

## CAD

### SUBJECT DESCRIPTION:

This subject aims to provide students with an introduction to Computer Aided Design.

Following the design process (investigating, generating, producing, and evaluating), students will create two and three-dimensional digital designs in response to given design briefs. Innovation and visual communication skills develop as students explore aesthetic and functional choices while working on architecture and product design projects.

They will build skills using various industry-standard CAD programs enabling students to produce final presentations that show their creative efforts. Students will investigate technology and society with topics that include sustainable building design and 3D printing.

### Common assessment tasks

- Sustainable Tiny Home Design
- Product Design and 3D Printing

## Coding/Robotics

### SUBJECT DESCRIPTION:

From traffic light to car manufacture to satellites orbiting the Earth, robots are everywhere. In this unit we enter the fascinating world of robotics and learn about the modern information technology that equips robots to perform a wide variety of jobs.

During this course you will develop computer, engineering and scientific skills through hands-on experiences that relate back to the real world using industry standard software and realistic models. In groups and individually you will build, program and develop robots to solve and simulate real life situations.

You will need all your inventiveness and creativity to get your robots to complete challenges, and to work within their limitations. We will be using a variety of software and hardware, with programmable components.

You will also investigate the uses of robots in history and in modern times. Find out where they originated, and how they are so important to our way of life.

Students build autonomous robots that can:

- Take Independent action.
- Interact and make decisions based on the inputs around them.
- Are easily re-programmable.
- Use technology that directly equates with possible future training and employment.

What assessment will students be required to complete in this subject

### Common assessment tasks

- CAT 1 – Maze rescue
- CAT 2 – Human need