**City University of Hong Kong**
**Course Syllabus**

**offered by School of Creative Media**
**with effect from Semester A 2023/24**

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## Part I Course Overview

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| **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 | | ✓ | ✓ | |
| 2. | Apply digital media and computational techniques in art-making | | | | ✓ |
| 3. | Identify the characteristics of digital audio-visual art | | ✓ | ✓ | |
| 4. | Produce artworks with the use of algorithmic techniques and transform basic technical competence into a unique style or personal signature | | | | ✓ |
| | | 100% | | | |

*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 | |
| 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 | | |
| Continuous Assessment: 100% | | | | | | |
| Project #1 | ✓ | ✓ | ✓ | | 30% | |
| Final Project & presentation | ✓ | ✓ | ✓ | ✓ | 70% | |
| 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.)*

Applicable to students admitted in Semester A 2022/23 and thereafter

| Assessment Task | Criterion | Excellent (A+, A, A-) | Good (B+, B) | Marginal (B-, C+, C) | 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. | – Work has strong affective quality and the articulation of personal styles and signature<br>– Excellent appreciation, exploration and/or application of the aesthetic and expressive qualities of the medium<br>– Work raises questions and instill insights about the process of conception, creative strategization and production<br>– Innovative exploration by combining knowledge from different disciplines (e.g. mathematics, psychology, physics, anthropology, etc.) to create an inter-disciplinary project<br>– Efficient adjustment of plans and strategies in response to resources (time, space, equipment, etc) available with constructive adjustment | – Good appreciation, exploration and/or application of the aesthetic and expressive qualities of the medium<br>– Ability to create project/ work that demonstrate the processes of thinking and creative exploration<br>– Proper adjustment of plans and strategies in response to resources (time, space, equipment, etc) available and constructive feedback/ suggestions | – Marginal appreciation of the aesthetic and expressive qualities of the medium<br>– Marginal ability to create project/ work that demonstrate the processes of thinking and creative exploration<br>– Limited adjustment of plans and strategies in response to resources (time, space, equipment, etc) available | – No appreciation of the aesthetics and expressive qualities of the medium<br>– Fail to create project/ work that demonstrate the processes of thinking and creative exploration<br>– Minimal adjustment of plans and strategies in response to resources (time, space, equipment, etc) available |

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|---|---|---|---|---|---|
| 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. | – Rich, informative content, excellent grasp of the material with in-depth and extensive knowledge of the subject matter<br>– Rigorous organization, coherent structure, and systematic exposition with a strong sense of narrative<br>– Superior presentation skills: distinct pronunciation, fluent expression and appropriate diction, exact time-management<br>– Critical analysis with insightful comments opening up new issues, or suggesting the ability to theorize | – Adequate content with firm grasp of the material that informs the audience on a subject matter<br>– Reasonable organization, balanced structure and composition<br>– Good verbal communication: comprehensible pronunciation, fluent expression and diction, fair time-management | – Weak content, loose grasp of the general ideas with some knowledge of the subject matter<br>– Poor organization, structure and composition<br>– Poor presentation skills: marginal pronunciation, expression and diction, poor time-management | – Inadequate content, fail to identify the general ideas with knowledge of the subject matter<br>– No organization, structure or/and composition<br>– Poor presentation skills: marginal pronunciation, expression and diction, minimal time-management |

<u>Applicable to students admitted before Semester A 2022/23</u>

| 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. | – Work has strong affective quality and the articulation of personal styles and signature<br>– Excellent appreciation, exploration and/or application of the aesthetic and expressive | – Strong appreciation, exploration and/or application of the aesthetic and expressive qualities of the medium<br>– Ability to create project/ work that demonstrate the processes of thinking and | – Basic appreciation and/or application of the aesthetic and expressive qualities of the medium<br>– Limited ability to create project/ work that demonstrate the processes of thinking and | – Marginal appreciation of the aesthetic and expressive qualities of the medium<br>– Marginal ability to create project/ work that demonstrate the processes of thinking and creative exploration | – No appreciation of the aesthetics and expressive qualities of the medium<br>– Fail to create project/ work that demonstrate the processes of thinking and creative exploration |

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| | | qualities of the medium<br>– Work raises questions and instill insights about the process of conception, creative strategization and production<br>– Innovative exploration by combining knowledge from different disciplines (e.g. mathematics, psychology, physics, anthropology, etc.) to create an inter-disciplinary project<br>– Efficient adjustment of plans and strategies in response to resources (time, space, equipment, etc) available with constructive adjustment | creative exploration<br>– Proper adjustment of plans and strategies in response to resources (time, space, equipment, etc) available and constructive feedback/ suggestions | creative exploration<br>– Adjustment of plans and strategies in response to resources (time, space, equipment, etc) available | – Limited adjustment of plans and strategies in response to resources (time, space, equipment, etc) available | – Minimal adjustment of plans and strategies in response to resources (time, space, equipment, etc) available |
| 2. Presentation | This assessment will grade on content and fluency of presentation. Students should show their co-operation to | – Rich, informative content, excellent grasp of the material with in-depth | – Adequate content with firm grasp of the material that informs the | – Adequate content with comprehensive grasp of the material demonstrating | – Weak content, loose grasp of the general ideas with some knowledge of | – Inadequate content, fail to identify the general ideas with knowledge |

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| | 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. | and extensive knowledge of the subject matter<br>– Rigorous organization, coherent structure, and systematic exposition with a strong sense of narrative<br>– Superior presentation skills: distinct pronunciation, fluent expression and appropriate diction, exact time-management<br>– Critical analysis with insightful comments opening up new issues, or suggesting the ability to theorize | audience on a subject matter<br>– Reasonable organization, balanced structure and composition<br>– Good verbal communication: comprehensible pronunciation, fluent expression and diction, fair time-management | basic knowledge of the subject matter<br>– Fair organization, weak structure and composition<br>– Fair presentation skills: acceptable pronunciation, expression and diction, fair time-management | the subject matter<br>– Poor organization, structure and composition<br>– Poor presentation skills: marginal pronunciation, expression and diction, poor time-management | of the subject matter<br>– No organization, structure or/and composition<br>– Poor presentation skills: marginal pronunciation, expression and diction, minimal time-management |

**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.)*

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

**2.2 Additional Readings**

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

| | Programming/software tools |
|---|---|
| 1. | ARToolkit http://www.aranarproductions.com/artk/ |
| 2. | CNMAT external downloads http://cnmat.berkeley.edu/downloads |
| 3. | CV objects http://jmpelletier.com/cvjit/ |
| 4. | CCV http://ccv.nuigroup.com/ |

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| 5. | EyesWeb http://www.infomus.org/EywMain.html |
| 6. | EyeCon http://eyecon.palindrome.de/ |
| 7. | Field http://openendedgroup.com/field/ |
| 8. | GEM http://gem4mac.sourceforge.net/ |
| 9. | Isadora http://www.troikaranch.org/isadora.html/ |
| 10. | jit.kinect http://jmpelletier.com/freenect/ |
| 11. | JMax http://freesoftware.ircam.fr/rubrique.php3?id_rubrique=14 |
| 12. | Korsakow http://www.korsakow.com/ksy/index.html |
| 13. | Keyworx http://www.keyworx.org/ |
| 14. | Lily http://www.lilyapp.org/ |
| 15. | Max http://www.cycling74.com/ |
| 16. | Modul8 http://www.modul8.ch/ |
| 17. | Mrmr http://poly.share.dj/projects/#mrmr |
| 18. | NodeBox http://nodebox.net/code/index.php/Home |
| 19. | Open Sound Control (OSC) http://opensoundcontrol.org/ |
| 20. | oscP5 http://www.sojamo.de/libraries/oscP5/index.html |
| 21. | OpenFrameworks http://www.openframeworks.cc/ |
| 22. | Processing http://processing.org/ |
| 23. | Pure Data http://puredata.info/ |
| 24. | reacTIVision http://reactivision.sourceforge.net/ |
| 25. | Resolume http://www.resolume.com/ |
| 26. | Syphon http://syphon.v002.info/ |
| 27. | TouchDesigner http://www.touch077.com/ |
| 28. | Tx-transform http://www.tx-transform.com/Eng/index.html |
| 29. | Vidvox http://vidvox.net/ |
| 30. | Voodoo camera tracker http://www.digilab.uni-hannover.de/docs/manual.html |
| 31. | VPT http://hcgilje.wordpress.com/vpt6-manual/ |
| 32. | VVVV http://vvvv.org/tiki-index.php/ |
| | Hardware |
| 33. | Arduino http://www.arduino.cc/ |
| 34. | Eowave http://www.eowave.com/ |
| 35. | Electrotap http://www.electrotap.com/ |
| 36. | ENTTEC (DMX) http://www.enttec.com/ |
| 37. | iCube http://infusionsystems.com/ |
| 38. | Imaging Source http://www.theimagingsource.com |
| 39. | Ms Pinky http://www.mspinky.com/ |
| 40. | Phidgets http://www.phidgets.com/ |
| 41. | Unibrain http://www.unibrain.com/ |
| | Artists/People/Groups |
| 42. | Alva Noto http://www.alvanoto.com/ |

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| 43. | Anti VJ http://www.antivj.com/ |
| 44. | Avatar http://www.lenomdelachose.org/ |
| 45. | Blast Theory http://www.blasttheory.co.uk/ |
| 46. | Burst TV http://www.burst-tv.net |
| 47. | Camille Utterback http://www.camilleutterback.com/ |
| 48. | Casey Reas http://reas.com/ |
| 49. | Christian Moeller http://www.christian-moeller.com/ |
| 50. | Cory Arcangel http://beigerecords.com/cory/ |
| 51. | D-fuse http://www.dfuse.com/ |
| 52. | Diane Landry http://www.clic.net/~dilandry/ |
| 53. | Daniel Shiffman http://www.shiffman.net/ |
| 54. | David Rokeby http://homepage.mac.com/davidrokeby |
| 55. | Daito Manabe http://www.daito.ws/ |
| 56. | Daniel Rozin http://www.smoothware.com/danny/newbio.html |
| 57. | Daniel Sauter http://daniel-sauter.com/ |
| 58. | deKam http://www.node.net/main.shtml |
| 59. | Dumbtype http://dumbtype.com/ |
| 60. | Exonemo http://www.exonemo.com/ |
| 61. | Golan Levin http://www.flong.com/ |
| 62. | Granular Synthesis http://www.granularsynthesis.info/ns/index.php |
| 63. | GRL http://graffitiresearchlab.com/ |
| 64. | HC Gilje http://www.nervousvision.com/ |
| 65. | Interactive Sonic Systems http://mtg.upf.es/reactable/ |
| 66. | Jasch http://www.jasch.ch/ |
| 67. | Jennifer & Kevin McCoy http://www.mccoyspace.com/ |
| 68. | Jeffrey Shaw http://www.jeffrey-shaw.net/ |
| 69. | Jim Campbell http://www.jimcampbell.tv/ |
| 70. | John Klima http://www.cityarts.com/lmno/ |
| 71. | John Maeda http://www.maedastudio.com |
| 72. | Joshua Goldberg http://www.goldbergs.com/ |
| 73. | Julien Maire http://julienmaire.ideenshop.net/ |
| 74. | Kurt Ralske http://retnull.com/ |
| 75. | Lia http://www.strangethingshappen.org/ |
| 76. | Light Surgeons http://www.thelightsurgeons.co.uk/ |
| 77. | Lev Manovich http://www.manovich.net/ |
| 78. | Luc Courchesne http://www.din.umontreal.ca/courschesne |
| 79. | Marc Lafia http://www.marclafia.net/ |
| 80. | Martijn van Boven http://www.474746.org/ |
| 81. | Masaki Fujihata http://www.fujihata.jp/ |
| 82. | Masayuki Akamatsu http://www.iamas.ac.jp/~aka/ |
| 83. | Michael Mateas http://users.soe.ucsc.edu/~michaelm/ |

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| 84. | Miller Puckette | http://crca.ucsd.edu/~msp/ |
| 85. | Otolab | http://www.otolab.net/ |
| 86. | Paul Kasier | http://www.openendedgroup.com/ |
| 87. | Philip Worthington | http://www.worthersoriginal.com |
| 88. | Rafael Lozono-Hemmer | http://www.lozano-hemmer.com/eprlh.html |
| 89. | Robert Rowe | http://homepages.nyu.edu/~rr6/ |
| 90. | Ryoji Ikeda | http://www.ryojiikeda.com/ |
| 91. | Ryoichi Kurokawa | http://www.ryoichikurokawa.com/ |
| 92. | Scott Snibbe | http://www.snibbe.com/ |
| 93. | Semiconductor | http://www.semiconductorfilms.com/ |
| 94. | Stelarc | http://www.stelarc.va.com.au |
| 95. | Sue C. | http://www.sue-c.net/ |
| 96. | Suguru Goto | http://suguru.goto.free.fr/Contents/SuguruGoto-e.html |
| 97. | Telcosystems | http://www.telcosystems.net/ |
| 98. | Teatro Cinema | http://www.teatrocinema.cl/ |
| 99. | Troika Ranch | http://www.troikaranch.org |
| 100. | Ulf Langheinrich | http://langheinrich.net/ |
| 101. | Vasulkas | http://www.vasulka.org/ |
| 102. | Wooster group | http://www.thewoostergroup.org/ |
| 103. | Young-Hae Chang | http://www.yhchang.com/ |
| 104. | Zachary Lieberman | http://www.thesystemis.com/ |
| | Organizations/Centers | |
| 105. | CNMAT | http://cnmat.berkeley.edu/ |
| 106. | CRCA | http://crca.ucsd.edu/ |
| 107. | EMPAC | http://empac.rpi.edu/ |
| 108. | Eyebeam | http://eyebeam.org/ |
| 109. | iAMAS | http://www.iamas.ac.jp/ |
| 110. | ICC | http://www.ntticc.or.jp/index_e.html |
| 111. | iCinema | http://www.icinema.unsw.edu.au/ |
| 112. | IRCAM | http://www.ircam.fr/ |
| 113. | The Labyrinth Project | http://college.usc.edu/labyrinth/ |
| 114. | MIT Media Lab | http://www.media.mit.edu/research/ |
| 115. | Sonar | http://www.sonar.es/ |
| 116. | Sonic Acts | http://www.sonicacts.com/ |
| 117. | V2 | http://www.v2.nl/ |
| 118. | STEIM | http://www.steim.org/ |
| 119. | ZKM | http://on1.zkm.de/zkm/e/ |