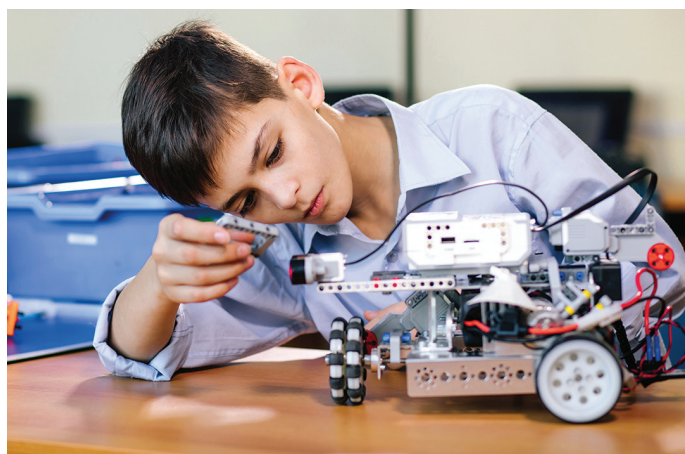STEM

BCS Robotics

A course that aims to help students make the link between programming abstraction and real-world robotics

AT A GLANCE

- **Extensive online learning material**
- **Teacher notes available online to help plan for and accompany each lesson**
- **A huge range of themes and topics to explore'**

REVIEW BY ADAM RICHES

The BCS Level 1 Robotics Award introduces KS2/3 learners to the incredible world of robotics, covering the skills and knowledge required to understand, programme and build robots.

As automation becomes increasingly prevalent in our lives, the technical aspects of fields such as robotics become ever more important for us to understand. Although the curriculum has become more technological, in terms of personal IT and computing, there's still a gap when it comes to industry- and context-specific applications of the knowledge.

Level 1 Robotics has been developed to engage and introduce young people to the fundamental concepts of robotics. The first phase of the qualification can be delivered within collaborative working groups or individually, giving schools the flexibility to offer it as additional provision, or as a standalone course within the wider curriculum.

Pupils are taught everything they need to know to build and programme a robot. Say the words, 'Let's build a robot' to a class of keen students, and they'll be sold! The course is designed to consist of 37 teaching hours, within a total qualification time of 51 hours. The intended outcome is that learners are able to set up a robot and implement robotic motion.

Throughout the course, learners will build their confidence in assembling and programming a robot using widely available robotics kits and visual programming language. The lessons aim to impart understanding of key concepts relating to robots and robotics systems using clear examples of robotic applications, with explanations of a robot's core components and their functions. The content is incredibly insightful, and really opens your eyes to the power and importance of robotics in our lives.

Practically, learners are taught to understand the elements of a simple control system and how to test it, as well as basic programming concepts and visual programming language. What the course does is take abstract technological concepts and highlight how they're put to use within industry. All of a sudden, coding becomes much more interesting to those students who might have dismissed it previously, making its purpose and function much more vivid and real. To me, that's what makes this course so valuable.

The qualification is assessed within a BCS-approved centre or school in two stages. The first assessment is conducted offline, and involves a teacher or independent assessor verifying that the student has demonstrated the required skills. Learners must achieve a pass grade in this offline robotics skills demonstration test before progressing to the second stage – a 45-minute online robotics test comprising 28 questions.

BCS has succeeded in developing a practical solution for engaging learners in the technology of tomorrow, and empowering teachers to deliver relevant learning content in a standard classroom environment, with no prerequisite knowledge of robotics.

teach SECONDARY

VERDICT

✓ **An impressive set of resources with which to engage learners**
✓ **Direct links to prior learning in IT and computing**
✓ **Clear and supported outcomes for each session**
✓ **Compelling topics for those interested in technology and its various applications**

UPGRADE IF...

You are looking for a way to teach children about the power and importance of industry specific technologies. Also consider if you are looking to build in more collaboration and teamwork into your curriculum.

Find out more at bcs.org