

City University of Hong Kong
Course Syllabus

offered by Department of Computer Science
with effect from Semester A 2024/25

Part I Course Overview

Course Title: Computer Games Design

Course Code: CS5367

Course Duration: One semester

Credit Units: 3 credits

Level: P5

Medium of Instruction: English

Medium of Assessment: English

Prerequisites:
(Course Code and Title) Nil

Precursors:
(Course Code and Title) Nil

Equivalent Courses:
(Course Code and Title) Nil

Exclusive Courses:
(Course Code and Title) Nil

Part II Course Details

1. Abstract

This elective course aims at introducing various topics related to the production of computer games. The course will cover the technological aspects for implementing computer games. The scenario writing, designing of characters, game production and marketing will also be included.

2. Course Intended Learning Outcomes (CILOs)

(CILOs state what the student is expected to be able to do at the end of the course according to a given standard of performance.)

No.	CILOs	Weighting (if applicable)	Discovery-enriched curriculum related learning outcomes (please tick where appropriate)		
			A1	A2	A3
1.	Describe the characteristics, requirements and challenges of various game genres and game platforms.	20%	✓		
2.	Explain the core mechanics and game play of the game design.	20%	✓		
3.	Demonstrate critical thinking skill on game design with respect to gameplay, level design and characters setting.	20%		✓	
4.	Design a well-balanced game with comprehensive documentation.	20%			✓
5.	Evaluate and justify the critical factors of successful game design.	20%		✓	
		100%			

A1: Attitude

Develop an attitude of discovery/innovation/creativity, as demonstrated by students possessing a strong sense of curiosity, asking questions actively, challenging assumptions or engaging in inquiry together with teachers.

A2: Ability

Develop the ability/skill needed to discover/innovate/create, as demonstrated by students possessing critical thinking skills to assess ideas, acquiring research skills, synthesizing knowledge across disciplines or applying academic knowledge to real-life problems.

A3: Accomplishments

Demonstrate accomplishment of discovery/innovation/creativity through producing /constructing creative works/new artefacts, effective solutions to real-life problems or new processes.

3. Learning and Teaching Activities (LTAs)

(LTAs designed to facilitate students' achievement of the CILOs.)

LTA	Brief Description	CILO No.					Hours/week (if applicable)
		1	2	3	4	5	
Lecture	Students will learn the essential technologies, requirements and theories of computer game design.	✓	✓	✓	✓	✓	2 hours/week
Tutorial	Students will work on case studies, analytical discussion and programming exercises. Case studies and analytical discussion are designed to review the material covered in the lectures and widen students' exposure on the related topics. Programming exercises provide hand-on experience on computer game programming that provides technical competence of computer game design.	✓	✓	✓	✓	✓	1 hour/week
Assignment	Students will conduct a survey on computer games. The survey aims to encourage students to explore the current trend and technologies of computer game design. Students are required to perform critical assessment and discover potential improvement of their findings.	✓	✓	✓		✓	
Project	Student will design and develop a computer game with the following requirements: <ul style="list-style-type: none"> • Demonstrate a good understanding on the characteristics and requirements of a given game genre. • Apply appropriate technologies in game design. • Provide documentation and critical assessment on the game developed. 	✓	✓	✓	✓	✓	

4. Assessment Tasks/Activities (ATs)

(ATs are designed to assess how well the students achieve the CILOs.)

Assessment Tasks/Activities	CILO No.					Weighting	Remarks
	1	2	3	4	5		
Continuous Assessment: <u>40%</u>							
Written Assignments	✓	✓	✓		✓	25%	
Project		✓	✓	✓		15%	
Examination [^] : <u>60%</u> (duration: 2 hours)							
						100%	

[^] For a student to pass the course, at least 30% of the maximum mark for the examination must be obtained.

5. Assessment Rubrics

(Grading of student achievements is based on student performance in assessment tasks/activities with the following rubrics.)

Applicable to students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter

Assessment Task	Criterion	Excellent (A+, A, A-)	Good (B+, B, B-)	Fair (C+, C, C-)	Marginal (D)	Failure (F)
1. Written Assignments	ABILITY to identify the characteristics, requirements and challenges of various game genres and game platforms	High	Significant	Moderate	Basic	Not even reaching marginal levels
	ABILITY to provide quality evaluation on a game design	High	Significant	Moderate	Basic	Not even reaching marginal levels
2. Project	ABILITY to design a game that fulfills the requirement and constraint of a given game genre and platform	High	Significant	Moderate	Basic	Not even reaching marginal levels
	ABILITY to apply the design technologies in constructing their game and evaluate their game design with supporting literature	High	Significant	Moderate	Basic	Not even reaching marginal levels
	ABILITY to provide justification on their game design	High	Significant	Moderate	Basic	Not even reaching marginal levels
	DESIGN game with innovative gameplay, level design and character settings. In addition, the game should be well balanced and documented	High	Significant	Moderate	Basic	Not even reaching marginal levels
3. Exam	ABILITY to identify the characteristics, requirements and challenges of various game genres and game platforms	High	Significant	Moderate	Basic	Not even reaching marginal levels
	ABILITY to evaluate and justify game design, particularly in gameplay, level design and character design	High	Significant	Moderate	Basic	Not even reaching marginal levels
	ABILITY to provide quality evaluation on a game design	High	Significant	Moderate	Basic	Not even reaching marginal levels

Applicable to students admitted from Semester A 2022/23 to Summer Term 2024

Assessment Task	Criterion	Excellent (A+, A, A-)	Good (B+, B)	Marginal (B-, C+, C)	Failure (F)
1. Written Assignments	ABILITY to identify the characteristics, requirements and challenges of various game genres and game platforms	High	Significant	Moderate to Basic	Not even reaching marginal levels
	ABILITY to provide quality evaluation on a game design	High	Significant	Moderate	Not even reaching marginal levels
2. Project	ABILITY to design a game that fulfills the requirement and constraint of a given game genre and platform	High	Significant	Moderate	Not even reaching marginal levels
	ABILITY to apply the design technologies in constructing their game and evaluate their game design with supporting literature	High	Significant	Moderate	Not even reaching marginal levels
	ABILITY to provide justification on their game design	High	Significant	Moderate	Not even reaching marginal levels
	DESIGN game with innovative gameplay, level design and character settings. In addition, the game should be well balanced and documented	High	Significant	Moderate	Not even reaching marginal levels
3. Exam	ABILITY to identify the characteristics, requirements and challenges of various game genres and game platforms	High	Significant	Moderate	Not even reaching marginal levels
	ABILITY to evaluate and justify game design, particularly in gameplay, level design and character design	High	Significant	Moderate	Not even reaching marginal levels
	ABILITY to provide quality evaluation on a game design	High	Significant	Moderate	Not even reaching marginal levels

Part III Other Information (more details can be provided separately in the teaching plan)

1. Keyword Syllabus

(An indication of the key topics of the course.)

Fundamentals of Computer Game Design, Trends of Gaming Devices, Game Scenario Designing, Game Theory, Artificial Intelligence, Serious Games, Social and Psychological Issues.

2. Reading List

2.1 Compulsory Readings

(Compulsory readings can include books, book chapters, or journal/magazine articles. There are also collections of e-books, e-journals available from the CityU Library.)

1.	<i>Ernest Adams, Fundamentals of Game Design, 3rd Edition, New Riders, 2013</i>
2.	<i>Scott Rogers, Level Up!: The Guide to Great Video Game Design, 2nd Edition, Wiley, 2014</i>
3.	<i>Jesse Schell, The Art of Game Design: A Book of Lenses, 2nd Edition, CRC Press, 2014</i>

2.2 Additional Readings

(Additional references for students to learn to expand their knowledge about the subject.)