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| **Module Title** | **Applied Analytical Methods and Business Control Techniques** | **Date of Approval** | Click here to enter a date. |
| **Module Code** | 4TE501 | **Module Level** | 4 | **Credit value** | 30 |
| **Module Delivery****Mode** | Online/Distance [ ]   | Blended/Face to Face [x]  | Work-Based Learning [x]  |
| HTQ Apprenticeship [x]  | Hours of work experience: Choose an item. |
| **Module Description** | This module has been designed to enable you to use appropriate techniques for the analysis, modelling and solution of realistic business problems within different sectors. The module introduces apprentices to mathematical and accounting techniques, providing the knowledge to control expenditure and produce status reports, including understanding how control of costs against budgets, forecasting, and establishing performance indicators as required by funding sources. This includes establishing how costs are measured and monitored, with associated control of financial risk. The module also extends concepts of project planning and scheduling, with a focus on applying an appropriate planning framework for a business project and the preparation of project schedules to support project monitoring, control and delivery. Apprentices will analyse schedule integrity, dependencies and their implications, utilising a range of tools and software. |
| **Module Learning Outcomes** | On successful completion of the module, learners will be able to:1. Use appropriate mathematical techniques to analysis a range of business problems.
2. Model simple business situations using a suitable mathematical method.
3. Analyse and evaluate business situations using statistical analysis and project planning techniques.
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| **Module Content** | **Mathematical and Accounting Techniques**Revision of algebraic functions and their uses.Introduction to calculus, notion of the derivative, rates of change and standard integrals. Their application to and use in the solution of business improvement problems.Introduction to management accounting methods including balance sheets, profit and loss, costing theory, business forecasts and risk analysis. The use and application of these techniques to a range of business improvement situations.**Financial planning and control**Costing systems: job, process and contract costing, Costing techniques: absorption, marginal, activity based.Measures and evaluation: break-even point, safety margin, profitability forecast, Contribution analysis, ‘what if’ analysis, limiting factors, scarce resources.Financial planning process: short- medium- and long-term plans, strategic plans, operational plans, financial objectives,Factors influencing decision: cash and working capital management, credit control, pricing, cost reduction, expansion and contraction, company valuation, capital investment.Budgetary planning: fixed, flexible and zero-based systems, cost, allocation, revenue, capital, control, incremental budgeting.Deviations: variance calculations for sales and costs, cash flow, causes of variance, budgetary slack, unrealistic target setting.**Statistics and Probability**Tabular and graphical form: data collection methods, histograms, bar charts, line diagrams, cumulative frequency diagrams, scatter plots. Central tendency and dispersion: introduction to the concept of central tendency and variance measurement, mean, median, mode, standard deviation, variance and interquartile range. Probability: interpretation of probability, probabilistic models, empirical variability, events and sets, mutually exclusive events, independent events, conditional probability, sample space and probability, addition law, product law.**Project planning and scheduling**Project resources and requirements: human and physical resource planning techniques, time and resource scheduling techniques, Gantt charts, critical path analysis, computer software packages, work breakdown structure, precedenceDiagrams, Project Evaluation Review Technique analysis. Programme scheduling Personal Development CurriculumEnglish skills are developed through presentation of a business analysis of professional project management enquiry.Maths and numeracy skills are developing through the use of mathematical, accounting and statistical approaches delivered within the module. ICT skills are developed by apprentices engaging with project management software. FBV – Knowledge of the rule of law is developed by understanding organisational policies and procures and agreed ways of working. Knowledge, skills and BehavioursK1.2, K1.3, K5.1, K5.2, K5.3, K6.1, K6.2, K10.1, K10.2, K11.1S1.2, S2.1, S4.1, S4.2, S5.1, S8.1B1.2, B3.1, B3.3, B4.2, B4.3, B5.1, B6.1, B6.2End Point AssessmentThis module is mapped to the APM Standards and Standard for Project Manager Degree Apprenticeship. Students will gather evidence towards the integrated EPA. |
| **Module Learning and Teaching** | Scheduled Learning and Teaching Activities  | 25% |
| Guided Independent Study  | 25% |
| Placement/Work Based Learning | 50% |
| **Module Assessment** | **Component 1**: COURSEWORKSummary of Assessment Method: A 2 hrs time constrained assessmentWeighting: 40%Assesses Learning Outcomes: 1, 2Evidences KSBs:K5.1, K6.1, K6.2, K11.1S1.2, S2.1, S8.1B1.2, B3.1, B3.3, B4.2, B4.3, B5.1, B6.1, B6.2**Component 2**: COURSEWORKSummary of Assessment Method: A work related assignment in which business situations are statistically analysed and project planning techniques utilised (2000 words) Weighting: 60%Assesses Learning Outcomes: 3 Evidences KSBs:K1.2, K1.3, K5.1, K5.2, K5.3, K6.1, K6.2, K10.1, K10.2, K11.1S1.2, S2.1, S4.1, S4.2, S5.1, S8.1B1.2, B3.1, B3.3, B4.2, B4.3, B5.1, B6.1, B6.2**The end point assessment is Integrated.** |
| **Reading List** | Reading lists are available via the university online reading platform: <https://derby.leganto.exlibrisgroup.com/leganto/readinglist/searchlists?auth=SAML> |