SM2712: PERCEPTION, COGNITION, ART, AND DESIGN

Effective Term
Semester A 2025/26

Part I Course Overview

Course Title
Perception, Cognition, Art, and Design

Subject Code
SM - School of Creative Media
Course Number
2712

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
Nil

Precursors
Nil

Equivalent Courses
Nil

Exclusive Courses
Nil

Part II Course Details

Abstract

The course offers an introduction to the main concepts in the study of human perception and cognition with a special emphasis in the relation of these concepts with the artistic practice and in interaction design. Its syllabus includes an historical perspective of this relation, and discusses some of the philosophical aspects of perception and cognition.

The course approaches these subjects from both theoretical and practical –applied– points of view. Therefore, students will divide their dedication between mandatory readings and practical work (doing experiments, creating artworks, or designing interactions).

The course's assessment tasks include group work (home reading, classwork, presentations and discussions) as well as one final individual quiz, and one group final project. The final project will comprise a monographic work, an experimental work, or an applied project in art or interaction design, depending on each group' s interests.

Course Intended Learning Outcomes (CILOs)

	CILOs	Weighting (if app.)	DEC-A1	DEC-A2	DEC-A3
1	Explain and apply the basic concepts and principles of cognitive science and applied cognitive psychology.				x
2	Explain the basic principles and theories of human perception.			x	
3	Identify and interpret the main relationships between human perception, cognition, and art production and experience		x		
4	Explain and apply the practical implications and applications of perception and cognition models onto art, and or interaction design projects.		x	x	x
5	Assign or link up extra self-initiated tasks on top the coursework for further exploration of the subject. In particular, propose and develop artworks that explore 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	Lecture and in-class work	Lectures on the main concepts, such as cognitive science theories, and perception theories, as well as their practical and theoretical relation with art and design	1, 2, 3, 4	3 hours/week

2	Students short presentations	Requires students to understand the state of the art in one specific topic.	3, 4	0.25 hours/week
3	Group discussions	Group discussions on assigned readings and on particular important topics	1, 2, 3, 4, 5	0.25 hours/week
4	General discussion of projects	General discussion on the student groups' proposals and achievements.	3, 4, 5	1 hour/week

Assessment Tasks / Activities (ATs)

	ATs	CILO No.	Weighting (%)	Remarks ("-" for nil entry)	Allow Use of GenAI?
1	Class participation, group discussions, short group presentations	1, 2, 3, 4, 5	25	-	No
2	Final project or paper	1, 2, 3, 4, 5	50	Students will opt between a monograph on a theoretical subject or a hands-on artistic or interaction design project.	Yes
3	Quiz	1, 2, 3	25	The quiz will be the only individual (i.e. not group) assessment of the course.	No

Continuous Assessment (%)

100

Examination (%)

0

Minimum Continuous Assessment Passing Requirement (%)

0

Minimum Examination Passing Requirement (%)

0

Assessment Rubrics (AR)

Assessment Task

1. Class participation, group discussions

Criterion

Capacity for self-directed learning to understand and to question the course's main concepts.

Excellent (A+, A, A-)
High

Good (B+, B, B-)
Significant

Fair (C+, C, C-)
Moderate

Marginal (D)
Basic

Failure (F)
Below marginal levels

Assessment Task
2. Short group presentations

Criterion
Ability to present specific concepts comprehensively and accurately

Excellent (A+, A, A-)
High

Good (B+, B, B-)
Significant

Fair (C+, C, C-)
Moderate

Marginal (D)
Basic

Failure (F)
Below marginal levels

Assessment Task
3. Final project or paper

Criterion
Ability to explain in detail and accurately their objectives and accomplishments as well as the relationship between the scientific models used and their work.

Excellent (A+, A, A-)
High

Good (B+, B, B-)
Significant

Fair (C+, C, C-)
Moderate

Marginal (D)
Basic

Failure (F)
Below marginal levels

Assessment Task
4. Quiz

Criterion
Ability to explain all the main concepts of the course. Capacity to link and correlate concepts from different areas.

Excellent (A+, A, A-)
High

Good (B+, B, B-)
Significant

Fair (C+, C, C-)
Moderate

Marginal (D)
Basic

Failure (F)
Below 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

a. A cognitive history of art
   i. Art and illusion.
   ii. Art, technology, and models.
   iii. Languages of art.
b. Art and the brain
   i. Brain imaging and art processing.
   ii. Physiological phenomenology.
c. Perception
   i. Vision
   ii. Audition.
   iii. Other senses.
d. Philosophical aspects of perception
   i. Philosophy of perception. The problem of Perception. Perception and reality.
   ii. Empiricism. Rationalism. Phenomenology of perception. Embodiment.
   iii. Information theory.
   iv. Language.
e. Cognition

i. Consciousness and unconsciousness.
ii. Psychology. Attention. Habits.
iii. Memory.
iv. Data processing. Problem solving. Reasoning.
v. Cognition and the visual arts.

f. Design
i. Cognitive design.
ii. Design processes.
iii. Innovation.
iv. Visualization.

Reading List

Compulsory Readings

	Title
1	Chapters from Semir Zeki's Inner Vision: An Exploration of Art and the Brain
2	Chapters from Robert Solso's Cognition and the Visual Arts
3	Chapters from Alexander Styhre's Perception and organization: Art, music, media
4	Chapters from Don Norman's The design of everyday things
5	Chapters from George J. Marshall's A guide to Merleau-Ponty's Phenomenology of perception.

Additional Readings

	Title
1	Special issues on Art and the Brain from The Journal of Consciousness Studies.
2	Bingio Pinna (ed) Art and perception : towards a visual science of art
3	Roger N. Shepard Mind sights : original visual illusions, ambiguities, and other anomalies, with a commentary on the play of mind in perception and art
4	Patrick Colm Hogan Cognitive Science, Literature, and the Arts: A Guide for Humanists
5	Gaetano Kanizsa The grammar of vision
6	G. J. Warnock (ed) The philosophy of perception
7	E.H. Gombrich Art and Illusion
8	Thomas Nagel What is it like to be a bat?
9	Rudolf Arnheim Art and Visual Perception