

## Scarborough UTC News Flash

Friday, 22<sup>nd</sup> November 2024

### INTRODUCTION

Dear Parents and Carers,

#### **Snow & Closures**

Thank you for your support on Wednesday when we felt it was safest to close college early. A text and email were sent to all parents using the details held on the Bromcom system. Our Facebook page suggests that some parents did not get this text or email - if this is the case your details held on our system must be incorrect; if this was true for you, please email [enquiries@su.coastandvale.academy](mailto:enquiries@su.coastandvale.academy) urgently to provide college with the correct phone number and email addresses to use, thank you.

Closures are not easy to manage, it is always a balance of probabilities, coupling pupil and staff safety and availability, if you have a specific request to make in the event of a future closure, please contact college and we can add a note to file.

#### **12C Bus**

We have been particularly hamstrung by the bus company this week. Firstly, in not providing a detour for an early close, then on Thursday not sending a bus at all, without notice. The company did not answer their phone at all throughout the evening either which has been very frustrating. I wouldn't usually ask this, but I would ask that parents also make a complaint in addition to our complaints as this re-enforces the strength of feeling.

#### **F1**

We have waved away the F1 team and they have arrived safely in Saudi Arabia - we are looking forward to updates and photos as they arrive.

#### **Sixth form Taster Day for Year 11**

An early doors heads up. On Monday 16<sup>th</sup> December we will be holding a Taster Day event for Year 11 to experience Sixth form at the UTC - whilst some may be thinking of going elsewhere, we want them to do this fully informed of what they would be missing by not coming here.

Students will receive a letter on Monday with information. Sixth form students will be working from home on this day to facilitate spaces and staff for this event.

With warmest wishes for a snow free weekend.

*Helen Dowds*

*Principal*

## CAREERS EDUCATION@SUTC

### NYMR PROJECT UPDATE

Our Y12 Product Designers braved the weather today to make further progress with the North Yorkshire Moors Railway project. Students visited the engine sheds at Grosmont to share progress with the engineers and compare the computer aided design drawings they have produced so far with the heritage drawings and actual Dame Vera Lynn locomotive cab. Dimensions have now been refined so that students can produce a final set of drawings, which will then be shared with the locomotive restoration team. Well done to Ethan, George and Mina for their hard work so far, and thank you again to NYMR for giving Scarborough UTC students the opportunity to be involved in such an exciting and worthwhile project.



## MOCK EXAMINATIONS

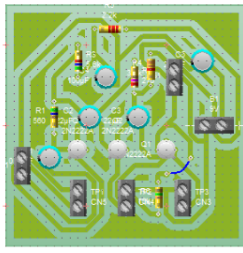
Mock Examinations November/December 2024 for Year Groups 11, 12 & 13 will start on Monday 25<sup>th</sup> November to Thursday 5<sup>th</sup> December inclusive. A copy of the Mock Examination timetable can also be found on our website under the Parent Information Tab/Exam Relation Information.

SUTC Mock Exams Autumn Term 2024 (Nov/Dec 24)						
WEEK ONE						
Day	Date	Start Time	Duration	Subject	Yr	
Mon	25.11.24	9.00am	2hrs 30min	GCE Computer Science P1	13	
Mon	25.11.24	9.00am	1hr 30min	GCSE Geography P1	11	
Mon	25.11.24	9.00am	1hr 45min	GCSE Computer Science P1	11	
Mon	25.11.24	2.00pm	2 hrs 0min	GCE Mathematics P1	13	
Mon	25.11.24	2.00pm	1hr 30min	GCSE Mathematics P1 (F&H)	11	
Mon	25.11.24	2.00pm	1hr 30min	Lvl3 Core Mathematics P1	13	
Tues	26.11.24	9.00am	1hr 45min	GCSE Sociology P1	11	
Tues	26.11.24	9.00am	2hrs 0min	GCSE Sociology P1	13	
Tues	26.11.24	9.00am	1hr 30min	Eng Diploma Unit 3	12	
Tues	26.11.24	9.00am	1 hr 15min	Engineering - Design	11	
<b>NO PM EXAMS ON TUESDAYS</b>						
Wed	27.11.24	9.00am	1hr 45min	GCSE English Language P1	11	
Wed	27.11.24	9.00am	2hrs 0min	Further Maths P1	13	
Wed	27.11.24	2.00pm	1hr 45min	GCSE Chemistry F&H P1	11	
Wed	27.11.24	2.00pm	1hr 15min	Combined Sci. Chemistry F&H P1	11	
Thurs	28.11.24	9.00am	2 hrs 0min	GCE Mathematics P2	13	
Thurs	28.11.24	9.00am	1hr 30min	Lvl 3 Core Mathematics P2	13	
Thurs	28.11.24	9.00am	1hr 30min	GCSE Mathematics P2 (F&H)	11	
Thurs	28.11.24	2.00pm	2hr 0min	GCE Physics P1	13	
Thurs	28.11.24	2.00pm	1hr 45min	GCSE Biology (F&H) P1	11	
Thurs	28.11.24	2.00pm	1hr 15min	Combined Sci. Biology (F&H) P1	11	
Fri	29.11.24	9.00am	2 hrs 0min	GCSE English Language P2	11	
Fri	29.11.24	9.00am	2hrs 0min	Further Maths P2	13	
Fri	29.11.24	2.00pm	1hr 15min	Engineering - Systems	11	
Fri	29.11.24	2.00pm	1hr 30min	Eng Diploma Unit 2	12	
<b>WEEK TWO</b>						
Day	Date	Start Time	Duration	Subject	Yr	
Mon	2.12.24	9.00am	2hr 30min	GCSE English Literature Comp 2	11	
	2.12.24	9.00am	2hr 30min	GCSE Geography (Human & Physical)	13	
Mon	2.12.24	2.00pm	1hr 30min	Level 2 Core Maths P1	11	
Mon	2.12.24	2.00pm	1hr 30min	Eng Diploma Unit 1	12	
Tues	3.12.24	9.00am	1hr 45min	GCSE Sociology P2	11	
Tues	3.12.24	9.00am	2hrs 0min	GCSE Sociology P2	13	
Tues	3.12.24	9.00am	2hrs 0min	Further Maths P3	13	
<b>NO PM EXAMS ON TUESDAYS</b>						
Wed	4.12.24	9.00am	1 hr 10min	GCE Physics P3	13	
Wed	4.12.24	9.00am	1hr 45min	GCSE Physics (F&H) P1	11	
Wed	4.12.24	9.00am	1hr 15min	Combined Sci. Physics(F&H) P1	11	
Wed	4.12.24	2.00pm	1hr 15min	Engineering - Manufacture	11	
Wed	4.12.24	2.00pm	1hr 15min	Health & Social Care P1	11	
Wed	4.12.24	2.00pm	1hr 30min	Eng Diploma Unit 4	12	
Thurs	5.12.24	9.00am	2hrs 30min	GCE Computer Science P2	13	
Thurs	5.12.24	9.00am	1hr 0min	GCSE Geography P2 Modified Urban and CEW (no Section C)	11	
Thurs	5.12.24	9.00am	1hr 30min	GCSE Computer Science P2	11	
Thurs	5.12.24	2.00pm	2 hrs 0min	GCE Mathematics P3	13	
Thurs	5.12.24	2.00pm	2hrs 0min	GCSE Sociology P3	13	
Thurs	5.12.24	2.00pm	1hr 30min	GCSE Mathematics P3 (F&H)	11	

## TECHNICAL EXCELLENCE

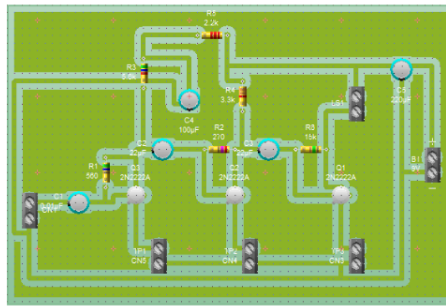
Here is our news from Programmable Systems this week. Our Y12 electrical and electronic pathway students have been using computer aided design software to create a printed circuit board layout based on their circuit diagrams for their Unit 6 Cambridge Technicals work - Circuit Simulation and Manufacture. They have been investigating how software can produce automatically routed circuit boards as well as manually routed ones and then comparing and creating a hybrid version after running the software code to create several versions with different design constraints. Below are two circuit board layouts of the same design, neither of which are resolved or the optimal layout yet, but they do demonstrate part of the process needed to demonstrate learning and progression towards designing a circuit board which is easy to test, and to perform fault finding on. You can see an image without and then with some design constraints applied. At present it is over large and without any soldering support labels, but this is a pleasing start to the process which they are documenting.

### Automatic Component Placement



#### No constraints

This is an autorouted board with no constraints and it has routed the board by itself and the software has used the information in the circuit diagram to make a single sided PCB. The PCB has diagonal tracks and wire links



#### Some constraints

The board has been autorouted and some things have been added like making the board bigger and then I've applied a constraint so that there are no diagonal tracks or rotation. This is so that it looks more like the circuit diagram which makes it easier to analyse and fault find.

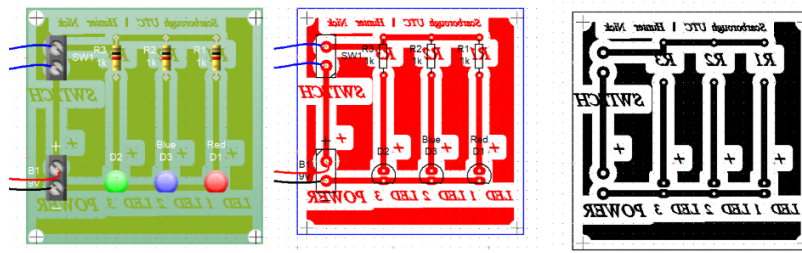
All our Y12 Engineering core diploma young professionals have been carrying out calculations based on resistor, inductor and capacitor (RLC) circuits and applying what they have learned about resistance in AC circuits, called reactance, and reactance and resistors combined, which we call impedance. There are several elements which can work together or against each other, and to be able to use mathematics to calculate the appropriate total is important in relation to power ratings and electrical circuit design.

Y13 electrical and electronic pathway learners have been evaluating cable cross sectional area, voltage drop charts and the installation reference method of the cable (e.g. in a thermally insulated wall, or a perforated metal racking or busbar set-up) and looking up the correct conductor capacity in BS7671:2018 - the 18<sup>th</sup> edition of the requirements for electrical installations. Learners are not learning specifically about installation but do need to know what the legal frameworks are to correctly identify conductors.

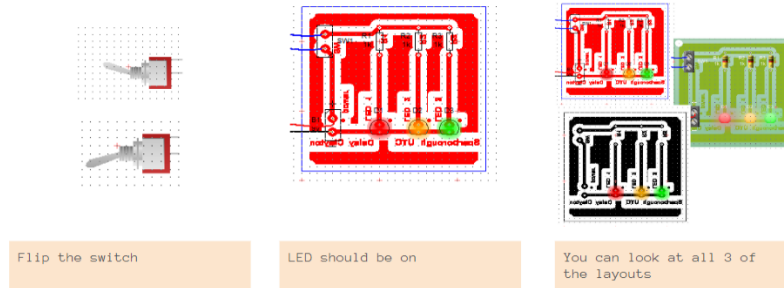
Our foundation year students have continued to excel showing both the computer aided design skills to create precise and accurate printed circuit boards but also showing some professional values. I've been impressed with how kind some of our young professionals have been offering a supportive comment or advice if another student is struggling. What you may notice with these images is that the same skills and methods of working spiral and repeat, increasing in complexity and level of demand - it is still so fantastic though each time someone draws their circuit and uses the software to run it that it doesn't matter what stage of learning you are at - it is always a Wow! That's an awesome moment!

So here are a couple of examples of foundation year work, these students are ahead of the Y12 ones with their designs and are almost at the building stage where the post-16 students need to do some highly detailed testing before they can begin manufacture - Technical Excellence at every stage!

**My printed circuit board - show the green real world view, show the red normal view with component outlines as well as tracks, show the artwork view with all your labels on it.**



Simulating my printed circuit board before manufacture



With a practical focus coming again for these students, we will move back into the electronics workshop in order to manufacture their printed circuit boards using the photo-etching process. Our foundation year students have been so impressive responding to the challenges of circuit design and simulation and are next going to manufacture their switched LED circuit to become familiar with the processes of creating a PCB before we move on to some more advanced circuits. Our final lesson this week was just to capture some screen grabs in a short report to demonstrate the process (to help with recall later) Typically, engineers have a skillset which enables them to be calm and focused under pressure - I think sometimes we have the idea that we must get everything right first time, which often is not the case in problems with several variables (like an electronic circuit) so we have to be mentally prepared for this. Promoting the professional values and employability skills such as kindness, resilience and problem solving we embrace the view that failure and coping with not having perfection is the road to success, well it's been said better: "Kobak explained 'the way you learn anything is that something fails, and you figure out how to not have it fail again" R.S. Arrighi, Pursuit of Power: NASA's Propulsion Systems Laboratory 1 and 2. I like this one too "It's through mistakes that you actually grow. You have to get bad in order to get good" by Paula Scher - and shortest of the lot "you haven't failed, until you stop trying" (unknown). It's what we do when things don't work as intended, or we get a result that wasn't quite what we thought would happen in the workshop with circuits, that is a really interesting and exciting place to be learning we see the effects of electric charge in electronics. It is fascinating how diverse those effects are from sending coded signals to the Voyager 2 probe (travelling at 10 miles per second, on a mission now beyond outside our solar system, and it takes 22 hours each way for a message to reach it) to implantable cardioverter-defibrillators (ICD) which are small, battery-powered devices surgically placed in a patient's chest to monitor irregular heartbeats,

which can deliver a small burst of electrical current to reset the heart's electrical system if required.



Our Y11 are heading into their trial exams next week, having now had 12 Quizlet flashcards homework tasks they will have at least 6 hours 'in the bank' ahead of their Principles of Engineering Programmable Systems trial exam. The Quizlet app is an incredible resource for revising, as it can be done alone, or, by handing over the mobile phone or laptop / tablet with the flashcard questions on it anyone can support by asking the questions. In addition, there are lots of other subject 'decks' of cards in addition to the ones we have made for our UTC engineering students. Time spent preparing for the trial exams is time well spent, please encourage your Year 10 or Y11 child to complete their Quizlet flashcards, do a learn task, or complete a match task - it all helps!



With coursework, and along with Year 11, Year 10 are at the point where they have now finalised and tested their circuit designs and used virtual test equipment to verify circuit function prior to creating a printed circuit board. With the interim deadline set for the end of this week, everyone should make sure they hand in their work for interim feedback, which will enable them to have some self-review action points to act on and make improvements in time for the final deadline, after which changes cannot be made. Here is a sample slide, showing a simulation slide before and after the student has adjusted the light level at which the circuit activates. As well as their circuit diagrams, comments alongside demonstrate what is being shown.



**4- Circuit Simulation 4 (Changing the set point / trigger point of the circuit - lux level set using VR.)**

**Top Diagram:** The light is turned on. The sensor input is 753 lux. The variable resistor (VR1) is at a low value.

The light is meant to be turned off but it has not as I have not adjusted the variable resistor yet.

**Bottom Diagram:** The light is turned off. The sensor input is 1000 lux. The variable resistor (VR1) is at a high value.

When the light level rises between 750-800 lux and above, the lamp must not light up. When the light level drops between 750-700 lux and below, the lamp must light up. Mine does do this now which means that my circuit now meets the spec.

The light is now turned off because I have adjusted the variable resistor.

We continue to offer support sessions in the computer aided design suite on Monday, Wednesday and Thursday for an hour after lessons; this is for coursework help, Quizlet support, or just some time where students can do some engineering work without interruption. Please check in with your child and if they are finding things a little tough at the moment, please remind them that these opportunities are here and that we want to support everyone that attends with their engineering design, systems or manufacture.

Finally, thank you for your support with coming to the settling in and progress evening this week, it was great to meet you.

Please continue to encourage your child to work hard, to be kind, and to really get stuck into their learning - it's amazing what they can achieve once they get on that pathway to technical excellence. Have a great weekend, from Mr Brown

**MATHS REVISION UPDATE: REVIEWING MOCK RESULTS AND PLANNING NEXT STEPS (WEEK 9)**

As we enter Week 9, students will begin reviewing the results of **Mock 1** and using this feedback to plan their next steps. This week is about understanding what went well, identifying areas for improvement, and adjusting their revision strategies accordingly. With your support, we'll help them use this feedback to build confidence and continue making progress.

**1. Reviewing Mock Results**

Mock exams provide valuable insight into your child's strengths and areas that need improvement. This week, students will spend time carefully reviewing their mock results.

- **What to focus on:** Students should look beyond the overall grade and focus on specific topics or question types where they lost marks. Encourage them to identify patterns in their mistakes, such as common errors or skipped steps.

- **How parents can help:** Discuss the feedback with your child. Ask them what they feel went well and where they struggled. This reflection will help them approach these areas with a clear improvement plan.

## 2. Creating a Targeted Revision Plan

Using their mock results, students will now update their revision plan to address weaker areas. This is a key step in ensuring they stay on track and maximize their performance in future assessments.

- **Year 11 students:** Should focus on revising challenging GCSE topics, such as Algebra, Geometry, or Trigonometry. Encourage them to use resources like **Maths Genie** or **Corbettmaths** to practice these topics in depth.
- **Year 13 students:** Should prioritize areas like Calculus, Mechanics, or Statistics, depending on their mock results. Using **Physics & Maths Tutor** or **UpLearn** can help them refine their understanding of these advanced concepts.

## 3. Focusing on Improvement Areas

This week, students will spend extra time working on the topics they struggled with during their mocks. Whether it's specific question types or broader subject areas, targeted practice will help close these gaps.

- **How to practice:**
  - Start with worked examples to understand the process.
  - Move on to practice questions, gradually increasing the level of difficulty.
  - Use mark schemes to review answers and ensure understanding.

## 4. Maintaining Stronger Areas

While addressing weaker areas, it's important for students not to neglect topics they performed well in. Regular review of stronger areas will help maintain confidence and prevent forgetting key concepts.

- **What to do:** Encourage your child to spend 10–15 minutes each week reviewing topics they feel confident in, using flashcards or quick quizzes to reinforce their knowledge.

## How Parents Can Support

Here's how you can support your child during this reflective and planning phase:

- **Discuss their mock results:** Encourage an open discussion about their performance. Frame it as an opportunity to learn and grow, rather than focusing solely on the grades.



- **Help adjust their study plan:** Work with your child to create a balanced plan that addresses weaker areas while maintaining stronger topics.
- **Encourage regular practice:** Remind your child to incorporate active learning techniques, such as self-quizzing and practicing past paper questions, into their routine.

### Recommended Resources

- **Maths Genie:** Topic-specific questions and mark schemes for GCSE students (<https://www.mathsgenie.co.uk>).
- **Corbettmaths:** Revision videos, practice papers, and detailed walkthroughs (<https://corbettmaths.com>).
- **Dr Frost Maths:** Interactive practice tools and analysis for all levels (<https://www.drfrostmaths.com>).
- **Physics & Maths Tutor:** In-depth resources and practice questions for A-level Maths (<https://www.physicsandmathstutor.com>).
- **UpLearn:** Personalized lessons and quizzes to target A-level weak areas (<https://www.uplearn.co.uk>).

By reflecting on mock results and updating their revision plan, your child can make significant progress in the coming weeks. This process is about identifying gaps, strengthening weaker areas, and maintaining confidence in topics they've mastered. With your support, they'll be well-prepared for their next steps.

Thank you for your continued encouragement and support.

## SAFEGUARDING

We are committed to our students and families and we continue to provide support and points of contact.

Should you be concerned and feel that you need to share information please contact and refer information to the following email: [dsl@su.coastandvale.academy](mailto:dsl@su.coastandvale.academy)

SUTC Designated Safeguarding Lead and Deputy Designated Safeguarding Lead monitor the email.

## MONITOR, REPORT ENCOURAGE

All students have been issued with emails and online accounts and all are reminded of the importance of maintaining security using college account usernames and passwords and to report concerns if they feel that accounts have been compromised.

Resources The Go-To - Emotional wellbeing and mental health (thegoto.org.uk)

NHS – Scarlet Fever Scarlet fever: symptoms, diagnosis and treatment

Email: [info@community-counselling.org.uk](mailto:info@community-counselling.org.uk)

Website: [www.community-counselling.org.uk](http://www.community-counselling.org.uk)

Telephone: 01653 690124 Mobile phone safety | Childline Physical activity and mental health | Mental Health Foundation Kooth for Children & Young People - Kooth plc

## ATTENDANCE

Firstly, thank you for the hard work every day ensuring your child has good or excellent attendance. This has a significant impact on both social and academic outcomes for your child. Now as we head into Autumn achieving and maintaining 96-100% is essential. Students are continually rewarded.

Currently, we can see that students value their experiences here at Scarborough UTC and attendance is a key factor in this.

Please check previous Newsletters for guidance on attendance and the new DFE attendance framework.

All medical and illness absences are reported daily by parents using our absence line or enquiries to Miss. Brown our Attendance and Data Manager. Should you make a call for a reported student illness– please expect a phone call back from the attendance team to check details and provide support as required.



## ACADEMIC YEAR DATES

Autmn Term Finishes	Friday 20 <sup>th</sup> December 2024
Christmas Holiday	Monday 23 <sup>rd</sup> December-Friday 3 <sup>rd</sup> January 2025
Professional Development Training Day	Monday 6 <sup>th</sup> January 2025
Students Return to College	Tuesday 7 <sup>th</sup> January 2025
Half Term Holiday	Monday 17 <sup>th</sup> February-Friday 21 <sup>st</sup> February 2025
Students Return to College	Monday 24 <sup>th</sup> February 2025
Easter Holidays	Monday 7 <sup>th</sup> April-Monday 21 <sup>st</sup> April 2025
Students Return to College	Tuesday 22 <sup>nd</sup> April 2025
May Bank Holiday	Monday 5 <sup>th</sup> May 2025
Half term Holiday	Monday 26 <sup>th</sup> May-Friday 30 <sup>th</sup> May 2025
Students Return to College	Monday 2 <sup>nd</sup> June 2025
Summer Term Ends	Friday 18 <sup>th</sup> July 2025
Professional Development Training Days	Monday 21 <sup>st</sup> July and Tuesday 22 <sup>nd</sup> July 2025

**For the academic year 2025-2026 please consult the North Yorkshire Council website**