

Ross Underhill | Engineering Graduate

Location | Oxfordshire

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Portfolio | <https://www.ross-rdp.co.uk>

Profile

Passionate about robotics/mechatronics and motorsport. Reliable, efficient, and excellent work ethic. Flourishes in high pressure environments, hates a job half finished. Has a record of completing tasks to a high level of quality in an extremely efficient manner.

Demonstrates profound academic knowledge in a broad range of engineering aspects. Experienced in teamworking within engineering related projects to provide quality work to a specification within deadlines and milestones. Possesses natural leadership skills, often taking the leading role within team projects. Proficient in manufacturing and fabrication techniques, with expertise in operating and maintaining CNC machinery.

Core Skills

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|---------------------------|--|----------------------------|
| • Design Requirements | • Technical Drawings | • Teamworking & Leadership |
| • SOLIDWORKS | • Software and Engineering Programming | • Communication |
| • Autodesk Inventor | • Additive Manufacturing | • Teaching |
| • Engineering Mathematics | | |

Education

BEng

Mechanical Engineering with a Year Abroad Swansea University (2025)

Year 1 – 81.3%

Modules included Engineering Analysis I & II, Introduction to MATLAB modules, Strength of Materials, Fluid Mechanics I, and Thermodynamics I.

Designed and constructed a rocket propelled wooden glider out of 3mm laser cut spruce as part of group design project. Adopted a leadership role and improved communication skills throughout. Design described as “near perfect” by lecturers within scrutineering.

Elected subject representative to ensure cohorts quality of education was maintained at a high level. Attained deadline extensions for module engineering design module and provided mediation between cohort and staff to ensure satisfactory conclusion for both sides on variety of situations.

Year 2 – 78%

Modules covered included Computer Aided Engineering, Fluid Mechanics II, Digital Manufacturing, Dynamics, Control Systems and Stress Analysis.

Designed working cable driven prosthetic hand using FFF manufacturing described as “really well executed” within marking feedback as part of a final design project for Digital Manufacturing.

Designed the chassis and transmission for a human powered medical cargo vehicle for use within refugee camps as part of a group design project. Initial designs were done through gravity sketch using VR headsets. Final designs and structural simulations were performed inside of SOLIDWORKS.

Year Abroad – Predicted A

Modules include Programming & Problem Solving for Engineers, Digital Logic Design, Electronics I, Introductory Biomechanics, Introduction to Motor Control & Learning.

Year abroad undertaken at the University of New Brunswick in Fredericton, Canada to enhance knowledge of Electronics and Kinesiology with a focus on technologies used within bionics industry.

Year 3 – Not yet completed

Career Summary

Dec 2017 – Jun 2018

Computer Science and ICT Teaching Assistant

The Cotswold School Academy & Sixth Form

Outline

Teaching assistant for ICT/CS department at The Cotswold School Academy and Sixth Form. Assisted and taught coursework lessons to assist GCSE ICT and A-Level CS students with respective work. ICT students were required to become familiar with word processing software and the adobe suite, documenting the process of editing images in photoshop and creating basic animations in animate. CS students were required to develop software to a brief given by a local company using VB or C#, assistance involved debugging and walking students through how to produce functioning code when stuck.

Key Responsibilities

- Assisted in A-Level Computer Science lessons. Provided support to students struggling with programming coursework.
- Coached students struggling to construct working code. Was initial reason for hiring with additional hours provided due to exemplary work.
- Prepared and ran introductory lessons on using C#, SQLite, and WinForms within Visual Studio for returning AS students post exam period in preparation for A2 coursework. As of 2020, the school continues to use provided teaching material.

Sep 2021 – Nov 2022

SQA GCSE & A-Level Computer Science Tutor

Outline

Successfully raised student's grade from F to C in SQA National 5 Computing Science over the course of 5 months. The topics covered included: Programming, Databases, and HTML/CSS. Continued tutoring at Scottish Higher level due to students' ability to continue studying subject. Client requested to continue with service due to success of previous years sessions.

Key Responsibilities

- Designing lesson plans and preparation of content to be taught beforehand.
- Identifying areas for improvement and developing strengths within those areas.

Sep 2022 – Nov 2022

Junior Python Tutor

Outline

Employed to educate secondary school students in the foundations of programming in Python. Focusses on cementing the fundamentals of programming, allowing for knowledge of programming to be transferrable between languages. Real world examples/scenarios of programming concepts used to assist in understanding where concepts can be used.

Additional Skills

Engineering

Automotive repair and maintenance | Soldering | Circuit design and manufacture (milling and chemical etching) | Myoelectric technology

Other

Python | C# | C | HTML/CSS/JS | PHP | VHDL

References available on request.
