

**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.

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**Part I**

Course Title: Sound Basics and Design

Course Code: SM1014

Course Duration: One semester

No. of Credit Units: 3

Level: A1/B2

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**

**1. Course Aims:**

This course aims to build a facility within each student to create sound designs and audio recordings of the high standard for all forms of media and entertainment. Through challenging and inspiring class assigned exercises and student centered learning tasks students will learn various techniques for audio recording, sound editing, sound transformation and design. Students will create a variety of sound works using a digital audio workstation to support their possible future careers in television, music, film, games and the new and emerging creative industries of the future.

## 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.	Enumerate and describe basic principles of acoustics as applied to audio recording and audio reproduction systems	
2.	Analyse the set up and operation of a Digital Audio Workstation	
3.	Create an audio montage	
4.	Apply audio restoration techniques	
5.	Enumerate basic microphone techniques and their application	
6.	Produce basic location sound recordings	
7.	Produce basic dialogue recordings	
8.	Analyse the set up of a basic stereo reproduction system	
9.	Enumerate and describe basic audio mixing techniques	
10.	Enumerate and describe a basic MIDI system	
11.	Create sound tracks to support moving image, animation, and interactive applications	

## 3. Teaching and Learning Activities (TLAs)

(designed to facilitate students' achievement of the CILOs)

ILO No	TLAs	Hours/weeks (if applicable)
CILO 1	<p><b>Introduction</b></p> <ul style="list-style-type: none"> <li>- Introduction to sound technology</li> <li>- Introduction to audio recording practice</li> <li>- Human perception science</li> </ul> <p><b>What is Sound and How Do We Perceive It?</b></p> <ul style="list-style-type: none"> <li>- physics of sound</li> <li>- auditory perception</li> <li>- awareness of your acoustic environment</li> <li>- spaciousness</li> <li>- experiencing sound</li> </ul>	3 weeks
CILO 2	<p><b>Introduction to the Digital Audio Workstation</b></p> <ul style="list-style-type: none"> <li>- basic structure and set up of a computer for digital audio and video</li> <li>- data storage and back-up</li> </ul>	1 week
CILO 3	<p><b>Introduction to Spectral Solfege and Critical Listening</b></p> <p><b>Basics of Digital Audio Encoding (PCM)</b></p> <p><b>Introduction to Audio Signal Processing:</b></p> <ul style="list-style-type: none"> <li>- Equalisation</li> </ul>	1 week
CILO 4	<p><b>Spectral Solfege and Critical Listening</b></p> <p><b>Equalisers and Filters</b></p> <ul style="list-style-type: none"> <li>- different types of EQ and filters</li> </ul>	1 week

	<ul style="list-style-type: none"> <li>- applications</li> </ul> <p><b>Demonstration of EQ and filters</b></p> <ul style="list-style-type: none"> <li>- 31 Bands EQ and filters</li> </ul> <p>Applied to:</p> <ul style="list-style-type: none"> <li>- Audio Montage</li> <li>- Film Documentary</li> <li>- Movie Sound Track</li> </ul>	
CILO 5	<p><b>Spectral Solfege and Critical Listening</b></p> <p><b>Microphone Types and Applications</b></p> <ul style="list-style-type: none"> <li>- types</li> <li>- polar patterns</li> <li>- applications</li> </ul> <p><b>Types of Audio Signal Level</b></p> <ul style="list-style-type: none"> <li>- microphone and line level</li> </ul> <p><b>Microphone Demonstrations</b></p> <ul style="list-style-type: none"> <li>- proximity effect</li> <li>- dialogue recording on/off axis with different microphones and polar pattern settings</li> <li>- location dialogue recording techniques</li> </ul>	1 week
CILO 6	<p><b>Spectral Solfege and Critical Listening</b></p> <p><b>Location Sound Recording</b></p> <ul style="list-style-type: none"> <li>- introduction to the DAT, Fostex solid state location sound recorder, SQN mixer</li> <li>- location recording techniques</li> <li>- audio connections between devices</li> <li>- alignment of input/output</li> </ul>	1 week
CILO 7	<p><b>Spectral Solfege and Critical Listening</b></p> <p><b>Dialogue Production</b></p> <ul style="list-style-type: none"> <li>- choice of microphones for various applications</li> <li>- timbre matching</li> <li>- use of equalisation</li> <li>- use of audio compression</li> </ul>	1 week
CILO 8	<p><b>Spectral Solfege and Critical Listening</b></p> <p><b>Stereo Reproduction System</b></p> <ul style="list-style-type: none"> <li>- basic acoustics</li> <li>- speaker choice</li> <li>- speaker and equipment placement</li> </ul>	1 week
CILO 9	<p><b>Spectral Solfege and Critical Listening</b></p> <p><b>Audio Mixing Techniques and the use of Audio Signal Processing:</b></p> <ul style="list-style-type: none"> <li>- Noise Gate</li> <li>- Delay</li> <li>- Modulation</li> <li>- Flanger</li> <li>- Chorus</li> </ul>	1 week
CILO 10	<p><b>Spectral Solfege and Critical Listening</b></p>	1 week

	<p><b>Introduction to MIDI, Virtual Instruments and Audio Samplers</b></p> <p><b>Sound Design for Movies and Entertainment Games</b></p>	
CILO 11	<p><b>Spectral Solfege and Critical Listening</b></p> <p><b>Sound Design for Movies and Entertainment Games</b></p> <p><b>Preparing Audio Material for Various Distribution Formats</b></p>	1 week

#### 4. Assessment Tasks/Activities

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

ILO No	Type of assessment tasks/activities	Weighting (if applicable)	Remarks
CILO 1	<p><b>1<sup>st</sup> Task: Online Material</b> View, listen and read online material: <a href="http://sweb.cityu.edu.hk/soundlib">http://sweb.cityu.edu.hk/soundlib</a></p> <ul style="list-style-type: none"> <li>• Audio Recording Studio</li> <li>• Introduction to Music Technology</li> <li>• Human Perception Science</li> <li>• Cables and Connectors</li> </ul> <p><b>2<sup>nd</sup> Task: Reading</b> Description of frequency bands and their affect on human hearing</p>		
CILO 2	<p><b>3<sup>rd</sup> Task: Introduction to the Digital Audio Workstation (DAW)</b> - view online video on how to start the audio montage project - view demonstration on the use of effects and other features - experiment with the audio montage project</p>		
CILO 3	<p><b>4<sup>th</sup> Task: Digital Audio Workstation Exercise</b> Using the Audio Montage project experience the following: - editing techniques shown - applying equalisation - importing new audio material - file format conversions</p> <p><b>Quiz 1</b></p> <p><b>Assignment 1: Audio Montage</b></p>	10%	
CILO 4	<p><b>5<sup>th</sup> Task: Online Material</b> - audio signal processing (EQ)</p> <p><b>6<sup>th</sup> Task:</b> Experiment with EQ and filters - Audio Montage - Film Documentary</p>		

	- Movie Sound Track		
	<b>Assignment 2: Audio Restoration</b>		
CILO 5	<b>7<sup>th</sup> Task: Online Material</b> - microphone types and application  <b>8<sup>th</sup> Task: Read online material</b> DPA Microphones web address: <a href="http://www.dpamicrophones.com/page.php?PID=1">http://www.dpamicrophones.com/page.php?PID=1</a> <b>9<sup>th</sup> Task</b> - fix off axis recorded dialogue using EQ and automation within a DAW  <b>Quiz 2</b>	10%	
CILO 6	<b>10<sup>th</sup> Task:</b> Practice and experience the following: - align the input and output of all devices - transfer audio from one device to another - transfer audio from location recorder to the DAW (computer) - record audio onto a DV camera  <b>Assignment 3: Location Sound Recording</b>		
CILO 7	<b>Mid-semester Test on all that has been learnt and experienced since week-1</b>	20%	
CILO 8	<b>11<sup>th</sup> Task: Online Material</b> Revise audio signal processing		
CILO 9	<b>Quiz 3</b>	10%	
CILO 10	<b>Assignment 4: Sound Design</b>  <b>Present work for feedback during tutorial sessions</b>		
CILO 11	<b>Present work for feedback during tutorial sessions</b>		
CILO 1-11	<b>Participation and contribution to class discussion</b>	20%	
CILO 1-11	<b>Final Test on all that has been learnt, experienced and discovered throughout the semester</b>	30%	

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

### Part III

Keyword Syllabus:

Acoustics, Auditory Perception, Critical Listening, Audio Recording, Audio Mixing, Audio Mastering, Location Sound Recording, Dialogue Production, Sound-track Design, Film Sound, Sound for Animation and Interactive Applications.

Recommended Reading:

Text(s):

David Sonnenschein. *Sound Design: The Expressive Power of Music, Voice, and Sound Effects in Cinema*, USA: Michael Wiese Productions, 2001.

Online Resources:

Music and Sound Production

<http://sweb.cityu.edu.hk/soundlib>

Handbook for Acoustic Ecology

<http://www2.sfu.ca/sonic-studio/handbook/index.html>

Sound Reference

<http://en.wikipedia.org/wiki/Sound>

DPA Microphone University

<http://www.dpamicrophones.com>

FlashKit

<http://www.flashkit.com>

Find Sounds

<http://findsounds.com>

MIDI

<http://www.midi.org>

<http://www.borg.com/%7Ejglatt/tech/midispec.htm>

***Returned by:***

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Date: 31 August 2006