CS5367: COMPUTER GAMES DESIGN

Effective Term
Semester A 2025/26

Part I Course Overview

Course Title
Computer Games Design

Subject Code
CS - Computer Science
Course Number
5367

Academic Unit
Computer Science (CS)

College/School
College of Computing (CC)

Course Duration
One Semester

Credit Units
3

Level
P5, P6 - Postgraduate Degree

Medium of Instruction
English

Medium of Assessment
English

Prerequisites
Nil

Precursors
Nil

Equivalent Courses
Nil

Exclusive Courses
Nil

Part II Course Details

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.

Course Intended Learning Outcomes (CILOs)

	CILOs	Weighting (if app.)	DEC-A1	DEC-A2	DEC-A3
1	Describe the characteristics, requirements and challenges of various game genres and game platforms.	20	x		
2	Explain the core mechanics and game play of the game design.	20	x		
3	Demonstrate critical thinking skill on game design with respect to gameplay, level design and characters setting.	20		x	
4	Design a well-balanced game with comprehensive documentation.	20			x
5	Evaluate and justify the critical factors of successful game design.	20		x	

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.

Learning and Teaching Activities (LTAs)

	LTAs	Brief Description	CILO No.	Hours/week (if applicable)
1	Lecture	Students will learn the essential technologies, requirements and theories of computer game design.	1, 2, 3, 4, 5	2 hours/ week

2	Tutorials	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, 2, 3, 4, 5	1 hour/ week
3	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.	1, 2, 3, 5	
4	Project	Student will design and develop a computer game with the following requirements: · 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.	1, 2, 3, 4, 5	

Assessment Tasks / Activities (ATs)

	ATs	CILO No.	Weighting (%)	Remarks ("-" for nil entry)	Allow Use of GenAI?
1	Written Assignments	1, 2, 3, 5	25	-	Yes
2	Project	2, 3, 4	15	-	Yes

Continuous Assessment (%)
40

Examination (%)
60

Examination Duration (Hours)
2

Minimum Examination Passing Requirement (%)
30

Additional Information for ATs
For a student to pass the course, at least 30% of the maximum mark for the examination must be obtained.

Assessment Rubrics (AR)

Assessment Task
Written Assignments (for students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter)

Criterion
ABILITY to identify the characteristics, requirements and challenges of various game genres and game platforms

Excellent
(A+, A, A-) High

Good
(B+, B, B-) Significant

Fair
(C+, C, C-) Moderate

Marginal
(D) Basic

Failure
(F) Not even reaching marginal levels

Assessment Task
Written Assignments (for students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter)

Criterion
ABILITY to provide quality evaluation on a game design

Excellent
(A+, A, A-) High

Good
(B+, B, B-) Significant

Fair
(C+, C, C-) Moderate

Marginal

(D) Basic

Failure
(F) Not even reaching marginal levels

Assessment Task
Project (for students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter)

Criterion
ABILITY to design a game that fulfills the requirement and constraint of a given game genre and platform

Excellent
(A+, A, A-) High

Good
(B+, B, B-) Significant

Fair
(C+, C, C-) Moderate

Marginal
(D) Basic

Failure
(F) Not even reaching marginal levels

Assessment Task
Project (for students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter)

Criterion
ABILITY to apply the design technologies in constructing their game and evaluate their game design with supporting literature

Excellent
(A+, A, A-) High

Good
(B+, B, B-) Significant

Fair
(C+, C, C-) Moderate

Marginal
(D) Basic

Failure
(F) Not even reaching marginal levels

Assessment Task
Project (for students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter)

Criterion
ABILITY to provide justification on their game design

Excellent
(A+, A, A-) High

Good
(B+, B, B-) Significant

Fair
(C+, C, C-) Moderate

Marginal
(D) Basic

Failure
(F) Not even reaching marginal levels

Assessment Task
Project (for students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter)

Criterion
DESIGN game with innovative gameplay, level design and character settings. In addition, the game should be well balanced and documented

Excellent
(A+, A, A-) High

Good
(B+, B, B-) Significant

Fair
(C+, C, C-) Moderate

Marginal
(D) Basic

Failure
(F) Not even reaching marginal levels

Assessment Task
Exam (for students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter)

Criterion
ABILITY to identify the characteristics, requirements and challenges of various game genres and game platforms

Excellent
(A+, A, A-) High

Good
(B+, B, B-) Significant

Fair
(C+, C, C-) Moderate

Marginal
(D) Basic

Failure
(F) Not even reaching marginal levels

Assessment Task
Exam (for students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter)

Criterion
ABILITY to evaluate and justify game design, particularly in gameplay, level design and character design

Excellent
(A+, A, A-) High

Good
(B+, B, B-) Significant

Fair
(C+, C, C-) Moderate

Marginal
(D) Basic

Failure
(F) Not even reaching marginal levels

Assessment Task
Exam (for students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter)

Criterion
ABILITY to provide quality evaluation on a game design

Excellent
(A+, A, A-) High

Good
(B+, B, B-) Significant

Fair
(C+, C, C-) Moderate

Marginal
(D) Basic

Failure
(F) Not even reaching marginal levels

Assessment Task
Written Assignments (for students admitted from Semester A 2022/23 to Summer Term 2024)

Criterion
ABILITY to identify the characteristics, requirements and challenges of various game genres and game platforms

Excellent
(A+, A, A-) High

Good
(B+, B) Significant

Marginal
(B-, C+, C) Moderate to Basic

Failure
(F) Not even reaching marginal levels

Assessment Task
Written Assignments (for students admitted from Semester A 2022/23 to Summer Term 2024)

Criterion
ABILITY to provide quality evaluation on a game design

Excellent
(A+, A, A-) High

Good
(B+, B) Significant

Marginal
(B-, C+, C) Moderate

Failure
(F) Not even reaching marginal levels

Assessment Task
Project (for students admitted from Semester A 2022/23 to Summer Term 2024)

Criterion
ABILITY to design a game that fulfills the requirement and constraint of a given game genre and platform

Excellent
(A+, A, A-) High

Good
(B+, B) Significant

Marginal
(B-, C+, C) Moderate

Failure

(F) Not even reaching marginal levels

Assessment Task
Project (for students admitted from Semester A 2022/23 to Summer Term 2024)

Criterion
ABILITY to apply the design technologies in constructing their game and evaluate their game design with supporting literature

Excellent
(A+, A, A-) High

Good
(B+, B) Significant

Marginal
(B-, C+, C) Moderate

Failure
(F) Not even reaching marginal levels

Assessment Task
Project (for students admitted from Semester A 2022/23 to Summer Term 2024)

Criterion
ABILITY to provide justification on their game design

Excellent
(A+, A, A-) High

Good
(B+, B) Significant

Marginal
(B-, C+, C) Moderate

Failure
(F) Not even reaching marginal levels

Assessment Task
Project (for students admitted from Semester A 2022/23 to Summer Term 2024)

Criterion
DESIGN game with innovative gameplay, level design and character settings. In addition, the game should be well balanced and documented

Excellent
(A+, A, A-) High

Good

(B+, B) Significant

Marginal
(B-, C+, C) Moderate

Failure
(F) Not even reaching marginal levels

Assessment Task
Exam (for students admitted from Semester A 2022/23 to Summer Term 2024)

Criterion
ABILITY to identify the characteristics, requirements and challenges of various game genres and game platforms

Excellent
(A+, A, A-) High

Good
(B+, B) Significant

Marginal
(B-, C+, C) Moderate

Failure
(F) Not even reaching marginal levels

Assessment Task
Exam (for students admitted from Semester A 2022/23 to Summer Term 2024)

Criterion
ABILITY to evaluate and justify game design, particularly in gameplay, level design and character design

Excellent
(A+, A, A-) High

Good
(B+, B) Significant

Marginal
(B-, C+, C) Moderate

Failure
(F) Not even reaching marginal levels

Assessment Task
Exam (for students admitted from Semester A 2022/23 to Summer Term 2024)

Criterion
ABILITY to provide quality evaluation on a game design

Excellent
(A+, A, A-) High

Good
(B+, B) Significant

Marginal
(B-, C+, C) Moderate

Failure
(F) Not even reaching marginal levels

Part III Other Information

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

Reading List

Compulsory Readings

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

Additional Readings

	Title
1	Nil