



HERIOT WATT STUDENT PRACTICAL TRAINING

Location: Edinburgh, Scotland/ Online

0330 678 0181

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HERIOT WATT STUDENT PRACTICAL TRAINING

The university wanted to give their students an applied understanding of using the latest survey technology. Students were studying the following courses: Construction Project Management & Quantity Surveyors, Geography, Architects and Urban Planning, Civil Engineering

Before the Coronavirus pandemic this was done face to face, with 5 days' worth of training for 50 students each day. We provided 10 NA720 Levelling Kits, 10 GS16 GNSS, 10 Leica TS16 Total Stations. We split the days into three sessions and the students got practical experience as they completed hands-on exercises relevant to their course.

THE CHALLENGE

Due to the 2020 Coronavirus pandemic, and regulations on group numbers and social distancing, we needed to devise a way to complete training remotely.

We had to give the students as much practical experience as possible without being able to see and touch the instruments in person. The students were located internationally, including Heriot Watt's sister university, located in Dubai, United Arab Emirates. We needed to ensure it was relevant and accessible to all, including those with poor bandwidth.

▲ *It was challenging creating a thoroughly practical course, yet still delivering it online to 250 students all over the world. Normally we would run this course face to face in Edinburgh, covering 50 students a day for 5 days. We managed to create the relevant content to make it as practical and interactive as possible while delivering it online. It was great to receive lots of positive feedback on the chat screen in real time. (via online channels like zoom, teams) ▲*

Peter Maxwell, Technical Support and Training, Sunbelt Rentals

THE SOLUTION

We devised an online course that gave the students the feel of using the survey equipment whilst recording the data themselves to produce their reports. This was done by creating video content of real-life circumstances, for example looking through the Total Station telescopes, which allowed students to have the perspective of standing behind the instruments.

The students had project workbooks which allowed them to book their own data, spot errors, and work with realistic data relative to their course. They then had a set of coursework to complete as part of their practical module.

RESULTS

The students were engaged in the practical exercise and completed their coursework on their own. Bearing in mind that they were all over the world, in many different locations, they were still able to get almost the same quality of experience as a site-based lecture.

We managed to achieve a practical course online, leaving the students with the confidence, experience and understanding of how the instruments operate without physically touching them.

This is a uniquely interactive method of practical training that we have developed that allows us to bring bespoke online courses to academic institutes internationally.

▲ *Working with Sunbelt Rentals to allow our students to experience the practical side of surveying has been extremely valuable. In Autumn 2019 we spent a week carrying out levelling, GPS surveys and setting out using a total station on the Heriot Watt University campus led by Sunbelt, who designed the exercises and then delivered them. Things had to change for 2020 due to no practical fieldwork being possible due to Covid-19. However, Sunbelt overcame this major issue to still provide a great, interactive and engaging online learning experience for our students, including a virtual levelling exercise the students could complete and the demonstration of other surveying equipment in the field. Although online learning is no replacement for practical field classes, our students felt they were in a good position to use surveying equipment and methods in the future after the classes which reinforced theoretical lectures. ▲*

Heriot Watt University, Dr. Ian Pattison



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