# INFO 2002 TANGIBLE INTERACTION DESIGN

**Credit Points** 10

**Legacy Code** 301088

**Coordinator** Omar Mubin (https://directory.westernsydney.edu.au/search/name/Omar Mubin/)

**Description** This subject will provide students with the capacity to create interactive products that can sense environmental stimuli and exhibit an appropriate yet intelligent response. Students will be expected to write script based programs to control hardware circuits connecting various Input/Output peripherals (sensors, actuators). The range of interactive products studied and built by the students will be diverse; ranging from household everyday products to artifacts that can be used in public spaces.

**School** Eng, Design & Built Env

**Discipline** Information Technology, Not Elsewhere Classified.

**Student Contribution Band** HECS Band 2 10cp

Check your HECS Band contribution amount via the Fees (https://www.westernsydney.edu.au/currentstudents/current_students/fees/) page.

**Level** Undergraduate Level 2 subject

**Pre-requisite(s)** INFO 3003

## Learning Outcomes

On successful completion of this subject, students should be able to:

1. Create electronic hardware that recognises input from human and environmental stimuli.
2. Create software to define logic that operates an interactive physical artefact.
3. Create, test and improve a physical prototype that responds to human behaviour or other sensory input.
4. Demonstrate fluency in critical making; through use of literature in tangible interaction and observation of existing products.
5. Combine hardware, software and functional design to create an interactive product that meets a design brief (e.g. for home, office or public contexts).

## Subject Content

1. Tangible and Embedded Interaction (TEI)
2. Actuators and Sensors
3. Environmental Awareness and Recognition
4. I/O Programming (using various platforms such as Arduino, Phidgets, etc)
5. Hardware and Software Integration
6. Wearable Technology
7. Contextualising TEI and application areas (music, entertainment, education, socialisation, persuasion, etc)
8. Research Topics in TEI
9. Internet of Things

## Assessment

The following table summarises the standard assessment tasks for this subject. Please note this is a guide only. Assessment tasks are regularly updated, where there is a difference your Learning Guide takes precedence.

| Type | Length | Percent | Threshold | Individual/ Group Task |
|---|---|---|---|---|
| Assessment 1: Interactive Concept | Develop computer code (500 lines equivalent), technical drawings (2 x A3 pages), presentation of 5 minute duration | 20 | N | Individual |
| Assessment 2: Interactive Prototype | Develop circuit diagram, computer code (500 lines equivalent), technical drawings (2 x A3 pages), working scaled prototype | 30 | N | Individual |
| Weekly Tutorial Exercises/ Labs | 2 hour session (3-5 questions) | 30 | N | Individual |
| In Class Quizzes x 2 | 1 hour each | 20 | N | Individual |

Teaching Periods