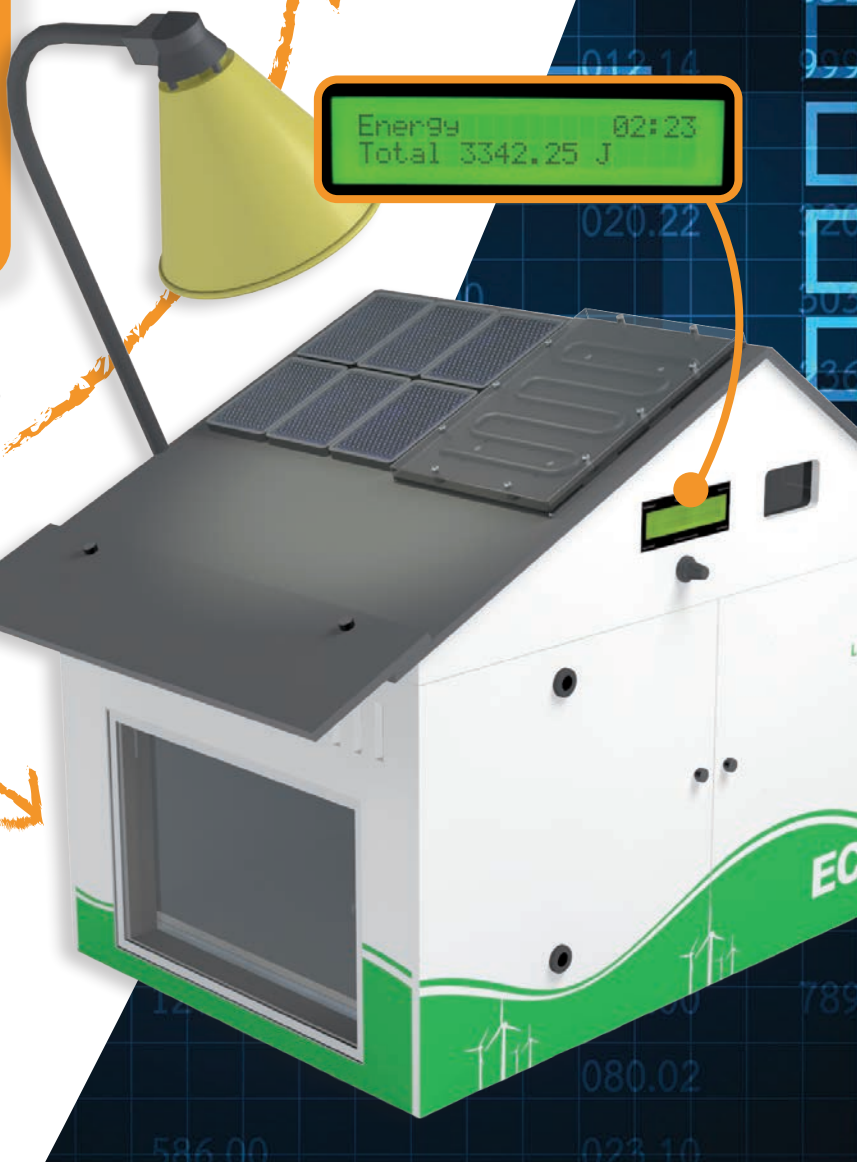
CONSTRUCTION (40-50 LESSONS)

In this course students will investigate how beams are used in construction and design a series of beams using different materials. Students will use simulation tools to model electronic circuits and develop an electronic home security system. Renewable energy generation, and energy use in modern buildings is also explored.

Learning Objectives

- Explore careers in the construction sector
- Investigate forces on structures and how they impact building design
- Design, model, and test a range of beam designs
- Explore concrete, its basic properties, and application in the construction industry
- Explore electrical systems and their application in buildings
- Recognize electronic components and their application in electronic systems
- Use simulation tools to model electronic systems
- Design and build electronic systems to solve building security problems
- Explore how energy is used in buildings
- Investigate technology that can be used to reduce the energy consumption of a building
- Use data to model the impact of various systems on the energy use of a building



Typical Careers

Architect, Civil Engineer, Electronics Engineer, Electronics Engineering Technologist, Electrical Technician

Lessons

- Introduction - Careers: Construction Technology
- Construction Technology
- Energy Systems
- Electrical Systems
- Electronic Systems

Equipment

- Green Energy in Buildings Trainer (122-01)
- Structures and Materials Teaching Set (121-00)
- Basic Electricity Trainer (140-10)
- Electronic Circuits Trainer Teaching Set (450-00)

Design Project

- Bridge Design