

**City University of Hong Kong**

**Information on a Course  
offered by School of Creative Media  
with effect from Semester A in 2012 / 2013**

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**Part I**

**Course Title:** Digital Media and Moving Images

**Course Code:** SM5307

**Course Duration:** One semester (13 weeks)

**Credit Units:** 3

**Level:** P5

**Medium of Instruction:** English

**Prerequisites:** Nil

**Precursors:** Nil

**Equivalent Courses:** Nil

**Exclusive Courses:** Nil

**Part II**

**1. Course Aims**

The objectives of this studio course are twofold: to introduce computer programming as an artistic medium and to explore innovative and alternative forms of audiovisual expressions. Students will experiment with *Processing* and *Max/MSP/Jitter*, two artist-friendly programming environments, to develop their creative ideas and implement their projects. They are expected to design and create their own tools to address the specific artistic and technical needs as required by their respective projects. One of the main ideas of this class is to foster a holistic approach of audiovisual art-making in which the technology and artistic form of the work are closely integrated and informed by each other. Topics such as experimental cinema, new media art, computer music and media performance will be addressed in class in order to facilitate a cross-disciplinary

understanding of the various contexts and issues of contemporary audiovisual art practices.

## 2. Course Intended Learning Outcomes (CILOs)

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

No.	CILOs
1.	Describe the basic concepts of computer programming for audiovisual media
2.	Apply digital media and computational techniques in art-making
3.	Identify the characteristics of digital audiovisual art
*4.	Produce artworks with the use of algorithmic techniques and transform basic technical competence into a unique style or personal signature

\*Negotiated Learning Outcome (NLO) explicitly articulating the elements of Discovery oriented learning.

## 3. Teaching and Learning Activities (TLAs)

*(Indicative of likely activities and tasks designed to facilitate students' achievement of the CILOs. Final details will be provided to students in their first week of attendance in this course)*

TLAs	CILO No.
Workshops	CILO 1
Workshops	CILO 2
Lectures/Screenings	CILO 3
Workshops/Critiques	CILO 4

## 4. Assessment Tasks/Activities

*(Indicative of likely activities and tasks designed to assess how well the students achieve the CILOs. Final details will be provided to students in their first week of attendance in this course)*

Type of Assessment Tasks/Activities	CILO No.	Remarks
Project #1	CILO 1	
Project #1	CILO 2	
Presentation	CILO 3	
Final Project & presentation	CILO 4	

## 5. Grading of Student Achievement:

Refer to Grading of Courses in the Academic Regulations for Taught Postgraduate Degrees.

Examination duration: Nil

*Percentage of coursework, examination, etc.:*

100% coursework

*Grading pattern:* Standard (A+AA-...F)

Grading is based on performance in assessment tasks/activities

### A. Creative 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.

Letter Grade	Grade Point	Grade Definitions	Description
A+ A A-	4.3 4.0 3.7	Excellent	<ul style="list-style-type: none"> <li>– Work has strong affective quality and the articulation of personal styles and signature</li> <li>– Excellent appreciation, exploration and/or application of the aesthetic and expressive qualities of the medium</li> <li>– Work raises questions and instill insights about the process of conception, creative strategization and production</li> <li>– Innovative exploration by combining knowledge from different disciplines (e.g. mathematics, psychology, physics, anthropology, etc.) to create an inter-disciplinary project</li> <li>– Efficient adjustment of plans and strategies in response to resources (time, space, equipment, etc) available with constructive adjustment</li> </ul>
B+ B B-	3.3 3.0 2.7	Good	<ul style="list-style-type: none"> <li>– Strong appreciation, exploration and/or application of the aesthetic and expressive qualities of the medium</li> <li>– Ability to create project/ work that demonstrate the processes of thinking and creative exploration</li> <li>– Proper adjustment of plans and strategies in response to resources (time, space, equipment, etc) available and constructive feedback/ suggestions</li> </ul>
C+ C C-	2.3 2.0 1.7	Adequate	<ul style="list-style-type: none"> <li>– Basic appreciation and/or application of the aesthetic and expressive qualities of the medium</li> <li>– Limited ability to create project/ work that demonstrate the processes of thinking and creative exploration</li> <li>– Adjustment of plans and strategies in response to resources (time, space, equipment, etc) available</li> </ul>
D	1.0	Marginal	<ul style="list-style-type: none"> <li>– Marginal appreciation of the aesthetic and expressive qualities of the medium</li> <li>– Marginal ability to create project/ work that demonstrate the processes of thinking and creative exploration</li> <li>– Limited adjustment of plans and strategies in response to resources (time, space, equipment, etc) available</li> </ul>
F	0.0	Failure	<ul style="list-style-type: none"> <li>– No appreciation of the aesthetics and expressive qualities of the medium</li> </ul>

			<ul style="list-style-type: none"> <li>– Fail to create project/ work that demonstrate the processes of thinking and creative exploration</li> <li>– Minimal adjustment of plans and strategies in response to resources (time, space, equipment, etc) available</li> </ul>
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**Note: All A+/A/A- grade assignment should comply with the highest performance of Discovery-oriented learning.**

## **B. 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.

Letter Grade	Grade Point	Grade Definitions	Description
A+	4.3	Excellent	<ul style="list-style-type: none"> <li>– Rich, informative content, excellent grasp of the material with in-depth and extensive knowledge of the subject matter</li> <li>– Rigorous organization, coherent structure, and systematic exposition with a strong sense of narrative</li> <li>– Superior presentation skills: distinct pronunciation, fluent expression and appropriate diction, exact time-management</li> <li>– Critical analysis with insightful comments opening up new issues, or suggesting the ability to theorize</li> </ul>
A	4.0		
A-	3.7		
B+	3.3	Good	<ul style="list-style-type: none"> <li>– Adequate content with firm grasp of the material that informs the audience on a subject matter</li> <li>– Reasonable organization, balanced structure and composition</li> <li>– Good verbal communication: comprehensible pronunciation, fluent expression and diction, fair time-management</li> </ul>
B	3.0		
B-	2.7		
C+	2.3	Adequate	<ul style="list-style-type: none"> <li>– Adequate content with comprehensive grasp of the material demonstrating basic knowledge of the subject matter</li> <li>– Fair organization, weak structure and composition</li> <li>– Fair presentation skills: acceptable pronunciation, expression and diction, fair time-management</li> </ul>
C	2.0		
C-	1.7		
D	1.0	Marginal	<ul style="list-style-type: none"> <li>– Weak content, loose grasp of the general ideas with some knowledge of the subject matter</li> <li>– Poor organization, structure and composition</li> <li>– Poor presentation skills: marginal pronunciation, expression and diction, poor time-management</li> </ul>
F	0.0	Failure	<ul style="list-style-type: none"> <li>– Inadequate content, fail to identify the general ideas with</li> </ul>

			<p>knowledge of the subject matter</p> <ul style="list-style-type: none"> <li>- No organization, structure or/and composition</li> <li>- Poor presentation skills: marginal pronunciation, expression and diction, minimal time-management</li> </ul>
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**Note: All A+/A/A- grade assignment should comply with the highest performance of Discovery-oriented learning.**

### Part III

#### Keyword Syllabus

Digital literacy and creativity, Max/MSP/Jitter, Processing, software prototyping and design, computational cinema, video art, new media art, media performance, algorithmic techniques in art-making

#### Recommended Reading

##### Text(s)

##### Programming

Akamatsu, Masayuki. **2061: a Max/MSP Odyssey**. Toyko: Ritto Myujikku, 2006.

Cipriani, Alessandro. **Electronic Music and Sound Design - Theory and Practice with Max/MSP**. Rome: ConTempoNet, 2010.

Levin, Golan. "**Computer Vision for Artists and Designers: Pedagogic Tools and Techniques for Novice Programmers**", 2006. (from <http://www.flong.com/writings/>)

Maeda, John. **Design by numbers**. Cambridge, Mass: MIT Press, 1999.

Manzo, V.J. **Max/MSP/Jitter for music : a practical guide to developing interactive music systems for education and more**. New York : Oxford University Press, 2011.

Noble, Joshua, **Programming interactivity: a designer's guide to processing, Arduino, and openFrameworks**. Cambridge, Mass. : O'Reilly, 2009.

Reas, Casey and Ben Fry. **Processing: a programming handbook for visual designers and artists**. Cambridge, Mass: MIT, 2007.

Shiffman, Daniel. **Learning Processing: a beginner's guide to programming images, animation, and interaction**. Amsterdam; Boston : Morgan Kaufmann/Elsevier, c2008.

## Practices

Dixon, Steve. **Digital performance: a history of new media in theater, dance, performance art, and installation.** Cambridge, Mass. : MIT Press, 2007.

Faulkner, Michael (ed.). **VJ: audio-visual art + VJ culture.** London: Laurence King, 2006.

Reas, Casey. **Form+Code in Design, Art, and Architecture.** New York : Princeton Architectural Press, 2010.

Shaw, Jeffrey (ed.). **Future cinema: the cinematic imaginary after film.** Cambridge, Mass: MIT, 2003.

Youngblood, Gene. **Expanded cinema.** New York: Dutton, 1970.

## **Online references and resources**

### Programming/software tools

ARToolkit	<a href="http://www.aranarproductions.com/artk/">http://www.aranarproductions.com/artk/</a>
CNMAT external downloads	<a href="http://cnmat.berkeley.edu/downloads">http://cnmat.berkeley.edu/downloads</a>
CV objects	<a href="http://jmpelletier.com/cvjit/">http://jmpelletier.com/cvjit/</a>
CCV	<a href="http://ccv.nuigroup.com/">http://ccv.nuigroup.com/</a>
EyesWeb	<a href="http://www.infomus.org/EywMain.html">http://www.infomus.org/EywMain.html</a>
EyeCon	<a href="http://eyecon.palindrome.de/">http://eyecon.palindrome.de/</a>
Field	<a href="http://openendedgroup.com/field/">http://openendedgroup.com/field/</a>
GEM	<a href="http://gem4mac.sourceforge.net/">http://gem4mac.sourceforge.net/</a>
Isadora	<a href="http://www.troikaranch.org/isadora.html/">http://www.troikaranch.org/isadora.html/</a>
jit.kinect	<a href="http://jmpelletier.com/freenect/">http://jmpelletier.com/freenect/</a>
JMax	<a href="http://freesoftware.ircam.fr/rubrique.php3?id_rubrique=14">http://freesoftware.ircam.fr/rubrique.php3?id_rubrique=14</a>
Korsakow	<a href="http://www.korsakow.com/ksy/index.html">http://www.korsakow.com/ksy/index.html</a>
Keyworx	<a href="http://www.keyworx.org/">http://www.keyworx.org/</a>
Lily	<a href="http://www.lilyapp.org/">http://www.lilyapp.org/</a>
Max	<a href="http://www.cycling74.com/">http://www.cycling74.com/</a>
Modul8	<a href="http://www.modul8.ch/">http://www.modul8.ch/</a>
Mrmr	<a href="http://poly.share.dj/projects/#mrmr">http://poly.share.dj/projects/#mrmr</a>
NodeBox	<a href="http://nodebox.net/code/index.php/Home">http://nodebox.net/code/index.php/Home</a>
Open Sound Control (OSC)	<a href="http://opensoundcontrol.org/">http://opensoundcontrol.org/</a>

TouchDesigner	<a href="http://www.touch077.com/">http://www.touch077.com/</a>
Tx-transform	<a href="http://www.tx-transform.com/Eng/index.html">http://www.tx-transform.com/Eng/index.html</a>
Vidvox	<a href="http://vidvox.net/">http://vidvox.net/</a>
Voodoo camera tracker	<a href="http://www.digilab.uni-hannover.de/docs/manual.html">http://www.digilab.uni-hannover.de/docs/manual.html</a>
VPT	<a href="http://hcgilje.wordpress.com/vpt6-manual/">http://hcgilje.wordpress.com/vpt6-manual/</a>
VVVV	<a href="http://vvvv.org/tiki-index.php/">http://vvvv.org/tiki-index.php/</a>

### Hardware

Arduino	<a href="http://www.arduino.cc/">http://www.arduino.cc/</a>
Eowave	<a href="http://www.eowave.com/">http://www.eowave.com/</a>
Electrotap	<a href="http://www.electrotap.com/">http://www.electrotap.com/</a>
ENTTEC (DMX)	<a href="http://www.enttec.com/">http://www.enttec.com/</a>
iCube	<a href="http://infusionsystems.com/">http://infusionsystems.com/</a>
Imaging Source	<a href="http://www.theimagingsource.com">http://www.theimagingsource.com</a>
Ms Pinky	<a href="http://www.mspinky.com/">http://www.mspinky.com/</a>
Phidgets	<a href="http://www.phidgets.com/">http://www.phidgets.com/</a>
Unibrain	<a href="http://www.unibrain.com/">http://www.unibrain.com/</a>

### Artists/People/Groups

Alva Noto	<a href="http://www.alvanoto.com/">http://www.alvanoto.com/</a>
Anti VJ	<a href="http://www.antivj.com/">http://www.antivj.com/</a>
Avatar	<a href="http://www.lenomdelachose.org/">http://www.lenomdelachose.org/</a>
Blast Theory	<a href="http://www.blasttheory.co.uk/">http://www.blasttheory.co.uk/</a>
Burst TV	<a href="http://www.burst-tv.net">http://www.burst-tv.net</a>
Camille Utterback	<a href="http://www.camilleutterback.com/">http://www.camilleutterback.com/</a>
Casey Reas	<a href="http://reas.com/">http://reas.com/</a>
Christian Moeller	<a href="http://www.christian-moeller.com/">http://www.christian-moeller.com/</a>
Cory Arcangel	<a href="http://beigerecords.com/cory/">http://beigerecords.com/cory/</a>
D-fuse	<a href="http://www.dfuse.com/">http://www.dfuse.com/</a>
Diane Landry	<a href="http://www.clic.net/~dilandry/">http://www.clic.net/~dilandry/</a>
Daniel Shiffman	<a href="http://www.shiffman.net/">http://www.shiffman.net/</a>
David Rokeby	<a href="http://homepage.mac.com/davidrokeby/">http://homepage.mac.com/davidrokeby/</a>
Daito Manabe	<a href="http://www.daito.ws/">http://www.daito.ws/</a>
Daniel Rozin	<a href="http://www.smoothware.com/danny/newbio.html">http://www.smoothware.com/danny/newbio.html</a>
Daniel Sauter	<a href="http://daniel-sauter.com/">http://daniel-sauter.com/</a>

deKam	<a href="http://www.node.net/main.shtml">http://www.node.net/main.shtml</a>
Dumbtype	<a href="http://dumbtype.com/">http://dumbtype.com/</a>
Exonemo	<a href="http://www.exonemo.com/">http://www.exonemo.com/</a>
Golan Levin	<a href="http://www.flong.com/">http://www.flong.com/</a>
Granular Synthesis	<a href="http://www.granularsynthesis.info/ns/index.php">http://www.granularsynthesis.info/ns/index.php</a>
GRL	<a href="http://graffitiresearchlab.com/">http://graffitiresearchlab.com/</a>
HC Gilje	<a href="http://www.nervousvision.com/">http://www.nervousvision.com/</a>
Interactive Sonic Systems	<a href="http://mtg.upf.es/reactable/">http://mtg.upf.es/reactable/</a>
Jasch	<a href="http://www.jasch.ch/">http://www.jasch.ch/</a>
Jennifer & Kevin McCoy	<a href="http://www.mccoospace.com/">http://www.mccoospace.com/</a>
Jeffrey Shaw	<a href="http://www.jeffrey-shaw.net/">http://www.jeffrey-shaw.net/</a>
Jim Campbell	<a href="http://www.jimcampbell.tv/">http://www.jimcampbell.tv/</a>
John Klima	<a href="http://www.cityarts.com/lmno/">http://www.cityarts.com/lmno/</a>
John Maeda	<a href="http://www.maedastudio.com">http://www.maedastudio.com</a>
Joshua Goldberg	<a href="http://www.goldbergs.com/">http://www.goldbergs.com/</a>
Julien Maire	<a href="http://julienmaire.ideenshop.net/">http://julienmaire.ideenshop.net/</a>
Kurt Ralske	<a href="http://retnull.com/">http://retnull.com/</a>
Lia	<a href="http://www.strangethingshappen.org/">http://www.strangethingshappen.org/</a>
Light Surgeons	<a href="http://www.thelightsurgeons.co.uk/">http://www.thelightsurgeons.co.uk/</a>
Lev Manovich	<a href="http://www.manovich.net/">http://www.manovich.net/</a>
Luc Courchesne	<a href="http://www.din.umontreal.ca/courschesne">http://www.din.umontreal.ca/courschesne</a>
Marc Lafia	<a href="http://www.marclafia.net/">http://www.marclafia.net/</a>
Martijn van Boven	<a href="http://www.474746.org/">http://www.474746.org/</a>
Masaki Fujihata	<a href="http://www.fujihata.jp/">http://www.fujihata.jp/</a>
Masayuki Akamatsu	<a href="http://www.iamas.ac.jp/~aka/">http://www.iamas.ac.jp/~aka/</a>
Michael Mateas	<a href="http://users.soe.ucsc.edu/~michaelm/">http://users.soe.ucsc.edu/~michaelm/</a>
Miller Puckette	<a href="http://crca.ucsd.edu/~msp/">http://crca.ucsd.edu/~msp/</a>
Otolab	<a href="http://www.otolab.net/">http://www.otolab.net/</a>
Paul Kasier	<a href="http://www.openendedgroup.com/">http://www.openendedgroup.com/</a>
Philip Worthington	<a href="http://www.worthersoriginal.com">http://www.worthersoriginal.com</a>
Rafael Lozano-Hemmer	<a href="http://www.lozano-hemmer.com/eprlh.html">http://www.lozano-hemmer.com/eprlh.html</a>
Robert Rowe	<a href="http://homepages.nyu.edu/~rr6/">http://homepages.nyu.edu/~rr6/</a>
Ryoji Ikeda	<a href="http://www.ryojiikeda.com/">http://www.ryojiikeda.com/</a>
Ryoichi Kurokawa	<a href="http://www.ryoichikurokawa.com/">http://www.ryoichikurokawa.com/</a>
Scott Snibbe	<a href="http://www.snibbe.com/">http://www.snibbe.com/</a>
Semiconductor	<a href="http://www.semiconductorfilms.com/">http://www.semiconductorfilms.com/</a>
Stelarc	<a href="http://www.stelarc.va.com.au/">http://www.stelarc.va.com.au/</a>
Sue C.	<a href="http://www.sue-c.net/">http://www.sue-c.net/</a>



Suguru Goto	<a href="http://suguru.goto.free.fr/Contents/SuguruGoto-e.html">http://suguru.goto.free.fr/Contents/SuguruGoto-e.html</a>
Telcosystems	<a href="http://www.telcosystems.net/">http://www.telcosystems.net/</a>
Teatro Cinema	<a href="http://www.teatrocinema.cl/">http://www.teatrocinema.cl/</a>
Troika Ranch	<a href="http://www.troikaranch.org">http://www.troikaranch.org</a>
Ulf Langheinrich	<a href="http://langheinrich.net/">http://langheinrich.net/</a>
Vasulkas	<a href="http://www.vasulka.org/">http://www.vasulka.org/</a>
Wooster group	<a href="http://www.thewoostergroup.org/">http://www.thewoostergroup.org/</a>
Young-Hae Chang	<a href="http://www.yhchang.com/">http://www.yhchang.com/</a>
Zachary Lieberman	<a href="http://www.thesystemis.com/">http://www.thesystemis.com/</a>

#### Organizations/Centers

CNMAT	<a href="http://cnmat.berkeley.edu/">http://cnmat.berkeley.edu/</a>
CRCA	<a href="http://crca.ucsd.edu/">http://crca.ucsd.edu/</a>
EMPAC	<a href="http://empac.rpi.edu/">http://empac.rpi.edu/</a>
Eyebeam	<a href="http://eyebeam.org/">http://eyebeam.org/</a>
iAMAS	<a href="http://www.iamas.ac.jp/">http://www.iamas.ac.jp/</a>
ICC	<a href="http://www.ntticc.or.jp/index_e.html">http://www.ntticc.or.jp/index_e.html</a>
iCinema	<a href="http://www.icinema.unsw.edu.au/">http://www.icinema.unsw.edu.au/</a>
IRCAM	<a href="http://www.ircam.fr/">http://www.ircam.fr/</a>
The Labyrinth Project	<a href="http://college.usc.edu/labyrinth/">http://college.usc.edu/labyrinth/</a>
MIT Media Lab	<a href="http://www.media.mit.edu/research/">http://www.media.mit.edu/research/</a>
Sonar	<a href="http://www.sonar.es/">http://www.sonar.es/</a>
Sonic Acts	<a href="http://www.sonicacts.com/">http://www.sonicacts.com/</a>
STEIM	<a href="http://www.steim.org/">http://www.steim.org/</a>
V2	<a href="http://www.v2.nl/">http://www.v2.nl/</a>
ZKM	<a href="http://on1.zkm.de/zkm/e/">http://on1.zkm.de/zkm/e/</a>