

# SM3727: WEARABLES

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## Effective Term

Semester B 2023/24

## Part I Course Overview

### Course Title

Wearables

### Subject Code

SM - School of Creative Media

### Course Number

3727

### 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

SM2705 Creative Media Studio III: Technology, Coding & Tangible Media or SM2716 Physical Computing and Tangible Media or SM3611 New Media for Installation, Events and Performance

### Precursors

Nil

### Equivalent Courses

Nil

## Part II Course Details

### Abstract

The course aims to equip the students with theoretical and practical knowledge of the design and function of wearables and its applications in the field of art, fashion, communication or healthcare.

A wearable is a functional electronic device restricted to particular tasks rather than universal processing; it can be worn by incorporating into clothing or ergonomic body mounting. The devices can be equipped with various electronic modules

such as sensors, cameras, micro-displays and projectors, LEDs and wireless connections. The main purpose of using wearables is to enable seamless human-computer interaction without the use of desktop or handheld computers and keyboards.

### Course Intended Learning Outcomes (CILOs)

CILOs	Weighting (if app.)	DEC-A1	DEC-A2	DEC-A3
1	Archive comprehensive knowledge on wearables (art, research and commercial products)	x		
2	Understand the design methods of wearable interaction and artwork	x		
3	Acquire the skills of rapid prototyping for wearables		x	x
4	Design/ Draft wearable prototypes or art pieces		x	x
5	Transform basic technical competence into a unique style or personal signature	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.

### Teaching and Learning Activities (TLAs)

TLAs	Brief Description	CILO No.	Hours/week (if applicable)
1	Lecture	In-class discussion and analysis on current wearable applications	1, 2
2	Lecture	In-class discussion and analysis on possible future application of wearable	1, 2
3	Workshop	Demonstration on techniques involved in creating a wearable prototype (Individual or/ and small group project)	2, 3, 4

### Assessment Tasks / Activities (ATs)

ATs	CILO No.	Weighting (%)	Remarks (e.g. Parameter for GenAI use)
1	Discussion and critiques on existing artworks	1, 2	20

2	Development of interactive systems with open-source wearable hardware	3, 4	30	
3	Create original concept, interface and prototype of a wearable device which is capable to, including but not limited to, <ul style="list-style-type: none"> <li>· enhancing a human sense (eg. enables the user to perceive sound or light frequencies which are beyond its capacity);</li> <li>· compensating an absent sense (eyesight/blindness);</li> <li>· sharing the information with other users;</li> <li>· providing a biofeedback application.</li> </ul>	1, 2, 3, 4, 5	50	

**Continuous Assessment (%)**

100

**Examination (%)**

0

**Assessment Rubrics (AR)****Assessment Task**

1. Discussion and critiques on existing artworks

**Criterion**

Students should demonstrate the understanding on the process of designing wearable artworks and interactive applications, appreciate the current development of wearable technologies, and critique the shortcomings.

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

- Work has strong affective quality and the articulation of personal styles and signature
- Excellent appreciation, exploration and/or application of the aesthetic and expressive qualities of the medium
- Work raises questions and instill insights about the process of conception, creative strategization and production
- Innovative exploration by combining knowledge from different disciplines (e.g. mathematics, psychology, physics, anthropology, etc.) to create an inter-disciplinary project
- Efficient adjustment of plans and strategies in response to resources (time, space, equipment, etc) available with constructive adjustment

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

- Strong appreciation, exploration 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 resources (time, space, equipment, etc) available and constructive feedback/ suggestions

**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) available

**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) available

**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) available

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**Assessment Task**

2. Creative Project/ Technical Project/ Portfolio

**Criterion**

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.

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

- Work has strong affective quality and the articulation of personal styles and signature
- Excellent appreciation, exploration and/or application of the aesthetic and expressive qualities of the medium
- Work raises questions and instill insights about the process of conception, creative strategization and production
- Innovative exploration by combining knowledge from different disciplines (e.g. mathematics, psychology, physics, anthropology, etc.) to create an inter-disciplinary project
- Efficient adjustment of plans and strategies in response to resources (time, space, equipment, etc) available with constructive adjustment

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

- Strong appreciation, exploration 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 resources (time, space, equipment, etc) available and constructive feedback/ suggestions

**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) available

**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) available

**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) available

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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

Wearables  
Human-Computer Interaction  
Ubiquitous Computing  
Ergonomy

### Reading List

#### Compulsory Readings

Title	
1	Nil

#### Additional Readings

Title	
1	Sew Electric: A Collection of DIY Projects that Combine Fabric, Electronics, and Programming. Leah Buechley, Kanjun Qiu. HLT Press, 2013
2	Fashionable Technology: The Intersection of Design, Fashion, Science, and Technology. Sabine Seymour. Springer, 31 Jul 2012
3	Fashioning Technology: A DIY Intro to Smart Crafting. Syuzi Pakhchyan. "O'Reilly Media, Inc.", 8 Dec 2008