

Cambridge TECHNICALS LEVEL 3

Cambridge
TECHNICALS
2016

IT

MAPPING GUIDE
Unit 7 Data Analysis and Design
Version 1



INTRODUCTION

Prodigy are delighted to work with OCR, a progressive Awarding Organisation, who share the ambition of providing high-quality qualifications, learning solutions that are industry-led and reliable and valid assessment. The Cambridge Technicals in IT qualifications provide 'future-ready' skills for a learner to further their ambitions, whether that is in terms of further academic study, enter an apprenticeship or as a springboard to gaining employment.

Prodigy Learning (Prodigy) is an award-winning EdTech business providing digital skills certifications and learning solutions for a range of technologies including Adobe, Autodesk and Microsoft. Established in 2000, Prodigy now have offices in Dublin, London and Sydney. Having worked closely with Microsoft since 2000, Prodigy is a Microsoft Authorised Education Gold Partner and a MS Global Training Partner supporting academic institutions utilise Microsoft Imagine Academy, Microsoft certifications and other Microsoft Education solutions.

Historically, the UK has thrived on a rich research and technology base and has been at the forefront of global technology innovation. Enthusiasing young learners about following exciting careers in science, technology, engineering and mathematics (STEM) subjects is fundamental to maintaining this success. However, currently the UK has a widely acknowledged skills gap in the pipeline of talent studying computing-related disciplines. Therefore, providing high quality, engaging and relevant qualifications that equip learners with current technical knowledge and skills is essential to encourage more young people into the computing discipline, and moreover to ensure they progress to jobs in the sector.

MAPPED TO MTA DATABASE FUNDAMENTALS 98-364

2. Creating Database Objects

| | 2.1.1 Understanding what data types are, why they are important, and how they affect storage requirements |
|---------------------------------|---|
| 1.1.1 Data types - qualitative | X |
| 1.1.2 Data types - quantitative | X |
| 1.1.3 Data types - structured | X |
| 1.1.4 Data types - unstructured | X |

MAPPED TO MTA SOFTWARE DEVELOPMENT 98-361

4. Understanding Data Storage

| | 4.1 Understand normalization. The five most common levels of normalization, how to normalize a database to third normal form | 4.2. Understand primary, foreign, and composite keys. |
|--|---|---|
| 3.1.1 Levels of data model design - conceptual: relationship between entities | X | X |
| 3.1.3 Levels of data model design - logical: specific entities, attributes and relationship in a business function | X | X |
| 3.1.4 Levels of data model design - physical: application and database specific implementation of the logical data model | X | X |
| 3.2.1 Phases of logical data modelling - structure - set of rules (e.g. entities, attributes, relationships, queries) | X | X |
| 3.2.2 Phases of logical data modelling - manipulating (e.g. updating, retrieving, editing or deletion of content) | X | X |
| 3.2.3 Phases of logical data modelling - integrity - validation of accuracy | X | X |
| 4.1.3 Data design documentation - entity attribute relationships diagram (EARD) | X | X |



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