did not complete the final assignments in the course. Final assignment include, but is not limited to a final exam, final project, final paper, portfolio presentation, capstone project or any other assignment due in the last week of the course. If a student completed some or all of the other requirements in the course but

did not complete the final assignment of the course and failed the course, the F grade will be considered unearned. An unearned F grade will be reflected as a "UF" grade on the transcript. The course's instructor will award this grade when appropriate.

Classroom Policies
- There is absolutely no use of cell phones during instructional time. Cell phones must be turned off as students enter a class. Web surfing and game playing during instructional time are not allowed.
- Downloading and installing games onto school computers are not allowed. Do not unplug classroom computers from the network at any time as this may cause the network to become unreliable.
- If students wish to work in a classroom that is already in session, they must ask the instructor teaching the class for permission to enter. They may or may not be admitted – depending on the instructor's discretion.
- Students are not to utilize lewd, indecent or obscene desktop screensavers in classrooms.
- Profanity, racial slurs, sexual comments, and vulgar language in class will not be tolerated. The instructor may remove students who do not behave in a professional and respectful manner. Students are required to actively contribute to their class environment in a positive fashion.
- Academic dishonesty is not tolerated at The Art Institute of Vancouver. Academic dishonesty or plagiarism is defined as any attempt to take the work of someone else and submit it, in part or in whole, as one's own. Plagiarism includes the unattributed use of material from any source – including books, periodicals, CD-ROM, and the World Wide Web. All quotations, paraphrases or other adaptations of others' work must be properly cited and documented. Any student who uses images, texts, or other media without proper attribution will be subject to the same penalties as students guilty of other types of academic dishonesty. For examples of academic dishonesty, please refer to the Academic Calendar definitions.

Food and Drink Policy
The Art Institute of Vancouver provides students, faculty and staff with cafeteria areas at each of its campuses. Food and drink should be enjoyed exclusively in these areas of the school. From time to time, food may be served at school events that take place in lecture rooms, art rooms or other public areas such as the atrium or the art galleries. These events are always sponsored and supervised by school officials.

Students, faculty and staff are not allowed to bring food into classrooms at any time. Drinks are allowed in lecture classrooms, drafting rooms and art rooms if they are in screw-top bottles or sealed-top travel mugs. Aluminum cans, open-top containers and other easily spilled vessels are not allowed. Due to the sensitive nature of the technology used in the computer labs, fashion labs and audio production studios, no food or drink is allowed in these rooms at any time. Shelves have been provided near the entrances of computer labs for students to store drink containers while in class. In consideration of other students, students should remove their drink containers from the shelves when they leave the classroom. As instructors often have to speak for long periods and may find it difficult to leave the classroom, instructors may bring a drink in an approved, sealed-top container into the classroom where they are teaching. Students are not allowed to bring food or drinks into computer labs, fashion labs or audio production studios. Students violating the food and drink policy may be asked to leave the classroom.

Breaks are provided at regular intervals in all classes so that students may leave the classroom to get refreshment. Drink containers should not be left outside of classrooms or in the hallways. Drink containers left outside of classrooms will be thrown out.

Student Responsibilities
This course is part of a demanding applied post-secondary education program and requires a significant commitment of time and effort. In addition to studying for examinations and preparing for class, students are required, on average, to dedicate between one to two hours to course-related work for every hour of instruction.

Academic Honesty Policy and Procedures

Definition of Academic Dishonesty
The Art Institute of Vancouver defines an act of academic dishonesty as any attempt to:
- Take the work of someone else and submit it as one's own
- Commit or assist another student in committing an act of academic misconduct. This includes the unattributed use of written words, visual images, moving images, or sounds from any source including the internet.

Examples of academic dishonesty include, but are not limited to:
- Plagiarism or self-plagiarism:
  - Submitting another person's work, in part or whole, as your own for an examination or assignment;
  - Using a paper writing "service" or having another person write one's paper;
  - Borrowing all or part of another student's paper or using someone else's outline to write one's own paper;
  - Using sources of information without identifying them;
  - Directly quoting the words of others without using quotation marks, indented format, or an

appropriate citation style to identify the author;
- ○ Paraphrasing materials or ideas of others without identifying the sources
- ○
- Cheating or helping another person cheat:
  - ○ Copying a student's examination or permitting a student to copy your examination;
  - ○ Communicating with any person during an examination, other than the examination invigilator or faculty;
  - ○ Violating procedures established to protect the integrity of an assignment, test or other evaluation;
  - ○ Working with another person or persons on an assignment without the faculty member's consent or allowing anyone to use your work without attribution;
  - ○ Using electronic devices without permission.

General Procedure
In the event a student is alleged to have committed an act of academic dishonesty:
- The instructor will contact their Academic Director or Program Coordinator and submit details of the incident
- In consultation with the instructor, the Academic Director or Program Coordinator will determine the facts, and recommend a course of action
- The incident will be reported to the Associate Dean of Academic Affairs, who will keep it on file

Disciplinary Guidelines
Upon confirming the offense, the Academic Director or Program Coordinator and instructor will determine an appropriate action from the following options:
- In the case of a light infraction:
  - ○ Warning or reprimand
  - ○ Reduced grade on an assignment or examination
  - ○
- In the case of a serious infraction or repeat offence:
  - ○ Failed or reduced grade on an assignment or examination
  - ○ A new assignment or additional course work
  - ○ Failed or reduced grade for a course
  - ○ Suspension or expulsion

Academic Appeals
A student may appeal a penalty imposed under this policy within 3 business days of being informed of the action/decision. Findings of fact are not subject to appeal. See Academic Calendar for more details.

Disability and Counseling Services
The Art Institute of Vancouver provides accommodations to qualified students with disabilities. The Department of Disability Support Services assists qualified students with disabilities in acquiring reasonable and appropriate accommodations and in supporting equal access to services, programs and activities at The Art Institute of Vancouver.

Students who seek reasonable accommodations should notify Disability Support Services at 1-855-855-0567 or dss@aii.edu of their specific limitations and, if known, their specific requested accommodations. Students will be asked to supply medical documentation of the need for accommodation. Classroom accommodations are not retroactive, but are effective only upon the student sharing approved accommodations with the instructor. Therefore, students are encouraged to request accommodations as early as feasible with Disability Support Services to allow for time to gather necessary documentation. If you have a concern or complaint in this regard, please contact Student Resolution at studentresolution@edmc.edu. Complaints will be handled in accordance with the school's Internal Grievance Procedure for Complaints of Discrimination and Harassment.

The Art Institute of Vancouver provides confidential short term counseling, crisis intervention, and community referral services through the All One Health Student Assistance Program. The program offers support and includes information on a wide range of concerns, including relationship issues, family problems, loneliness, depression, and drug and alcohol abuse. Services are available 24 hours a day, 7 days a week at 1-888-617-3362. If you have any questions regarding counseling services, please contact the office of Student Affairs at 778-373-8988.

The Art Institute of Vancouver Library
With hundreds of books, databases, DVD's, the library has many resources to help you achieve success and is an excellent resource to foster learning and inspire your creativity. The library is the place to study, conduct research, get research help, and much more. Visit the library website via the student portal at www.myaicampus.com for access to E-books, the library catalogue, subject guides, electronic databases, and for more information. Please contact the library at aivlibrary@aii.edu (or phone 778-373-8919), if you have any questions about the library or its services.

Weekly Outline

The Art Institute of Vancouver℠

DATE	TOPIC	Homework and Assignments	Due Date	Mark
Week 1	Introduction Engine Setup Component Based Architecture			
Week 2	Game Object System Memory Management Handles	Assignment 1	Week 3	10%
Week 3	Components	Assignment 2	Week 4	10%
Week 4	Data Driven Design TinyXML Game Object Factory	Assignment 3	Week 5	10%
Week 5	World Management Game Services	Assignment 4	Week 6	10%
Week 6	Runtime Type Information Meta System Part 1	Assignment 5	Week 7	10%
Week 7	Meta System Part 2	Assignment 6	Week 8	10%
Week 8	Gameplay Mechanics	Assignment 7	Week 9	10%
Week 9	Workshop I			
Week 10	Workshop II			
Week 11	Final Project Presentations			30%