

**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: SM4125

Course Duration: One semester

Credit Units: 3

Level: A2/B3

Proposed Area: Arts and Humanities
(for GE courses only) Study of Societies, Social and Business Organisations
 Science and Technology

Medium of Instruction: English

Medium of Assessment: English

Prerequisites: Nil
(Course Code and Title)

Precursors: Nil
(Course Code and Title)

Equivalent Courses: Nil
(Course Code and Title)

Exclusive Courses: Nil
(Course Code and Title)

Part II Course Details

1. Abstract

(A 150-word description about the course)

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 creating 3D animation contents for interactive applications, real-time rendering, and using physics 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		✓		
2.	Name and compare the tools for real-time graphics			✓	
3.	Create their own real-time interactive animation graphics through selected tools			✓	✓
4. [^]	Associate, combine and integrate knowledge from different disciplines (e.g. mathematics, sciences, literature etc.) into course assignments			✓	
5. [^]	Transform basic technical competence into a unique style or personal signature.		✓		
		100%			

* If weighting is assigned to CILOs, they should add up to 100%.

[#] Please specify the alignment of CILOs to the Gateway Education Programme Intended Learning outcomes (PILOs) in Section A of Annex.

[^] 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	5	6	
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 in the second part of the course 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	5	6		
Continuous Assessment: 100%								
In-Class Exercise: Operation of different softwares and learning various production strategy.	✓							
Presentation: students are required to present during the classes to demonstrate their understanding on the topics.		✓						
A course project: students are required to finish an interactive animation project individually (using selected tools).			✓	✓	✓			
Examination: 0% (duration: _____, if applicable)								
							100%	

* The weightings should add up to 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. Participation and Performance	This assessment task reviews students' participation and performance in discussions, debates and peer critique during the tutorial sessions. The evidence of 'negotiation', the sign of discovery, lies in students' pre-class preparation and interpersonal sensitivity to his/her peer members.	<ul style="list-style-type: none"> Active in-class participation, positive listening, strong ability to stimulate class discussion and comment on other points In-depth pre-class preparation and familiarity with peer reports and other materials Interpret others' views with an open mind and ready to negotiate Readiness to share personal insight via analysis and synthesis with informed views Constructively 	<ul style="list-style-type: none"> Active in-class participation, positive listening, ability to initiate class discussion and comment on other points Adequate pre-class preparation and familiarity with peer reports and other materials Interpret opinions effectively 	<ul style="list-style-type: none"> Attentive in in-class participation, listening with comprehension, but only infrequently contributing Adequate pre-class preparation but little familiarity with peer reports and other materials Fair ability in interpreting opinions 	<ul style="list-style-type: none"> Unmotivated to participate in class discussion or comment on other people's views Little pre-class preparation and familiarity with peer reports and other materials Poor ability in interpreting opinions 	<ul style="list-style-type: none"> Unwilling to participate in class discussion and comment on other points, even when requested by the teacher No pre-class preparation and familiarity with peer reports and other materials Minimal ability in interpreting opinions

Assessment Task	Criterion	Excellent (A+, A, A-)	Good (B+, B, B-)	Fair (C+, C, C-)	Marginal (D)	Failure (F)
		critical, thus facilitating the discovery of new issues				
2. Project	Students should demonstrate ability to utilize primary and secondary sources, execute creative ideas and projects. The threshold of 'discovery' lies in a student's proactively turning theory into praxis, to transform course material into self-owned authorship.	<ul style="list-style-type: none"> • Work has strong affective quality and the articulation of personal styles and signature • Excellent appreciation, exploration and/or application of the aesthetic and expressive qualities of the medium • Work raises questions and instill insights about the process of conception, creative strategization and production 	<ul style="list-style-type: none"> • Strong appreciation, exploration and/or application of the aesthetic and expressive qualities of the medium • Ability to create project/ work that demonstrate the processes of thinking and creative exploration • Proper adjustment of plans and 	<ul style="list-style-type: none"> • Basic appreciation and/or application of the aesthetic and expressive qualities of the medium • 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, 	<ul style="list-style-type: none"> • Marginal appreciation of the aesthetic and expressive qualities of the medium • Marginal ability to create project/ work that demonstrate the processes of thinking and creative exploration • Limited adjustment of plans and strategies in response to resources (time, space, equipment, etc) available 	<ul style="list-style-type: none"> • No appreciation of the aesthetics and expressive qualities of the medium • Fail to create project/ work that demonstrate the processes of thinking and creative exploration • Minimal adjustment of plans and strategies in response to resources (time, space, equipment, etc) available

Assessment Task	Criterion	Excellent (A+, A, A-)	Good (B+, B, B-)	Fair (C+, C, C-)	Marginal (D)	Failure (F)
		<ul style="list-style-type: none"> Innovative exploration by combining knowledge from different disciplines (e.g. mathematics, psychology, physics, anthropology, etc.) to create an interdisciplinary project Efficient adjustment of plans and strategies in response to resources (time, space, equipment, etc) available with constructive adjustment 	<p>strategies in response to resources (time, space, equipment, etc) available and constructive feedback/ suggestions</p>	<p>space, equipment, etc) available</p>		
3. Presentation	This assessment will grade on content and fluency of presentation. Students should show	<ul style="list-style-type: none"> Rich, informative content, excellent grasp of the 	<ul style="list-style-type: none"> Adequate content with firm grasp of 	<ul style="list-style-type: none"> Adequate content with comprehensive 	<ul style="list-style-type: none"> Weak content, loose grasp of the general ideas with some 	<ul style="list-style-type: none"> Inadequate content, fail to identify the general ideas with

Assessment Task	Criterion	Excellent (A+, A, A-)	Good (B+, B, B-)	Fair (C+, C, C-)	Marginal (D)	Failure (F)
	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.	<p>material with in-depth and extensive knowledge of the subject matter</p> <ul style="list-style-type: none"> • 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 	<p>the material that informs the audience on a subject matter</p> <ul style="list-style-type: none"> • Reasonable organization, balanced structure and composition • Good verbal communication: comprehensible pronunciation, fluent expression and diction, fair time-management 	<p>grasp of the material demonstrating basic knowledge of the subject matter</p> <ul style="list-style-type: none"> • Fair organization, weak structure and composition • Fair presentation skills: acceptable pronunciation, expression and diction, fair time-management 	<p>knowledge of the subject matter</p> <ul style="list-style-type: none"> • Poor organization, structure and composition • Poor presentation skills: marginal pronunciation, expression and diction, poor time-management 	<p>knowledge of the subject matter</p> <ul style="list-style-type: none"> • No organization, structure or/and composition • Poor presentation skills: marginal pronunciation, expression and diction, minimal time-management

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, shadow map/light map, polygonal modeling, channels, 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.	Quest3D software: http://quest3d.com/
2.	Unity software: http://unity3d.com/
3.	Blender software: http://www.blender3d.org/
4.	The art of participation : 1950 to now / [edited by] Rudolf Frieling, ... [et al.]
5.	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
6.	The language of new media / Lev Manovich
7.	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