**BTEC Assignment Brief**

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| **Qualification** |

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| Pearson BTEC Level 3 National Diploma in Engineering  |

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| **Unit number and title** |

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| **Unit 2: Delivery of Engineering Processes Safely as a Team**  |

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| **Learning aim(s)** (For NQF only) |

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| **B:** Develop two-dimensional (2D) computer-aided drawings that can be used in engineering processes.  |

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| **Assignment title** |

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| 2D CAD drawings  |

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| **Assessor** |  |
| **Issue date** | 20/11/17 |
| **Hand in deadline**  | 20/12/17 |
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| **Vocational Scenario or Context** |

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| You are an apprentice in a small design office, where drawings have traditionally been created using sketching and drawing board techniques, with limited use of CAD software. New CAD drawings are being created from artefacts and your manager has asked you to generate two of these new drawings from a given engineered component and a given electrical circuit. The drawings you prepare will be used to produce the engineered component and electrical circuit, so your manager will be checking that they meet international standards. |

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| **Task 1** |

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| You are going to use CAD software to produce a developed orthographic projection and a circuit diagram. **To do this:** Your tutor will provide you with an engineered component containing at least three different types of common feature and an electrical circuit containing at least six different component types. **You then need to:** • Generate an accurate orthographic projection of the engineered component to an international standard using appropriate layers, and provide evidence of employing the full range of appropriate CAD commands; and • Generate an accurate circuit diagram of the given electrical circuit to an international standard using appropriate layers, and provide evidence of employing the full range of appropriate CAD commands.  |

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| **Checklist of evidence required**  |

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| A small portfolio of assessment evidence. The 2D CAD drawings should include an orthographic projection and an electrical circuit diagram. The evidence will include the drawings, annotated screen shots and observation records/witness statements to supplement the assessment evidence you generate.  |

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| **Criteria covered by this task:** |
| Unit/Criteria reference | To achieve the criteria you must show that you are able to: |
| 2/B.D2 |

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| Refine, using layers, an accurate orthographic projection of a component containing at least three different types of common feature and a circuit diagram containing at least six different component types to an international standard.  |

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| 2/B.M2 |

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| Produce, using layers, an accurate orthographic projection of a component containing at least three different types of feature and a circuit diagram containing at least six different component types that mainly meet an international standard.  |

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| 2/B.P3 |

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| Create an orthographic projection of a given component containing at least three different types of feature.  |

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| 2/B.P4 |

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| Create a diagram of a given electrical circuit containing at least six different component types.  |

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| **Sources of information to support you with this Assignment** |

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| Textbooks Pearson textbook specific to new BTEC Nationals in Engineering Omura, G. et al. (2013) *Mastering AutoCAD 2014 and AutoCAD LT 2014,* 1st Edition, Autodesk Official Press, 1118575040 Websites http://www.lynda.com/D-Drawing-training-tutorials/1666-0.html http://www.turbocad.com/Support/Training-Tutorial http://computeraideddesignguide.com/eagle-pcb-tutorials-design- exercise  |

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| **Other assessment materials attached to this Assignment Brief** | *eg, work sheets, risk assessments, case study* |