

**City University of Hong Kong
Course Syllabus**

**offered by School of Creative Media
with effect from Semester A 2017 /18**

Part I Course Overview

Course Title:	Computer Animation for Interactive Content
Course Code:	SM6314
Course Duration:	One semester (13 weeks)
Credit Units:	3
Level:	P6
Medium of Instruction:	English
Medium of Assessment:	English
Prerequisites: <i>(Course Code and Title)</i>	Nil
Precursors: <i>(Course Code and Title)</i>	Nil
Equivalent Courses: <i>(Course Code and Title)</i>	Nil
Exclusive Courses: <i>(Course Code and Title)</i>	Nil

Part II Course Details

1. Abstract

This course aims to explore the potentials of computer animation in interactive applications. At the end of this course, students are able to understand the potential and limitation of real-time interactive computer animation, and create their own interactive works using selected tools. Topics include sprite-based animation, dynamic background techniques, creating 3D animation contents for interactive applications, real-time rendering, and using physics and AI in an interactive computer animation environment.

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.	Identify the potential and limitation of real-time interactive computer animation	30%	✓		
2.	Name and compare the tools for real-time graphics	10%		✓	
3. [^]	Create their own real-time interactive animation graphics through selected tools with personal style/ signature	60%			✓
		100%			

[^]Negotiated Learning Outcome (NLO) explicitly articulating the elements of discovery-oriented learning.

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.)

TLA	Brief Description	CILO No.						Hours/week (if applicable)
		1	2	3	4			
Lectures	the theory behind interactive computer animation is covered during the lectures. Students' activities will be conducted during the lectures to allow them hands-on practice in identifying the potential and limitation of real-time interactive computer animation.	✓						
In-class demonstration	various tools will be demonstrated during the classes, to show the potential and limitation of these tools. Students are allowed to have actual hands-on practice in naming and comparing selected tools for real-time graphics.		✓					
Workshops	workshops will be conducted every week, to help the students to create interactive computer animation using selected tools.			✓				

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				
Continuous Assessment: 100%								
Short assignments: students are required to complete some short assignments, which test their understanding of the potential and limitation of interactive computer animation.	✓						30%	
Presentation: students are required to present during the classes to demonstrate their understanding on the topics.		✓					10%	
A course project: students are required to finish an interactive animation project individually (using selected tools).			✓				60%	
Examination: 0 (duration: , if applicable)							100%	

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. Presentation	This assessment will grade on content and fluency of presentation. Students should show their co-operation to conduct a well-organized presentation with their own argument and evidence from readings and notes. The threshold of 'discovery' lied in a student's self initiatives to conduct additional research and to personalize theories for her/his personal daily experience.	<ul style="list-style-type: none"> Rich, informative content, excellent grasp of the material with in-depth and extensive knowledge of the subject matter Rigorous organization, coherent structure, and systematic exposition with a strong sense of narrative Superior presentation skills: distinct pronunciation, fluent expression and appropriate diction, exact time-management Critical analysis with insightful comments opening up new issues, or suggesting the ability to theorize 	<ul style="list-style-type: none"> Adequate content with firm grasp of the material that informs the audience on a subject matter Reasonable organization, balanced structure and composition Good verbal communication: comprehensible pronunciation, fluent expression and diction, fair time-management 	<ul style="list-style-type: none"> Adequate content with comprehensive grasp of the material demonstrating basic knowledge of the subject matter Fair organization, weak structure and composition Fair presentation skills: acceptable pronunciation, expression and diction, fair time-management 	<ul style="list-style-type: none"> Weak content, loose grasp of the general ideas with some knowledge of the subject matter Poor organization, structure and composition Poor presentation skills: marginal pronunciation, expression and diction, poor time-management 	<ul style="list-style-type: none"> Inadequate content, fail to identify the general ideas with knowledge of the subject matter No organization, structure or/and composition Poor presentation skills: marginal pronunciation, expression and diction, minimal time-management
2. Creative Project	Students should demonstrate ability to utilize primary and secondary sources, execute creative ideas and projects. The threshold of 'discovery' lies in a	<ul style="list-style-type: none"> Work has strong affective quality and the articulation of personal styles and signature Excellent appreciation, exploration and/or 	<ul style="list-style-type: none"> Strong appreciation, exploration and/or application of the aesthetic and expressive qualities of the 	<ul style="list-style-type: none"> Basic appreciation and/or application of the aesthetic and expressive qualities of the medium 	<ul style="list-style-type: none"> Marginal appreciation of the aesthetic and expressive qualities of the medium Marginal 	<ul style="list-style-type: none"> No appreciation of the aesthetics and expressive qualities of the medium Fail to create

	<p>student's proactively turning theory into praxis, to transform course material into self-owned authorship.</p>	<p>application of the aesthetic and expressive qualities of the medium</p> <ul style="list-style-type: none"> • Work raises questions and instill insights about the process of conception, creative strategization and production • Innovative exploration by combining knowledge from different disciplines (e.g. mathematics, psychology, physics, anthropology, etc.) to create an inter-disciplinary project • Efficient adjustment of plans and strategies in response to resources (time, space, equipment, etc) available with constructive adjustment 	<p>medium</p> <ul style="list-style-type: none"> • Ability to create project/work that demonstrate the processes of thinking and creative exploration • Proper adjustment of plans and strategies in response to resources (time, space, equipment, etc) available and constructive feedback/suggestions 	<ul style="list-style-type: none"> • Limited ability to create project/work that demonstrate the processes of thinking and creative exploration • Adjustment of plans and strategies in response to resources (time, space, equipment, etc) available 	<p>ability to create project/work that demonstrate the processes of thinking and creative exploration</p> <ul style="list-style-type: none"> • Limited adjustment of plans and strategies in response to resources (time, space, equipment, etc) available 	<p>project/ work that demonstrate the processes of thinking and creative exploration</p> <ul style="list-style-type: none"> • Minimal adjustment of plans and strategies in response to resources (time, space, equipment, etc) available
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Note: All A+/A/A- grade assignment should comply with the highest performance of Discovery-oriented learning.

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.)

Real-time interactive computer animation, real-time rendering, OpenGL and GLSL, dynamic sprites, isometric graphics, dynamic background, 3D models for interactive environment, real-time physics, AI in interactive graphics

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.	The art of participation : 1950 to now / [edited by] Rudolf Frieeling, ... [et al.]
2.	Prix Ars Electronica : CyberArts 2010 : International Compendium Prix Ars Electronica, computer animation/film/VFX, digital musics & sound art, hybrid art, interactive art, digital communities, [the next idea] voestalpine art and technology Grant, u19, freestyle computing / [edited by] Hannes Leopoldseder, Christine Schöpf, Gerfried Stocker
3.	The language of new media / Lev Manovich
4	Interacting : art, research and the creative practitioner / [edited by Linda Candy and Ernest Edmonds ; preface by Roy Ascott]

2.2 Additional Readings

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

1.	MediaArtHistories / edited by Oliver Grau
2.	New media in art / Michael Rush
3.	Software takes command / Lev Manovich
4	Second person : role-playing and story in games and playable media / edited by Pat Harrigan and Noah Wardrip-Fruin ; designed by Michael Crumpton