

City University of Hong Kong

Information on a Course
offered by School of Creative Media
with effect from Semester A in 2007 / 2008

This form is for completion by the Course Co-ordinator. The information provided on this form will be deemed to be the official record of the details of the course. It has multipurpose use: for the University's database, and for publishing in various University publications including the Blackboard, and documents for students and others as necessary.

Please refer to the Explanatory Notes attached to this Form on the various items of information required.

Part I

Course Title: Fundamentals of Programming

Course Code: SM1204

Course Duration: One semester (13 weeks)

No. of Credit Units: 3

Level: A2/B3

Medium of Instruction: English

Prerequisites: (*Course Code and Title*) N.A.

Precursors: (*Course Code and Title*) N.A.

Equivalent Courses: (*Course Code and Title*) N.A.

Exclusive Courses: (*Course Code and Title*) N.A.

Part II

1. Course Aims:

The course aims to provide an integrated environment to introduce the concept of computer programming to students who may require the use of computation and interactivity in their on-going academic and professional development. Simple computer graphics will be used as a platform to deliver the basic concept of problem solving with computer programming. Students will use a computer language Processing that is specially designed for the artistic use to work on their assignments. Upon completion of the course, students can describe simple programming related problems and list feasible solutions to tackle them and implement the selected solutions within technical constraints.

2. Course Intended Learning Outcomes (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)

Upon successful completion of this course, students should be able to:

No.	CILOs	Weighing (if applicable)
1.	Identify key constructs of a procedural and object-oriented programming language.	20%
2.	Describe simple algorithmic graphics mechanism.	25%
3.	Relate general problem solving ideas to specific programming tasks.	25%
4.	Create workable computer programs for stated problems or creative production.	30%

3. Teaching and Learning Activities (TLAs)

(designed to facilitate students' achievement of the CILOs)

Indicative of likely activities and tasks students will undertake to learn in this course. Final details will be provided to students in their first week of attendance in this course.

ILO No	TLAs	Hours/weeks (if applicable)
CILO 1	Introductory workshops on the Processing programming language.	50%
CILO 2	Practical workshops on simple geometry and algorithmic graphics using Processing.	20%
CILO 3	Introductory workshops and walk-through on problem solving in simple Mathematics and everyday life activities.	20%

CILO 4	Intermediate workshops on software development process and testing strategy.	10%

4. Assessment Tasks/Activities

(designed to assess how well the students achieve the CILOs)

Indicative of likely activities and tasks students will undertake to learn in this course. Final details will be provided to students in their first week of attendance in this course.

ILO No	Type of assessment tasks/activities	Weighting (if applicable)	Remarks
CILO 1	In-class exercises and discussion on various elements of the Processing language.	30%	
CILO 2	Assignment on creative algorithmic graphics.	30%	
CILO 3, 4	Assignment on an interactive game.	40%	

5. Grading of Student Achievement: Refer to Grading of Courses in the Academic Regulations and to the Explanatory Notes.

Grading and assessment will be made according to students' individual assignments, in-class exercises, etc.

100% coursework

Grading pattern: Standard (A+, A, A-...F)

Part III

Keyword Syllabus:

- Problem solving
- Computer programming
- Software development
- Data structure
- Algorithm
- Interactivity
- Generative graphics
- Software art

- Multimedia
- Open source programming language - Processing

Recommended Reading:

Books

1. Code: the hidden language of computer hardware and software, Charles Petzold, Microsoft Press, 1999
2. Processing: Creative Coding and Computational Art, Ira Greenberg, friends of ED, 2007
3. Processing: A Programming Handbook for Visual Designers and Artists, MIT Press, Ben Fry, Casey Reas
4. Creative Code: Aesthetics + Computation, John Maeda, Thames and Hudson, 2004

Online Resources:

<http://www.processing.org/>

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Date: 20 Aug 2007