

ENGINEERING

SUMMER PROJECTS
YEAR 11 STUDENTS

ELECTRICAL ENGINEERING:
**ELECTRONICS PRINCIPLES
AND COMPONENTS**



HEART OF
WORCESTERSHIRE
COLLEGE

KICK START YOUR STUDY AT HOW COLLEGE WITH ONE OF OUR CURRICULUM BRIDGING PROJECTS

Background:

Engineering covers a wide variety of subjects and includes a number of specialist areas such as mechanical, civil, manufacturing, chemical and electrical.

One of the subject areas in engineering that all engineers study to gain knowledge is electronics.

As part of your engineering course at HoW college, you will study units on electrical and electronic principles.

Tasks:

Throughout the year at HoW college, staff regularly visit schools to talk about opportunities within engineering to students in Years 10 and 11. We would like you to produce a leaflet that we could hand out to students that provides easy to understand information about electronics.

Key information to include:

- Write an introduction explaining what electronics is and where it is used.
- Explain what voltage, current and resistance are (include symbols and SI units).
- Explain what Ohms law is and give the formula.
- Find examples of at least 5 different electronic components (e.g. speaker, capacitor, LED, etc.), explain what they are and demonstrate everyday products you are likely to find them in
- List the types of careers and jobs available to engineers with electronics knowledge.

Use the internet to help with your research.

Here are a couple of examples to get you started:

bbc.co.uk/bitesize/guides/zbj8jty/revision/1

learnabout-electronics.org/Resistors/resistors_11.php

Remember:

- Try to be as creative and engaging as possible.
- Use images, diagrams and pictures.
- The leaflet needs to be double sided and A4 in size.
- You can use PowerPoint or Word to produce the leaflet.

Indicative time for this project:

We would suggest the whole project from start to finish (including research) should take you around 15 hours.

Instructions on how to submit this:

You can email your submission to:

e. engineeringworcs@howcollege.ac.uk

How will I benefit from this project:

You will gain a basic understanding of the electrical and electronic principles that you will be using when you start your course at HoW college in September.

What can I expect to get back after I submit my project work:

You will receive a feedback from our expert tutors on the start of your course in September.

Key information you should include:

Your name

Your email address

A contact telephone number