

**City University of Hong Kong  
Course Syllabus**

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

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**Part I Course Overview**

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

**Course Code:** SM5307

**Course Duration:** One semester

**Credit Units:** 3

**Level:** P5

**Medium of Instruction:** English

**Medium of Assessment:** English

**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 Course Details

### 1. Abstract

The objectives of this studio course are twofold: to introduce computer programming as an artistic medium and to explore innovative and alternative forms of expressions for moving image-based media. 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 moving image and audio-visual 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 moving image practices.

### 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.	Describe the basic concepts of computer programming for moving image and audio-visual media		x	x	
2.	Apply digital media and computational techniques in art-making				x
3.	Identify the characteristics of digital audio-visual art		x	x	
4.^	Produce artworks with the use of algorithmic techniques and transform basic technical competence into a unique style or personal signature				x
		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	5	6	
Workshops	Technical instruction on Processing and Max/MSP/Jitter	✓						
Workshops	Technical instruction on the use of sensors, actuators, controllers and DMX lighting equipment		✓					
Lectures/Screenings	Explain key concepts and introduce recent works in the field of digital art, media performance and contemporary audio-visual art			✓				
Presentations/Critiques	Students are required to present their final projects during group critique sessions				✓			

### 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%								
Project #1	✓	✓	✓					
Final Project & presentation	✓	✓	✓	✓				
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. 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.	<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-disciplinar</li> </ul>	<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>	<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>	<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>	<ul style="list-style-type: none"> <li>- No appreciation of the aesthetics and expressive qualities of the medium</li> <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>

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"> <li>Efficient adjustment of plans and strategies in response to resources (time, space, equipment, etc) available with constructive adjustment</li> </ul>				
2. 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"> <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> </ul>	<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>	<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>	<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>	<ul style="list-style-type: none"> <li>Inadequate content, fail to identify the general ideas with knowledge of the subject matter</li> <li>No organization, structure or/and composition</li> <li>Poor presentation skills: marginal pronunciation, expression and diction, minimal time-management</li> </ul>

Assessment Task	Criterion	Excellent (A+, A, A-)	Good (B+, B, B-)	Fair (C+, C, C-)	Marginal (D)	Failure (F)
		– Critical analysis with insightful comments opening up new issues, or suggesting the ability to theorize				

**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.)*

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

**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.)*

	<u>Programming</u>
1.	Cipriani, Alessandro. <b>Electronic Music and Sound Design - Theory and Practice with Max/MSP</b> . Rome: ConTempoNet, 2010.
2.	Elsa, Peter. <b>Peter Elsa's Max Tutorials</b> , (from <a href="ftp://arts.ucsc.edu/pub/ems/maxtutors/">ftp://arts.ucsc.edu/pub/ems/maxtutors/</a> )
3.	Levin, Golan. " <a href="http://www.flong.com/writings/">Computer Vision for Artists and Designers: Pedagogic Tools and Techniques for Novice Programmers</a> ", 2006. (from <a href="http://www.flong.com/writings/">http://www.flong.com/writings/</a> )
4.	Maeda, John. <b>Design by numbers</b> . Cambridge, Mass: MIT Press, 1999.
5.	Manzo, V.J. <b>Max/MSP/Jitter for music : a practical guide to developing interactive music systems for education and more</b> . New York : Oxford University Press, 2011.
6.	Reas, Casey and Ben Fry. <b>Processing: a programming handbook for visual designers and artists</b> . Cambridge, Mass: MIT, 2014.
7.	Shiffman, Daniel. <b>Learning Processing: a beginner's guide to programming images, animation, and interaction</b> . Amsterdam; Boston : Morgan Kaufmann/Elsevier, c2008.
8.	Dixon, Steve. <b>Digital performance: a history of new media in theater, dance, performance art, and installation</b> . Cambridge, Mass. : MIT Press, 2007.
9.	Faulkner, Michael (ed.). <b>VJ: audio-visual art + VJ culture</b> . London: Laurence King, 2006.
10.	Reas, Casey. <b>Form+Code in Design, Art, and Architecture</b> . New York : Princeton Architectural Press, 2010.
11.	Shaw, Jeffrey (ed.). <b>Future cinema: the cinematic imaginary after film</b> . Cambridge, Mass: MIT, 2003.
12.	Youngblood, Gene. <b>Expanded cinema</b> . New York: Dutton, 1970.

**2.2 Additional Readings**

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

	<u>Programming/software tools</u>
1	ARToolkit <a href="http://www.aranarproductions.com/artk/">http://www.aranarproductions.com/artk/</a>
2	CNMAT external downloads <a href="http://cnmat.berkeley.edu/downloads">http://cnmat.berkeley.edu/downloads</a>
3	CV objects <a href="http://jmpelletier.com/cvjit/">http://jmpelletier.com/cvjit/</a>
4	CCV <a href="http://ccv.nuigroup.com/">http://ccv.nuigroup.com/</a>
5	EyesWeb <a href="http://www.infomus.org/EywMain.html">http://www.infomus.org/EywMain.html</a>
6	EyeCon <a href="http://eyecon.palindrome.de/">http://eyecon.palindrome.de/</a>
7	Field <a href="http://openendedgroup.com/field/">http://openendedgroup.com/field/</a>
8	GEM <a href="http://gem4mac.sourceforge.net/">http://gem4mac.sourceforge.net/</a>
9	Isadora <a href="http://www.troikaranch.org/isadora.html/">http://www.troikaranch.org/isadora.html/</a>
10	jit.kinect <a href="http://jmpelletier.com/freenect/">http://jmpelletier.com/freenect/</a>
11	JMax <a href="http://freesoftware.ircam.fr/rubrique.php3?id_rubrique=14">http://freesoftware.ircam.fr/rubrique.php3?id_rubrique=14</a>
12	Korsakow <a href="http://www.korsakow.com/ksy/index.html">http://www.korsakow.com/ksy/index.html</a>
13	Keyworx <a href="http://www.keyworx.org/">http://www.keyworx.org/</a>
14	Lily <a href="http://www.lilyapp.org/">http://www.lilyapp.org/</a>

15	Max	<a href="http://www.cycling74.com/">http://www.cycling74.com/</a>
16	Modul8	<a href="http://www.modul8.ch/">http://www.modul8.ch/</a>
17	Mrmr	<a href="http://poly.share.dj/projects/#mrmr">http://poly.share.dj/projects/#mrmr</a>
18	NodeBox	<a href="http://nodebox.net/code/index.php/Home">http://nodebox.net/code/index.php/Home</a>
19	Open Sound Control (OSC)	<a href="http://opensoundcontrol.org/">http://opensoundcontrol.org/</a>
20	oscP5	<a href="http://www.sojamo.de/libraries/oscP5/index.html">http://www.sojamo.de/libraries/oscP5/index.html</a>
21	OpenFrameworks	<a href="http://www.openframeworks.cc/">http://www.openframeworks.cc/</a>
22	Processing	<a href="http://processing.org/">http://processing.org/</a>
23	Pure Data	<a href="http://puredata.info/">http://puredata.info/</a>
24	reactIVision	<a href="http://reactivision.sourceforge.net/">http://reactivision.sourceforge.net/</a>
25	Resolume	<a href="http://www.resolume.com/">http://www.resolume.com/</a>
26	Syphon	<a href="http://syphon.v002.info/">http://syphon.v002.info/</a>
27	TouchDesigner	<a href="http://www.touch077.com/">http://www.touch077.com/</a>
28	Tx-transform	<a href="http://www.tx-transform.com/Eng/index.html">http://www.tx-transform.com/Eng/index.html</a>
29	Vidvox	<a href="http://vidvox.net/">http://vidvox.net/</a>
30	Voodoo camera tracker	<a href="http://www.digilab.uni-hannover.de/docs/manual.html">http://www.digilab.uni-hannover.de/docs/manual.html</a>
31	VPT	<a href="http://hcgilje.wordpress.com/vpt6-manual/">http://hcgilje.wordpress.com/vpt6-manual/</a>
32	VVVV	<a href="http://vvvv.org/tiki-index.php/">http://vvvv.org/tiki-index.php/</a>
	<u>Hardware</u>	
33	Arduino	<a href="http://www.arduino.cc/">http://www.arduino.cc/</a>
34	Eowave	<a href="http://www.eowave.com/">http://www.eowave.com/</a>
35	Electrotap	<a href="http://www.electrotap.com/">http://www.electrotap.com/</a>
36	ENTTEC (DMX)	<a href="http://www.enttec.com/">http://www.enttec.com/</a>
37	iCube	<a href="http://infusionsystems.com/">http://infusionsystems.com/</a>
38	Imaging Source	<a href="http://www.theimagingsource.com">http://www.theimagingsource.com</a>
39	Ms Pinky	<a href="http://www.mspinky.com/">http://www.mspinky.com/</a>
40	Phidgets	<a href="http://www.phidgets.com/">http://www.phidgets.com/</a>
41	Unibrain	<a href="http://www.unibrain.com/">http://www.unibrain.com/</a>
	<u>Artists/People/Groups</u>	
42	Alva Noto	<a href="http://www.alvanoto.com/">http://www.alvanoto.com/</a>
43	Anti VJ	<a href="http://www.antivj.com/">http://www.antivj.com/</a>
44	Avatar	<a href="http://www.lenomdelachose.org/">http://www.lenomdelachose.org/</a>
45	Blast Theory	<a href="http://www.blasttheory.co.uk/">http://www.blasttheory.co.uk/</a>
46	Burst TV	<a href="http://www.burst-tv.net">http://www.burst-tv.net</a>
47	Camille Utterback	<a href="http://www.camilleutterback.com/">http://www.camilleutterback.com/</a>
48	Casey Reas	<a href="http://reas.com/">http://reas.com/</a>
49	Christian Moeller	<a href="http://www.christian-moeller.com/">http://www.christian-moeller.com/</a>
50	Cory Arcangel	<a href="http://beigerecords.com/cory/">http://beigerecords.com/cory/</a>
51	D-fuse	<a href="http://www.dfuse.com/">http://www.dfuse.com/</a>
52	Diane Landry	<a href="http://www.clic.net/~dilandry/">http://www.clic.net/~dilandry/</a>
53	Daniel Shiffman	<a href="http://www.shiffman.net/">http://www.shiffman.net/</a>
54	David Rokeby	<a href="http://homepage.mac.com/davidrokeby">http://homepage.mac.com/davidrokeby</a>
55	Daito Manabe	<a href="http://www.daito.ws/">http://www.daito.ws/</a>
56	Daniel Rozin	<a href="http://www.smoothware.com/danny/newbio.html">http://www.smoothware.com/danny/newbio.html</a>
57	Daniel Sauter	<a href="http://daniel-sauter.com/">http://daniel-sauter.com/</a>
58	deKam	<a href="http://www.node.net/main.shtml">http://www.node.net/main.shtml</a>
59	Dumbtype	<a href="http://dumbtype.com/">http://dumbtype.com/</a>
60	Exonemo	<a href="http://www.exonemo.com/">http://www.exonemo.com/</a>
61	Golan Levin	<a href="http://www.flong.com/">http://www.flong.com/</a>
62	Granular Synthesis	<a href="http://www.granularsynthesis.info/ns/index.php">http://www.granularsynthesis.info/ns/index.php</a>
63	GRL	<a href="http://graffitiresearchlab.com/">http://graffitiresearchlab.com/</a>
64	HC Gilje	<a href="http://www.nervousvision.com/">http://www.nervousvision.com/</a>
65	Interactive Sonic Systems	<a href="http://mtg.upf.es/reactable/">http://mtg.upf.es/reactable/</a>
66	Jasch	<a href="http://www.jasch.ch/">http://www.jasch.ch/</a>



67	Jennifer & Kevin McCoy	<a href="http://www.mccoyspace.com/">http://www.mccoyspace.com/</a>
68	Jeffrey Shaw	<a href="http://www.jeffrey-shaw.net/">http://www.jeffrey-shaw.net/</a>
69	Jim Campbell	<a href="http://www.jimcampbell.tv/">http://www.jimcampbell.tv/</a>
70	John Klima	<a href="http://www.cityarts.com/lmno/">http://www.cityarts.com/lmno/</a>
71	John Maeda	<a href="http://www.maedastudio.com">http://www.maedastudio.com</a>
72	Joshua Goldberg	<a href="http://www.goldbergs.com/">http://www.goldbergs.com/</a>
73	Julien Maire	<a href="http://julienmaire.ideenshop.net/">http://julienmaire.ideenshop.net/</a>
74	Kurt Ralske	<a href="http://retnull.com/">http://retnull.com/</a>
75	Lia	<a href="http://www.strangethingshappen.org/">http://www.strangethingshappen.org/</a>
76	Light Surgeons	<a href="http://www.thelightsurgeons.co.uk/">http://www.thelightsurgeons.co.uk/</a>
77	Lev Manovich	<a href="http://www.manovich.net/">http://www.manovich.net/</a>
78	Luc Courchesne	<a href="http://www.din.umontreal.ca/courschesne">http://www.din.umontreal.ca/courschesne</a>
79	Marc Lafia	<a href="http://www.marclafia.net/">http://www.marclafia.net/</a>
80	Martijn van Boven	<a href="http://www.474746.org/">http://www.474746.org/</a>
81	Masaki Fujihata	<a href="http://www.fujihata.jp/">http://www.fujihata.jp/</a>
82	Masayuki Akamatsu	<a href="http://www.iamas.ac.jp/~aka/">http://www.iamas.ac.jp/~aka/</a>
83	Michael Mateas	<a href="http://users.soe.ucsc.edu/~michaelm/">http://users.soe.ucsc.edu/~michaelm/</a>
84	Miller Puckette	<a href="http://crca.ucsd.edu/~msp/">http://crca.ucsd.edu/~msp/</a>
85	Otolab	<a href="http://www.otolab.net/">http://www.otolab.net/</a>
86	Paul Kasier	<a href="http://www.openendedgroup.com/">http://www.openendedgroup.com/</a>
87	Philip Worthington	<a href="http://www.worthersoriginal.com">http://www.worthersoriginal.com</a>
88	Rafael Lozano-Hemmer	<a href="http://www.lozano-hemmer.com/eprlh.html">http://www.lozano-hemmer.com/eprlh.html</a>
89	Robert Rowe	<a href="http://homepages.nyu.edu/~rr6/">http://homepages.nyu.edu/~rr6/</a>
90	Ryoji Ikeda	<a href="http://www.ryojiikeda.com/">http://www.ryojiikeda.com/</a>
91	Ryoichi Kurokawa	<a href="http://www.ryoichikurokawa.com/">http://www.ryoichikurokawa.com/</a>
92	Scott Snibbe	<a href="http://www.snibbe.com/">http://www.snibbe.com/</a>
93	Semiconductor	<a href="http://www.semiconductorfilms.com/">http://www.semiconductorfilms.com/</a>
94	Stelarc	<a href="http://www.stelarc.va.com.au">http://www.stelarc.va.com.au</a>
95	Sue C.	<a href="http://www.sue-c.net/">http://www.sue-c.net/</a>
96	Suguru Goto	<a href="http://suguru.goto.free.fr/Contents/SuguruGoto-e.html">http://suguru.goto.free.fr/Contents/SuguruGoto-e.html</a>
97	Telcosystems	<a href="http://www.telcosystems.net/">http://www.telcosystems.net/</a>
98	Teatro Cinema	<a href="http://www.teatrocinema.cl/">http://www.teatrocinema.cl/</a>
99	Troika Ranch	<a href="http://www.troikaranch.org">http://www.troikaranch.org</a>
100	Ulf Langheinrich	<a href="http://langheinrich.net/">http://langheinrich.net/</a>
101	Vasulka	<a href="http://www.vasulka.org/">http://www.vasulka.org/</a>
102	Wooster group	<a href="http://www.thewoostergroup.org/">http://www.thewoostergroup.org/</a>
103	Young-Hae Chang	<a href="http://www.yhchang.com/">http://www.yhchang.com/</a>
104	Zachary Lieberman	<a href="http://www.thesystemis.com/">http://www.thesystemis.com/</a>
	<u>Organizations/Centers</u>	
105	CNMAT	<a href="http://cnmat.berkeley.edu/">http://cnmat.berkeley.edu/</a>
106	CRCA	<a href="http://crca.ucsd.edu/">http://crca.ucsd.edu/</a>
107	EMPAC	<a href="http://empac.rpi.edu/">http://empac.rpi.edu/</a>
108	Eyebeam	<a href="http://eyebeam.org/">http://eyebeam.org/</a>
109	iAMAS	<a href="http://www.iamas.ac.jp/">http://www.iamas.ac.jp/</a>
110	ICC	<a href="http://www.ntticc.or.jp/index_e.html">http://www.ntticc.or.jp/index_e.html</a>
111	iCinema	<a href="http://www.icinema.unsw.edu.au/">http://www.icinema.unsw.edu.au/</a>
112	IRCAM	<a href="http://www.ircam.fr/">http://www.ircam.fr/</a>
113	The Labyrinth Project	<a href="http://college.usc.edu/labyrinth/">http://college.usc.edu/labyrinth/</a>
114	MIT Media Lab	<a href="http://www.media.mit.edu/research/">http://www.media.mit.edu/research/</a>
115	Sonar	<a href="http://www.sonar.es/">http://www.sonar.es/</a>
116	Sonic Acts	<a href="http://www.sonicacts.com/">http://www.sonicacts.com/</a>
117	V2	<a href="http://www.v2.nl/">http://www.v2.nl/</a>
118	STEIM	<a href="http://www.steim.org/">http://www.steim.org/</a>
119	ZKM	<a href="http://on1.zkm.de/zkm/e/">http://on1.zkm.de/zkm/e/</a>