

Ariennir yn Rhannol gan Lywodraeth Cymru
Part Funded by Welsh Government

The Engineering Education Scheme Wales

EESW Sixth form Project 23-24

Welcome Event

Agenda

1. Welcome – thanks – housekeeping.
2. Introduction
3. Who are EESW?
4. What is Engineering?
5. What is the EESW project?
6. How does it benefit you?
7. **Project timeline.**
8. **The Brief.**
9. **Workshop.**
10. **Report writing and presentation.**
11. **Awards Presentation Day.**
12. **Health and Safety**
13. **Teamwork – team task.**
14. **Sustainability.**
15. **Conclusion with Questions and answers session.**

Who are EESW?

- **Who are EESW?**
we are an independent Charity which was established in 1989, and we run activities, such as the Year 12 project, to inspire young people to choose careers in Science, Technology, Engineering and Mathematics – STEM.
- We are gratefully funded by Welsh Government, from partners and industry sponsorship, so participating students can experience this excellent opportunity.

What is Engineering?

Why is Engineering important?

5 ways engineers make your life better each day



They get you from A to B

Civil & Mechanical Engineers - roads , bridges , aeroplanes , trains

They keep the lights on

Electrical & Electronic Engineers – Energy Generation , national grid

They make sure we have drinking water

Chemical & Environmental Engineers – Water supply , waste systems agriculture

They make medical devices

Biomedical Engineers – MRI scanners , pacemakers, prosthetic limbs

They keep us all connected

Software Engineers & Programmers – mobile phones , computers , smart devices



Why choose engineering ?

According to Engineering UK, we need 186,000 people with engineering skills annually through to 2024.



- ✓ Opportunities to work worldwide
- ✓ Excellent employment prospects
- ✓ A wide choice of career routes
- ✓ An applied, vocationally relevant degree
- ✓ Combines creativity with Science and Maths

What is the EESW Project?



Your team is linked with a company

You will be given a project brief based on a problem within the company

You will research and develop a proposed solution for your company over a period of approximately 6 months



How does EESW benefit you?

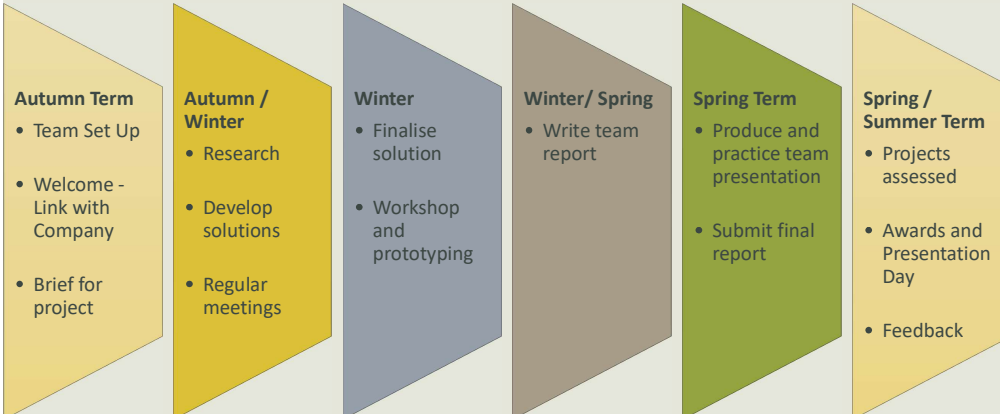
You will.....

- ✓ Gain an understanding of what engineering is
- ✓ Develop your problem solving, team working, presentation and report writing skills
- ✓ Gain experience of working in a team to solve a real problem
- ✓ Improve your CV and UCAS portfolio
- ✓ Gain motivation and self confidence
- ✓ Enter for a Gold CREST award
- ✓ Be eligible to apply for the EESW student of the Year Award



“From an employer’s point of view, the skills I have learned are valuable and sought after.”

Timeline – Key points



The Project Brief

During this welcome event you will meet your company engineer who will explain the brief to your team

You will have a copy of the brief to take away and research

Ensure you understand the problem fully as you may need additional technical information from your Engineer



If your engineer is not able to be present today, please arrange to meet as soon as possible



Ask your engineer, teacher or EESW representative if there is anything you are unsure of

The Workshop

Your team will be invited to a workshop session in the Winter term around the end of December

You will develop your ideas, progress your solution and design and build a model or working prototype for the final event

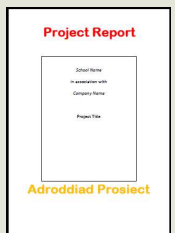


Your team should take full advantage of your link Engineers and EESW staff to assist you in this process

Project Report and Presentation

As a team, you will submit a written report for assessment, which will contain:

- ✓ Background information
- ✓ Your initial ideas
- ✓ Your design development
- ✓ Your proposed solution
- ✓ Your analysis
- ✓ Cost analysis and benefits



You will produce a presentation for assessment, which you will present to your link company prior to the assessment day

REMEMBER - You need to write about what YOU did for your CREST Award profile form

Awards and Presentation Day

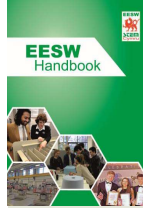
You will be sent an invitation to our Awards and Presentation Day

Your team and could win an award for excellence valued up to **£500**, donated by a sponsor, to be shared between the winning team members.



You will meet your EESW representative after the Awards and Presentation day with feedback on your project and you will be presented with certificates!
You can feedback to them on your experience.

Health and Safety



It is essential that you behave in a manner that does not endanger you or others working around you

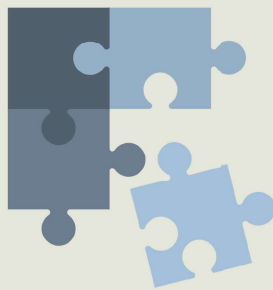
All health and safety rules **MUST** be followed at all times

If site visits to your company are allowed ,

ensure you wear any appropriate clothing and safety equipment given to you and follow the Company's and your school's rules

For further guidance please see the EESW handbook and the addendum.

Teamwork



What is a team?

A group of two or more people with a high degree of independence

working towards achieving a common goal.



Why is teamwork needed?

A Quick Quiz for you



Why is teamwork needed?

- ✓ Work can be done quicker
- ✓ Each member can work in their own specialist field
- ✓ Combination of strengths, skills and knowledge
- ✓ Overall objective solution



What makes a Successful team?

Clear objective

Good leadership

Balanced roles

Effective Time Management

Support & Trust

Communication

Commitment

Effective Processes

Overcoming Issues

Misunderstanding the brief

Communication breakdown

Communicate with company

Arrange team meeting

Ask your teacher and EESW

Revise team roles

Requiring additional support

Address conflicts

Link Engineer

Inadequate resources

Insufficient time

Teacher

Workshops - attend and have

Gantt chart

EESW - we can help!

all the materials / software

Plan and delegate

and designs you will need

Teamwork task

In your teams with your teacher...



- Task 1 :-** Find out what each other's strengths are
- Task 2 :-** Assign your initial team roles
- Task 3 :-** Plan your first meeting with the agenda sheet provided

EESW 6th Form Project - Academic Year 23-24

Meeting Agenda for : School Team = Company =

Meeting Title		
Date	Meeting Time	Meeting Location

Agenda Items

1. Welcome and Introduction
2. Attendees and apologies for absence
3. Minutes of previous meeting
4. Update on action points
5. Agenda Items - to be detailed
6. Any other business
7. Next meeting details
8. Close of meeting

Sustainability



Engineers think about Sustainability when they work on real projects.

Sustainability is about, the environmental, economic, and social and implications of everything we do and ways to positively affect these.

Think about this - "Every day we get enough energy from the sun to power our planet for 27 years".

How does this apply to you?

Think about how your EESW brief relates to sustainability

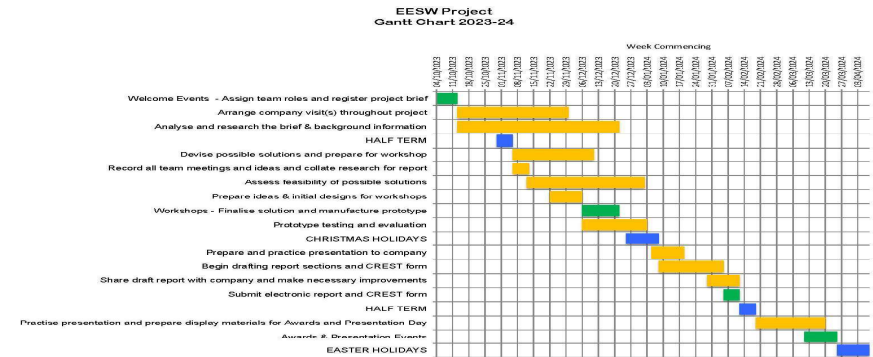
- Ask what your company does already
- Find out if they could do more for their green agenda
- Keep in mind any commercial, social and environmental implications when thinking about solutions
- Think about sustainable design
- If your brief isn't about sustainability, with your company, think about what other things they could do?
- There is an award available for Best Appreciation of Environmental Issues!

Conclusion

Today we have learnt about the following:-

1. What Engineering is about.
2. The EESW project and how it operates.
3. Health and Safety.
4. Teamwork.
5. Sustainability.

Next steps – EESW Gantt Chart



Next Steps - Information



<https://www.stemcymru.org.uk/home/resources/eesw-project-resources/>

Questions ?

Any Questions ?

Next step!

We will arrange Link briefing meetings for you with your Company / Organisation Engineer to discuss your brief.

Thank you again for participating !

Contact us



Join us on Facebook, follow us on Twitter or visit our website!

T: 01656 669381

W: www.stemcymru.org.uk

Email: info@stemcymru.org.uk

Twitter: @EESWSTEMCymru

We are always interested in what you do after you leave school - whether you go to University or undertake an apprenticeship!

Keep in touch!



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