# SM2220: GENERATIVE ART

**Effective Term**
Semester A 2025/26

## Part I Course Overview

**Course Title**
Generative Art

**Subject Code**
SM - School of Creative Media
**Course Number**
2220

**Academic Unit**
School of Creative Media (SM)

**College/School**
School of Creative Media (SM)

**Course Duration**
One Semester

**Credit Units**
3

**Level**
B1, B2, B3, B4 - Bachelor's Degree

**Medium of Instruction**
English

**Medium of Assessment**
English

**Prerequisites**
SM2715 Creative Coding

**Precursors**
Nil

**Equivalent Courses**
Nil

**Exclusive Courses**
SM3803 Generative Coding Studio

## Part II Course Details

**Abstract**
This is a practice-based workshop that introduces students to Generative Art. It emphasizes hands-on art-making through the creation of code-based programmed works. The course gives an overview and historical survey of generative art and

literature, including context-free grammars, particle systems, L-systems, cellular automata, flocking algorithms, neural networks, etc.

The course highlights the diversity of generative art and its relevance in the new media creative context. It substantiate the concept of generative art through related concepts including recursion, iteration, grammars, morphology, self-organization, emergence, complexity and so on. The course will help develop problem solving skills via code-writing.

**Course Intended Learning Outcomes (CILOs)**

| | CILOs | Weighting (if app.) | DEC-A1 | DEC-A2 | DEC-A3 |
|---|---|---|---|---|---|
| 1 | Understand the histories and definitions of generative art; and be able to cite examples from the field of generative art and literature including analysis of their characteristics; | | x | x | |
| 2 | Create a programmed creative work (e.g., an art piece, or experimental game) with generative features; | | | x | x |
| 3 | Explain the uniqueness of code-based, programmed generative works in new media arts; | | x | x | |
| 4 | Conduct effective problem-solving via Processing, p5.js or other recommended programming languages; | | | | x |
| 5 | Achieve at least intermediate level competence in creating generative creative works; | | | x | |
| 6 | Complete self-initiated tasks on in the context of coursework for further exploration of the subject. | | x | x | x |

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 real-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.

**Learning and Teaching Activities (LTAs)**

| | LTAs | Brief Description | CILO No. | Hours/week (if applicable) |
|---|---|---|---|---|
| 1 | Lectures and presentations | - Individual or group presentation on an assigned topic in generative art (a scholarly essay, a group of writings, a group of works, the activities of a generative art community)<br>- Survey lectures on the history and theory of generative art-In-class workshop on generative art-making | 1, 2, 6 | |
| 2 | Artistic creation and explanation | - A hand-made creative work that includes generative elements, with an accompanying artist statement | 3, 6 | |
| 3 | Laboratory sessions | - Laboratory sessions on programming skills, generative graphics, natural language manipulation, complexity and other topics at the discretion of the instructor | 4, 5 | |
| 4 | Computational artwork creation | - Lectures on simple, dynamic and complex systems leading toward production of a novel computational works | 5, 6 | |

**Assessment Tasks / Activities (ATs)**

| | ATs | CILO No. | Weighting (%) | Remarks ("-" for nil entry) | Allow Use of GenAI? |
|---|---|---|---|---|---|
| 1 | - Group presentation on an assigned topic in generative art (a scholarly essay, a group of writings, a group of works, the activities of a generative art community) | 1, 2, 6 | 15 | Gen AI can be used to refine ideas and conduct early research, but students must be able to explain their work clearly and accurately in class. | Yes |
| 2 | - A creative final work that includes generative elements, with an accompanying artist statement | 3, 6 | 30 | Final projects should be coded by the student without Gen AI support. | No |

| | | | | | |
|---|---|---|---|---|---|
| 3 | - Regular (weekly, biweekly, or longer) assignments involving a combination of reading, writing and coding | 5, 6 | 40 | Gen AI can be used to refine ideas and conduct early research, but students must be able to explain their work clearly and accurately in class. | Yes |
| 4 | - Digital transformation of an existing artwork in a traditional medium into a code-based interactive work with an artist statement | 5, 6 | 15 | Gen AI can be used to refine ideas and conduct early research, but students must be able to explain their work clearly and accurately in class. | Yes |

**Continuous Assessment (%)**

100

**Examination (%)**

0

**Assessment Rubrics (AR)**

**Assessment Task**

1. Group Presentation

**Criterion**

This assessment will grade on content and fluency of presentation. Students should show their co-operation to conduct a well-organized presentation with arguments and evidence from readings and notes. The threshold of ‘discovery’ lies in a student's initiative to conduct additional research and to integrate theories with personal experience.

**Excellent (A+, A, A-)**

- Rich, informative content, excellent grasp of the material with in-depth and extensive knowledge of the subject matter
- Rigorous organization, coherent structure, and systematic exposition with a strong sense of narrative
- Superior presentation skills: clear and articulate expression and excellent time-management
- Critical analysis with insightful comments opening up new issues, or suggesting the ability to theorize

**Good (B+, B, B-)**

- Adequate content with firm grasp of the material that informs the audience on a subject matter
- Reasonable organization, balanced structure and composition
- Good verbal communication: comprehensible pronunciation, fluent expression and diction, fair time-management

**Fair (C+, C, C-)**

- Adequate content with comprehensive grasp of the material demonstrating basic knowledge of the subject matter
- Fair organization, weak structure and composition
- Fair presentation skills: acceptable pronunciation, expression and diction, fair time-management

**Marginal (D)**

- Weak content, loose grasp of the general ideas with some knowledge of the subject matter
- Poor organization, structure and composition
- Poor presentation skills: marginal pronunciation, expression and diction, poor time-management

**Failure (F)**

- Inadequate content, fail to identify the general ideas with knowledge of the subject matter
- No organization, structure or/and composition
- Poor presentation skills: marginal pronunciation, expression and diction, minimal time-management

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**Assessment Task**

2. Creation and/or transformation of a work with generative elements

**Criterion**

Students should demonstrate ability to utilize primary and secondary sources, execute creative ideas and projects. The threshold of ‘discovery’ lies in students' ability proactively to turn theory into praxis and transform course material into self-owned authorship.

**Excellent (A+, A, A-)**

- Work has strong affective and/or conceptual aspects plus the articulation of a personal styles
- Excellent exploration and/or application of the aesthetic and expressive qualities of the medium
- Work raises questions and instill insights about the process of conception, design and implementation
- Innovative exploration combining knowledge from different disciplines
- Efficient adjustment of plans and strategies in response to resources (time, space, equipment, etc) availability

**Good (B+, B, B-)**

- Strong appreciation and/or application of the aesthetic and expressive qualities of the medium
- Ability to create project/ work that demonstrate the processes of thinking and creative exploration
- Proper adjustment of plans and strategies in response to resource (time, space, equipment, etc.) availability

**Fair (C+, C, C-)**

- Basic appreciation and/or application of the aesthetic and expressive qualities of the medium
- Limited ability to create project/ work that demonstrate the processes of thinking and creative exploration
- Adjustment of plans and strategies in response to resources (time, space, equipment, etc) availability

**Marginal (D)**

- Marginal appreciation of the aesthetic and expressive qualities of the medium
- Marginal ability to create project/ work that demonstrate the processes of thinking and creative exploration
- Limited adjustment of plans and strategies in response to resources (time, space, equipment, etc) availability

**Failure (F)**

- No appreciation of the aesthetics and expressive qualities of the medium
- Fail to create project/ work that demonstrate the processes of thinking and creative exploration
- Minimal adjustment of plans and strategies in response to resources (time, space, equipment, etc) availability

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**Additional Information for AR**

All A+/A/A- grade assignment should comply with the highest performance of Discovery-oriented learning.

# Part III Other Information

**Keyword Syllabus**

Algorithm, recursion, particles system, L-systems, cellular automata, generative art, generative literature, morphology, permutation, repetition, iteration, complexity, emergence, self-organization, grammars, abstraction, electronic writing, neural networks, critical practice.

**Reading List**

**Compulsory Readings**

| | Title |
|---|---|
| 1 | Aarseth, Espen J., 1997: Cybertext: Perspectives on Ergodic Literature . Johns Hopkins University Press, Baltimore and London. |
| 2 | Apollinaire, Guillaume, 1971: Selected Writings of Guillaume Apollinaire ; translated with a critical introduction by Roger Shattuck (first translation 1948). New York: A New Directions Book. |
| 3 | Burroughs, William S., 1986: “Cutting Up Characters” in The Adding Machine: Selected Essays . New York: Arcade Publishing. Pp. 189-191. |
| 4 | Canguilhem, George, 1992: “Machine and Organism,” in Incorporations, ed. Jonathan Crary et al. Zone. Pp. 45-67. |
| 5 | Cilliers, Paul, 1998: “Self-organization in Complex Systems,” in Complexity and Postmodernism: Understanding Complex Systems. Routledge, New York. Pp. 89-111. |
| 6 | Cosseboom, Roger, 2004: "The Space of Language," at http://www.thesocietyforpotentialliteratures.com/html/043.html |
| 7 | Douglas, J. Yellowlees, 2001: The End of Books – Or Books without End?: Reading Interactive Narratives. University of Michigan Press, Ann Arbor. Pp. 27-36. |
| 8 | Emanuel, Lynn, 1998: “Language Poets, New Formalists and the Techniquization of Poetry, ” in Poetry after Modernism, ed. Robert McDowell. Story Line Press. Pp. 45-67. |
| 9 | Hesse, Carla, 1996: “Books in Time,” in The Future of Books, ed. Geoffrey Nunberg. University of California Press, Berkeley, Los Angeles. Pp. 21-33. |
| 10 | Johnson, Steven, 2001: Emergence: the Connected Lives of Ants, Brains, Cities and Software . London: Penguin Books. |
| 11 | Le Lionnais, Francois: The Two Manifestos; translated by Warren Motte Jr.. |
| 12 | Landow, George P.: “Other Convergences: Intertexutality, Multivocality, and Decenteredness” |
| 13 | Pearson, Matt. Generative Art. Manning Publications, 2011. |
| 14 | Queneau, Raymond, The Foundations of Literature: “ First Group of Axioms ” (translated by Harry Mathews) |
| 15 | Queneau, Raymond, The Foundations of Literature: “ Second Group of Axioms ” (translated by Harry Mathews) |
| 16 | Queneau, Raymond, 1998: “Potential Literature,” in OuLiPo: a Primer of Potential Literature, ed. Warren Motte Jr.. Dalkey Archive Press. |
| 17 | Roberts, Eric S., 1986:Thinking Recursively. |
| 18 | Sobieszek, Robert A. 1996: Ports of Entry: William S. Burroughs and the Arts. Los Angeles, New York: Los Angeles County Museum of Art, Thames and Hudson |
| 19 | Bill Hammel, "An essay on patterns in musical composition transformations, mathematical groups, and the nature of musical substance," at: http://graham.main.nc.us/~bhammel/MUSIC/compose.html |
| 20 | Alain Robbe-Grillet, Bruce Morrissette, Diane Kirkpatrick, Karlis Racevskiks, and David Leach, Generative Literature and Generative Art: New Essays (York Press, 1983). |
| 21 | Celestino Soddu's introduction to the Generative Art Conferences: http://www.generativeart.com read on January 21, 2005 . |
| 22 | Celestino Soddu, “The Design of Morphogenesis: an Experimental Research about the Logical Procedures in Design Processes” (DEMETRA Magazine, #1, 1994) http://www.generativedesign.com/demetra2.htm |
| 23 | Adrian Ward, “How I Drew One of My Pictures: or, the Authorship of Generative Art” (New version) http://www.generativeart.com/99/0399.htm (Old version) http://www.generative.net/papers/autoshop/index.html |
| 24 | Generative Art web resources: http://www.generative.net/ http://www.generativedesign.com/ http://www.generativeart.comhttp://www.levitated.net/ (Jared Tarbell's site) http://www.thesocietyforpotentialliteratures.com/html/043.htmlDakadaka (Casey Reas): http://www.groupc.net/work.php?section=software&work=dakadaka_sGenerative poetics: http://dataisnature.com/?p=82Estrategias Generativas (Paul Prudence): http://www.transphormetic.com/intro.htm |

**Additional Readings**

| | Title |
|---|---|
| 1 | At discretion of instructor, additional readings may be added from the writings and algorithms of contemporary practitioners |