

TECHNICAL SKILLS DEVELOPMENT LOGBOOK

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1.INTRODUCTION

The Logbook is my own perspective on the Technical Skills Development module, and it represents my learning experience over the nine weeks period. It will present the activities, key learning points, key benefits of the module and further comments on my learning experience. The module had two parts, a theoretical part in which I learned about Health and Safety Legislation, Risk Assessment, Optimisation and Composites and a practical part that required using different software such as Solidworks CAD, Proteus 8 and Matlab. Because of my previous experience working in the construction industry the theoretical and practical part of this module had a beneficial result for me and this will be reported through the Logbook.

2.LOGBOOK

WEEK	ACTIVITY	KEY LEARNING POINTS	KEY BENEFITS	FURTHER COMMENTS
WEEK 1	1.Presentation of the module. 2.Introduction of the Health and Safety Legislation.	1.Definition Health and Safety. 2.Legislation. 3.Health and Safety in the construction industry.	1.I learned about different Health and Safety Legislations. 2.I learned about construction statistics in different countries.	In my opinion the first week was a great start into the module. After learning more about the definition and Legislations of Health and Safety I have a better understanding of the subject. Before I did not think much about Health and Safety and I was not aware of the risks that I was facing at work but now I have a different perspective on the subject. We played a game to see how much we actually know about Health and Safety and the risks we face at the workplace. I learned that everyone needs to

				follow the Legislation so that tragedies can be averted as much as possible.
WEEK 2	1.Risk Assessment	1.Definition of Risk Assessment and Risk Management. 2.Components of Risk Management. 3.Practical Risk Assessment.	1.I learned how to identify risks at the workplace how to assess the risk and how to prevent or eliminate it.	By working in construction before week two had great importance to me. Learning about how to identify, manage or prevent a risk made me more aware of the problems we face in construction industry. I learned about how to level the risks and that these can go higher or lower depending on the area of work.
WEEK 3	1.Optimisation.	1.Definition of Optimisation. 2.When do we use Optimisation? 3.Using Excel for Optimisation problems.	1.I learned the definition for optimisation. 2.I learned the optimisation process and how to use Excel for it.	Optimisation means finding the best way to do a task by selecting inputs that will develop in the best outputs. I learned we can apply optimisation to different problems by using linear, non-linear, quadratic, multi objective and dynamic programming. In my opinion it was a good practice exercise to do an optimisation problem using Excel.
WEEK 4	1.Composites.	1.Functions of Composites. 2.Advantages and disadvantages. 3.Types of Composites.	1.I learned what composites are the reasons for using them. 2.I learned about different types of composites and different manufacturing processes.	Before the lessons I did not know much about composites and learning about the way they are formed and what they are used for gave me a better perspective on the subject. In my opinion it was good for me to learn about the different types of composites, advantages and the industries that use them because working in construction I need to be aware of the materials we use.

WEEK 5	CANCELED			
WEEK 6	1.Solidworks CAD software.	1.How to download and instal Solidworks CAD software. 2.Functions of the software.	1.I learned how to download and install the Solidworks software into my computer. 2.I learned that with this software we can create mechanical parts and 3D shapes.	It was my first time using this software and from what I learned I was able to complete the first tutorial following the instructions. It was a good practice for me and knew knowledge that will help me if I want to pursue a different career. It gave me a perspective about the engineering part of the module.
WEEK 7	1.Solidworks CAD tutorials 2.Assesment brief and a review of lessons.	1.Compleating tutorials in Solidworks CAD. 2.Breakdown of the assessment and reviewing the lessons up to this week.	1.I learned how to start using the software by doing tutorials. 2.We reviewed the lessons, and we were explained the assessment steps.	I had more practice doing tutorials and I learned how to do an assembly. It was rewarding finishing my first 3D part, it gave me more confidence in using the software. It was helpful to review the weeks before and the assessment parts, it made understand the purpose of the logbook.
WEEK 8	1.Proteus 8 software. 2.Matlab software.	1.How to download and instal Proteus 8 software. 2.Functions of the software. 3.How to download and instal Matlab software. 4.Functions of the software.	1.I learned how to download and install the Proteus 8 software in my computer. 2.We started doing our own electrical circuit. 3.I learned how to download and install Matlab. 4.I learned how to create a 3D shape from a plane sheet of paper.	It was my first time using the Proteus 8 software and by following instruction I was able to create a circuit. It was easy to follow step by step and add different components, change capacities and how to see the simulation of the circuit. The Matlab lesson was a good experience. I learned that from using mathematical calculation we can take away the corners of a plane sheet of paper so that by folding, it will give us a 3D shape.
WEEK 9	1.Proteus 8 exercise. 2.Matlab optimisation.	1.How to add components and do a reading in a circuit.	1.I learned how to add parts to circuit using Proteus 8 and how to do a reading after	This week we continued adding parts to the circuit. By adding a VSM Signal

		2.How to do an optimisation problem using the Matlab software.	changing the frequency. 2.I learned that by using mathematical equations we can find out how to bend a piece of metal to make a rain gutter.	generator I learned how to do a reading of the signal. It is necessary to turn the “Centre” and “Range” controls when we raise the voltage and the time-base of the oscilloscope that way we can take the correct reading. In the Matlab lesson we practice an optimisation problem. Making a rain gutter that can transport as much water as possible by using mathematical equations, formulas and Cartesian system. Finding the right angle that the metal should be bent and adding the data in the software.
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3.CONCLUSIONS

After describing my learning experience of each week, it can be said that the module has left a beneficial footprint on me. The knowledge and the practical skills I acquired from completing this module will have a good impact on my career. Learning about different software was a great experience and the theoretical knowledge helped me to be more aware of the risks and problems we face at the workplace and that it is not only the employer’s job to provide a safe environment but also our job to follow the regulations for everyone’s safety. Knowing the regulations and following the legislation can help reduce the risks and tragedies not only in the UK but in other countries as well.