

SM2715: CREATIVE CODING

Effective Term

Semester A 2025/26

Part I Course Overview

Course Title

Creative Coding

Subject Code

SM - School of Creative Media

Course Number

2715

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

CS1103 Introduction to Media Computing or SM1103A Introduction to Media Computing or CS1103B Media Computing

Precursors

Nil

Equivalent Courses

SM2705 Creative Media Studio III - Technology, Coding and Tangible Media

Exclusive Courses

Nil

Part II Course Details

Abstract

This course focuses on developing students' software literacy within the context of visual art. Students will be exposed to a wide range of programming techniques and code-based art projects to enhance their literacy in art and technology. Students

will learn different design methods and programming paradigms and produce tangible outcome with a focus in visual arts. Illustrative examples and hands-on exercises will be given to build up students' coding competence and the ability to utilize computer as an expressive medium.

Course Intended Learning Outcomes (CILOs)

CILOs	Weighting (if app.)	DEC-A1	DEC-A2	DEC-A3
1	Identify and describe the characteristics of computer programs that are created for artistic, expressive or creative purposes	x	x	
2	Achieve good level of competence in the programming language to be used in the course		x	
3	Apply programming techniques to develop works that are creative rather than purely functional	x	x	x
4	Integrate different basic techniques to realize more complicated effects		x	x
5	Embody artistic concepts in code-based works	x	x	x
6	Develop original coding-based work with personal style and high aesthetic quality	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	In-depth discussions about the theory and practical use of a range of programming techniques for creative coding	1, 2, 4
2	Coding workshops	Examples and in-class coding exercises to get hands-on experience and skills in implementing different techniques	1, 2, 3, 4
3	Coding assignments	Bi-weekly exercises to explore different topics within the context of creative coding	1, 2, 3, 4, 5, 6

4	Project(s)	Group or individual project(s) to develop larger scale code-based work(s) and to transform basic coding competence into a unique style or personal signature	2, 3, 4, 5, 6	
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Assessment Tasks / Activities (ATs)

	ATs	CILO No.	Weighting (%)	Remarks ("- " for nil entry)	Allow Use of GenAI?
1	Coding assignments	1, 2, 3, 4, 5, 6	50	-	Yes
2	Project(s)	2, 3, 4, 5, 6	40	-	Yes
3	Attendance and participation	1, 2, 3, 4	10	-	Yes

Continuous Assessment (%)

100

Examination (%)

0

Assessment Rubrics (AR)**Assessment Task**

1. Coding assignments

Criterion

Ability to apply fundamental programming concepts to the context of visual arts and media computing

Excellent (A+, A, A-)

High

Good (B+, B, B-)

Significant

Fair (C+, C, C-)

Moderate

Marginal (D)

Basic

Failure (F)

Not even reaching marginal levels

Assessment Task

2. Project(s)

Criterion

Software literacy for developing original coding-based work with personal style and high aesthetic quality

Excellent (A+, A, A-)

High

Good (B+, B, B-)

Significant

Fair (C+, C, C-)

Moderate

Marginal (D)

Basic

Failure (F)

Not even reaching marginal levels

Assessment Task

3. Attendance and participation

Criterion

In-class participation, positive listening, ability to stimulate class discussion and comment on other points

Excellent (A+, A, A-)

High

Good (B+, B, B-)

Significant

Fair (C+, C, C-)

Moderate

Marginal (D)

Basic

Failure (F)

Not even reaching marginal levels

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

Computer programming, creative coding, software, open-source, syntax, datatype, class, structure (iteration, functions), algorithm, geometry, coordinate transformation, libraries, image processing/filtering, pixels, generative art, network art

Reading List

Compulsory Readings

Title	
1	Nil

Additional Readings

	Title
1	Luca Bendandi, Pierre Paslier. Tracing the Line: the art of drawing machines and pen plotters. Vetro Editions, 2023.
2	Reas, Casey, Chandler McWilliams, and Jeroen Barendse. Form+ code in design, art, and architecture. Princeton Architectural Press, 2010.
3	Antonio Coelho, Pedro Branco, João Martinho Moura. A Brief Overview on the Evolution of Drawing Machines. Intelligent Technologies for Interactive Entertainment, Springer, 2019.
4	Jeffrey Shaw. Art Machines. City University of Hong Kong Press, 2020.
5	Bohnacker, Hartmut, et al. Generative Design: Visualize, Program, and Create with Processing. Princeton Architectural Press, 2012.
6	Amy Goodchild. Early Computer Art in the 50' s & 60' s. https://www.amygoodchild.com/blog/computer-art-50s-and-60s/
7	Paul Brown, Nick Lambert, Frederic Fol Leymarie and Glenn Smith. Jack Tait: Master of the Analog Drawing Machine. Interalia Magazine, 2022.
8	http://www.creativeapplications.net/