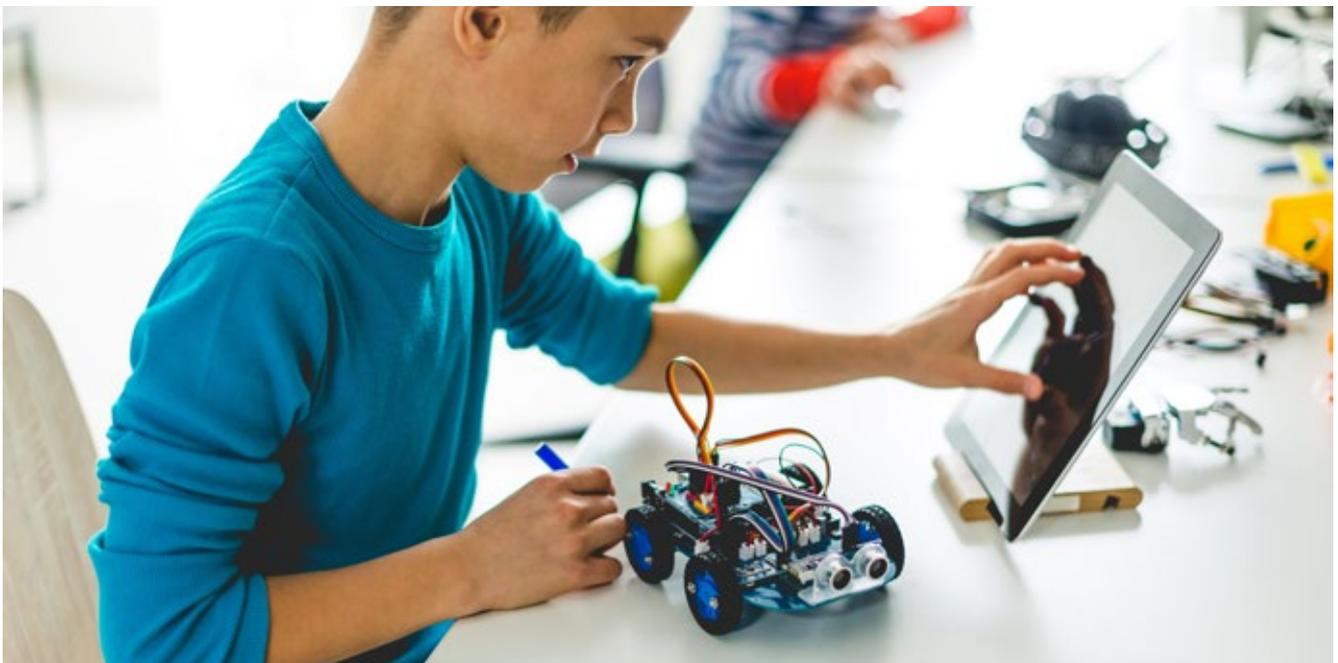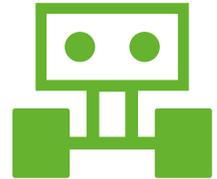# ROBOTICS

The Robotics module covers the main concepts and skills needed to assemble, programme, and control a simple robot.

Robots are not only found in science fiction. Programmable mechanical devices are increasingly used to automate common tasks; for example, in factories and distribution centres.

People will interact more and more with these devices in different environments such as home, school, or healthcare. Early exposure to this technology will help to explain their use as well as open paths to future learning and more specialised skills development.

Develop the skills needed to start working with simple robots.

ICDL Robotics is part of ICDL Digital Student, a set of modules designed to meet the digital skills requirements of students.

Main learning outcomes

Successful students will gain foundational skills and knowledge in robotics. After passing this module, students will feel confident building and programming a robot using widely available robotics kits and visual programming language. These skills can be further extended with modules such as ICDL Computing. They will be able to:

- understand key concepts relating to robots and robotics systems

- identify examples of robots and the main parts of a robot and their function, including microcontrollers, actuators, sensors, and power sources

- understand the elements of a simple control system and how to test it

- understand basic programming concepts and visual programming language

- set up a robot, implement robotic motion, and control a robot in an environment

Why certify with ICDL?

- ICDL is the global leader in digital literacy learning and certification

- ICDL modules are designed and updated by global subject matter experts, providing a standardised certification of skills and knowledge

- ICDL is used by thousands of schools around the world

- ICDL has rigorous Quality Assurance Standards (QAS) and regular quality audits are conducted internally and externally

Module Overview	
Category	**Skill Set**
Robotic concepts	• Robots and automated systems
Robotics parts	• Basic parts and components
Simple control system	• Control system overview
Visual programming	• Programming basics • Constants, variables • Events, controls • Program creation and execution
Working with robots	• Setup • Implementing robotic controls • Control in an environment