

Engineering

JCt4 Newsletter

Junior Cycle for Teachers

Junior Cycle for Teachers exists to **inspire**, **support** and **empower** teachers in the transformation of Junior Cycle education in Ireland.

Engineering Webinar

The Engineering webinar was broadcast on March 30th. It was titled 'Goal orientated problem solving in Engineering'. The JCt4 team were accompanied by practicing Engineering teachers and JCt4 associate Mr. Trevor Galvin. Trevor outlined how he planned a unit of learning to develop problem solving skills. The learner experience incorporated a mechatronic kit to stimulate engagement, followed by research and various approaches to communication in Engineering. The recording is available in the [here](#).

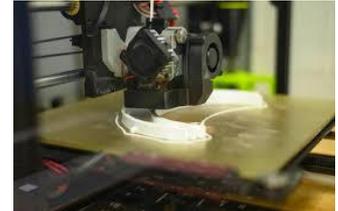
COMBiLiFT
LIFTING INNOVATION

The backdrop to the webinar is a video resource from CombiLift. This outlines the process of developing a solution to a real-life problem. The subject aims are linked to this resource using Trevor's unit of learning.



Welcome

Welcome to the fifth issue of the JCt4 Engineering Newsletter. We hope that you and your families are keeping safe and in good health. Significant changes have occurred in schools as a consequence of these unprecedented times. We take this opportunity to applaud school leaders, teachers and students who have supported the staff in our health services by designing and manufacturing required personal protective equipment (PPE). Teachers have also demonstrated a continued commitment to their students by innovating their practice in order to support their students in the digital landscape through distance learning.



The 2019/2020 cluster workshops came to their natural conclusion in March. However, JCt4 have continued to support teachers with examples of this support outlined in this newsletter. At the conclusion of the continuing professional development (CPD) workshops, JCt4 had engaged with 600 Engineering teachers across 100+ CPD workshops throughout the country.

Updates

The JCt4 Engineering team are currently designing the CPD cluster workshops for the 2020/2021 academic year. Themes such as Classroom-Based Assessment 2 and



Subject Learning and Assessment Review (SLAR) meetings are being considered. Mechatronics will be a prominent theme and we ask teachers to bring a fully charged, WiFi enabled laptop to participate in the activities during the CPD workshop.

The JCt4 spring electives: '[Introduction to Control Software in Mechatronics](#)', '[Problem Solving through Coding and Applied Technology and Mechatronics](#)', were received very positively with more planned for 2020/2021. In the spring 2020 issue of our newsletter (Issue 4) JCt4 also promoted the following electives: '3D Printing in the Classroom - Creativity and Design', 'Cloud-Based CAD Packages in the Junior Cycle Graphics classroom', and 'Mobile Storytelling – Capturing the Evidence of Learning using Digital Media'. These electives proved to be in high demand, however, were cancelled due to nationally imposed restrictions. It is planned to run these workshops again in 2020/2021. The workshops will be promoted on the [News and Events](#) section of the www.jct.ie website, and our Twitter page @JCt4ed.

Graphics Webinar



Engineering teachers may find the recent Graphics webinar useful. It's title is '[Graphics: Digital learning activities](#)', and was broadcast on May 11th 2020. It explored the use of [Tinkercad](#), a free web-based 3D CAD and electronics design tool. The webinar also explored the drawing function on PowerPoint as a digital approach to developing drawing skills. The recording is located [here](#).

SLAR Facilitator Training

Subject Learning and Assessment Review (SLAR) meetings will form part of the 2020/2021 CPD workshops. However, teachers may also wish to consider SLAR facilitator training elective workshops which will explore the process in more detail and build teachers capacity to facilitate meetings. These are planned again for the 2020/2021 academic year. Teachers can access the [resources](#) for the 2019/2020 elective workshop in the [CPD supports](#) section of the website.

Communication



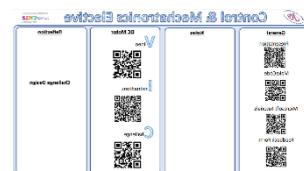
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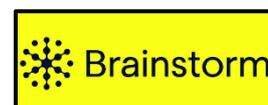
Website Resources

The Jct4 Engineering team continue to develop resources to support JC Engineering teachers. Considering the challenging circumstances that school communities find themselves in, the Engineering team have developed weekly '[Remote learning challenges 2020](#)' which teachers can use with their students. There were a total of 14 challenges over 7 weeks. They were promoted through Twitter @Jct4ed and through the [mailing list](#). Each week consisted of 2 activities to build a range of skills through remote learning. The challenges can still be accessed in the [resource folder](#) in the Engineering section of the JCT website. Teachers can revisit the 'Problem Solving through Coding and 'Applied Technology and Mechatronics' elective [here](#). The 'Introduction to Control Software in Mechatronics', elective can be found [here](#) and includes a [resource sheet](#). If the resource sheet is downloaded, all the videos can be accessed by clicking on the relevant QR codes for each resource.



Mechatronics

Teachers have been engaging with control software in the Jct4 mechatronics electives. This technology can be applied to emerging technologies such as drones and robots. The attached podcast titled '[Meet the coronavirus drones and robots](#)', from RTÉ Brainstorm, shines a light on the key roles of such emerging technologies used to slow the spread of the COVID-19 virus. A suggested unit of learning could include learning outcomes 3.4 and 3.5. Students could use the podcast as one resource to investigate and explore the influence of mechatronics in real life contexts. Using a [Placemat](#) activity gives students an opportunity to share their ideas and learn from each other in a cooperative small-group discussion on mechatronics. Students could then summarise, organise and visualise their ideas in the form of a [Mindmap](#). An approach such as this could develop a students ability to analyse information and develop required skills as they move towards CBA 1.



News and Events

Continue to encourage your colleagues to sign up to our mailing list on the link opposite. Watch our news and events [tab](#) within the Technologies section of www.jct.ie and our Twitter page @Jct4ed. These platforms will continue to be used to promote any upcoming events and information from Jct4. Please feel free to contact any member of the team with your queries via email. The email addresses can be found in the [Meet the Team](#) tab on the www.jct.ie homepage. We wish you and your families a safe and enjoyable summer.



Kind regards,
The Jct4 Engineering Team