

Activity Overview

Students explore the role of robotics and automation in agriculture by manually piloting and block-coding RoboMaster vehicles to pick apples from a model tree. Activities include discussion of food security and future work, manual control of robots, coding automated behaviours, and a supervised challenge game to collect apples.

Hazard Identification & Risk Controls

Hazard	Risk	Risk Level	Control Measures
Moving RoboMaster vehicles	Minor impact to feet, hands or legs	Medium	<ul style="list-style-type: none"> • Clear activity zones defined • Robots operated at low speed only • No hands or feet placed in robot path
Robotic arms or attachments	Pinching or impact injury	Medium	<ul style="list-style-type: none"> • Demonstration of safe operation before use • Students instructed not to touch moving parts • Immediate stop if unsafe use observed
Model trees and apples	Trip or collision hazard	Low	<ul style="list-style-type: none"> • Equipment placed away from walkways • Clear floor layout explained to students
Manual piloting of robots	Loss of control or collisions	Medium	<ul style="list-style-type: none"> • One robot per group under supervision • Clear rules for driving and stopping robots
Block coding activities	Cognitive overload or frustration	Low	<ul style="list-style-type: none"> • Scaffolded coding tasks provided • Facilitator support available throughout
Batteries and charging equipment	Overheating or misuse	Low	<ul style="list-style-type: none"> • Batteries managed by staff • Faulty batteries removed immediately
Floor-based activities	Slips or trips	Low	<ul style="list-style-type: none"> • Clear walkways maintained • Students instructed to move carefully
Behaviour during competitive game	Unsafe movement or misuse of robots	Medium	<ul style="list-style-type: none"> • Clear behaviour expectations set • Activity paused immediately if safety rules are breached

Supervision and Training

Staff / Facilitators:

- Sessions facilitated by trained Casey Tech School staff
- Visiting teachers retain responsibility for student behaviour
- First aid facilities available onsite

Emergency Procedures

- Stop activity immediately if an incident occurs
- Provide first aid as required
- Notify school contact and complete incident documentation

Serious Injury or Emergency:

1. Call emergency services (000 in Australia).
2. Administer first aid.
3. Document the incident.

Equipment Safety & Maintenance

- RoboMaster vehicles checked before and after sessions
- Robots operated on flat, defined surfaces only
- Batteries, controllers and devices distributed and collected by staff
- Equipment returned, powered down and stored at session end

Review & Documentation

- After the session, staff to review and log any incidents, near misses, and feedback to improve future risk controls.
- Review risk assessment annually or after any incident.