

**City University of Hong Kong  
Course Syllabus**

**offered by Department of Computer Science  
with effect from Semester A 2017/18**

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**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<br>(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.  | Explore the core mechanics and game play of the game design.  | 20%                          | ✓   |    |    |
| 3.  | Develop critical thinking skill on game design with respect to gameplay, level design and characters setting. | 20%                          |   | ✓  |    |
| 4.  | Create 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 self-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. Teaching and Learning Activities (TLAs)

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

Teaching pattern:

Suggested lecture/tutorial/laboratory mix: 2 hrs. lecture; 1 hr. tutorial.

| TLA        | Brief Description  | CILO No. |   |   |   |   | Hours/week<br>(if applicable) |
|------------|--|----------|---|---|---|---|-------------------------------|
|            |  | 1        | 2 | 3 | 4 | 5 |                               |
| Lecture    | Lectures will cover the essential technologies, requirements and theories of computer game design.   | ✓        | ✓ | ✓ | ✓ | ✓ |                               |
| Tutorial   | Tutorials will be in form of case studies, analytical discussion and programming exercises.<br>Case studies and analytical discussion are designed to review the material covered in the lectures and widen students' exposure on the related topics.<br>Programming exercises provide hand-on experience on computer game programming that provides technical competence of computer game design. | ✓        | ✓ | ✓ | ✓ | ✓ |                               |
| 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"> <li>• Demonstrate a good understanding on the characteristics and requirements of a given game genre.</li> <li>• Apply appropriate technologies in game design.</li> <li>• Provide documentation and critical assessment on the game developed.</li> </ul>                     | ✓        | ✓ | ✓ | ✓ | ✓ |                               |

### 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: 40%                         |          |   |   |   |   |           |         |
| Written Assignment                                 | ✓        | ✓ | ✓ |   | ✓ | 10%       |         |
| Project  |          | ✓ | ✓ | ✓ |   | 15%       |         |
| Quiz   | ✓        | ✓ | ✓ |   | ✓ | 15%       |         |
| Examination <sup>^</sup> : 60% (duration: 2 hours) |          |   |   |   |   |           |         |
|  |          |   |   |   |   | 100%      |         |

<sup>^</sup> For a student to pass the course, at least 30% of the maximum mark for the examination must be obtained.

*This is a CEF approved course, students who want to apply for CEF claims must achieve at least 70% minimum attendance and obtain at least 50% passing mark for the assessment of the course.*

## 5. Assessment Rubrics

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

| Assessment Task       | Criterion   | Excellent (A+, A, A-) | Good (B+, B, B-) | Fair (C+, C, C-) | Marginal (D) | Failure (F)                       |
|-----------------------|---|-----------------------|------------------|------------------|--------------|-----------------------------------|
| 1. Written Assignment | 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 |
|--|--|------|-------------|----------|-------|-----------------------------------|

**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.)*

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