UTS SAFE WORK METHOD STATEMENT (SWMS)

1. FACULTY/SUBJECT

Faculty/Subject title	41013 Industrial Robotics
Subject supervisor/coordinator	Gavin Paul
SWMS prepared by	Hugh Radvan, Cristian Corso, Arthur Demasi

2. WORK ACTIVITY DESCRIPTION

Describe the work activity E.g. Operating, Handling, Using..
Include names of hazardous equipment, substances or materials used,
and any quantities and concentrations of substance(s) or reaction products.

- Testing the operation of the UR3 and Dobot CR5 robot arm
- Handling of the robot and associated tools (teach pendant) and testing commands/operations.
- Use UR3 and CR5 to handle objects, including:
  - Pints (glass/plastic cups)
  - Taps (beer taps)
  - Glass rinsing equipment (CR5 only)
- To test incorporation of robots with light barriers and collision detection systems

3. HAZARDS: Choose those hazard types that will need to have control measures in Section 4

Work Environment
- Working in Remote Locations
- Working Outdoors/fieldwork
- Clinical/Industrial setting
- Poor ventilation/Air quality
- Temperature extremes
- Working at Height
- Slip/Trip/Fall hazards

Plant
- Noise
- Vibration
- Working with compressed air
- Lifts Hoists or Cranes
- Moving parts (Crushing,friction, cut, stab, shear hazards)
- Pressure Vessels or Boilers

Chemical
- Hazardous Chemicals use
- Skin/eye irritant
- Sensitiser
- Mutagen
- Carcinogen
- Toxic to reproduction
- Aquatic toxicity
- Toxic
- Corrosive
- Dangerous when wet

Ergonomic/Manual Handling
- Repetitive or awkward movements
- Lifting heavy objects
- Over reaching
- Working above shoulder or below knee height
- Poor workstation set up

Electrical
- Plug in equipment
- High voltage
- Exposed wiring
- Exposed conductors

Radiation
- Ionising Radiation
- Non-ionising radiation (Lasers, Microwaves, Ultraviolet light)

Biological
- Sharps/Needles
- Cytotoxins
- Pathogens/infectious materials
- Infectious materials
- Communicable diseases
- Animal/insects
- Work with fungi/bact/viruses

Psychosocial
- Aggressive or violent clients/students
- Working in isolation
- Working with timeframes
- Staffing issues

4. CONTROLS MEASURES: Choose those that apply for hazards identified

Eliminate/Isolate/Substitute / Engineering Controls
- Remove hazard
- Restrict access
- Redesign equipment
- Guarding / Barriers / Fume Cupboard / exhaust
- Biosafety cabinet
- Use safer materials/substances
- Ventilation
- Regular maintenance of equipment
- Redesign of workspace / workflow

Admin specific: Licenses/permits Work Methods
- Training Information or Instruction
- Licensing or certification of operators
- Test and tag electrical equipment
- Restricted access
- Regular breaks
- Task rotation
- Work in pairs
- Document Chemical risk assessment
- Ladder / Sling register

Emergency Response Systems
- First aid kit
- Chemical spill kit
- Safety shower
- Eye wash station
- Emergency Stop button
- Remote Communication Mechanism

Other controls not listed

5. PPE REQUIRED (Tick those that apply) ✓


EYE PROTECTION


HEARING PROTECTION


CLOSED-IN FOOTWEAR MUST BE WORN


HAND PROTECTION


FACE SHIELD


PROTECTIVE CLOTHING


RESPIRATORY PROTECTION


LONG HAIR MUST BE CONTAINED


HEAD PROTECTION

6. EMERGENCY EQUIPMENT

7. WORK ACTIVITY STEPS

BEFORE YOU START:

- Pre-plan the objectives of the workactivity
- Fimiliarse myself with UR3 and Dobot CR5 operation
- Construct and verify required code
- Complete nesssasary safety indcutions

STEPS IN WORK ACTIVITY:

1. Connect to UR3/CR5
2. Verify setup is correct with lab supervisor
3. Clear area around the robots and aleart others of impending work with robots
4. Turn on/activate robots
5. Run code to test movement and preform desired action (simulation of the automated beer pouring/serving/cleaning action)
6. Turn off robots and return equipment to desginated sotaage area

EMERGENCY PROCEDURES:

- Press emergency button
- Notify security or dial 6 using the UTS internal phone
- First aid kit incase of glass/laceration injury

TRAINING REQUIRED:

- CB11 mechatronics lab safety induction

8. SIGN OFF

PREPARED BY:	LAB SUPERVISOR	DATE: 13/10/23
NAME: HUGH RADVAN, CRISTIAN CORSO, ARTHUR DEMASI	NAME: MICHAEL LEE	REVIEW DATE: