**BTEC Assignment Brief**

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| **Qualification** | Pearson BTEC Level 3 National Diploma in Engineering Pearson BTEC Level 3 National Extended Diploma in Engineering  |
| **Unit number and title** | **Unit 5: A Specialist Engineering Project** |
| **Learning aim(s)** (For NQF only) | **C:** Undertake the solution for a specialist engineering project and present the solution as undertaken in industry |
| **Assignment title** | Development and testing of a project solution |
| **Assessor** |  |
| **Issue date** |  |
| **Hand in deadline** |  |
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| **Vocational Scenario or Context** | Your supervisor has been monitoring your progress as you have scoped out design proposals and then produced a technical specification for a solution to your given engineering problem. He has considered the design proposal that you have put forward as a solution to the problem and determined that it is achievable given the time and other resources available. He would now like you to develop the solution and carry out tests to determine its fitness for purpose. He would also like you to collate a project portfolio in which you should include a conclusion of how the solution and the project-management activities could be improved in the future. Remember that there is a possibility that the solution may be implemented if it is an improvement and feasible. |
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| **Task 1** | You are to carry out a number of project processes to develop the solution to your given engineering problem. You should also make sure that you are controlling the project by monitoring your progress against the plans that you have made, and by managing risks and issues related to the project.**To do this:**You should make effective use of project-management processes, including the control of risks/issues and progress monitoring, to develop a solution by using the necessary resources safely.Produce suitable evidence to show how the project solution was developed effectively and efficiently using project-management processes. Your project log should: a) indicate how the implementation of tasks has been structured and prove that they have been carried out in an appropriate order; and b) demonstrate how you applied relevant behaviours (such as time planning or communication skills) to a professional standard throughout the development of the solution, and what you could do better next time. You should also provide evidence of refinements that you made to optimise the solution, which should be justified, and how you managed risks and issues.You should also demonstrate that you can use troubleshooting and testing methods to make sure that the solution is fit for purpose/audience when considered against the technical specification. Your tests should be completed on the product, system or process and against the test plan that you created during Assignment 2. Finally, you should complete and organise your project portfolio, making sure that you have provided a range of evidence including initial ideas, research, a clarification of the problem, possible solutions/constraints, an initial specification for possible technical solutions, a feasibility study and a technical specification. You should also include your project-management documents and your project log book, as well as design documents, relevant photographs of a product, system or process, witness statements/learner observation records, test reports and third party feedback. In addition, your conclusions based on the theme and initial idea should be evident, and they should demonstrate that the solution is fit for purpose and audience and refer to any improvements that could still be made to the product, system or process. |
| **Checklist of evidence required**  | A log book, showing evidence of applying project-management processes, such as project monitoring, and of applying relevant behaviours during the development and testing of a solution.A project portfolio (as stated above) generated while completing the specialist project, reviewing the processes and reflecting on own performance.  |
| **Criteria covered by this task:** |
| Unit/Criteria reference | To achieve the criteria you must show that you are able to: |
| 5/C.D3 | Optimise the project-management processes to develop a solution that is fit for audience and purpose while anticipating and resolving risks and issues, demonstrating behaviours to a professional standard. |
| 5/C.M4 | Perform effective project-management processes while justifying refinements and demonstrating effective behaviours consistently to develop a solution that is fit for audience and purpose. |
| 5/C.P6 | Produce a solution safely using project-management processes while recording progress. |
| 5/C.P7 | Perform relevant behaviours effectively while developing a solution safely. |
| **Sources of information to support you with this Assignment** | Websites<https://www.mindtools.com/pages/article/newTMC_5W.htm> - 5 whys<http://www.engineeringtoolbox.com/ndt-non-destructive-testing-d_314.html>**Above are some examples of websites. Further useful resources may be found at** <http://qualifications.pearson.com/en/support/published-resources.html#step1> |
| **Other assessment materials attached to this Assignment Brief** | *eg, work sheets, risk assessments, case study* |