## General Description
This course has been mapped to the **BSBITA411 - Design And Develop Relational Databases** competency. It applies to individuals who may work independently or within an administrative support role, with the responsibility to use databases to store and retrieve data using commercially available database software.

## Learning Outcomes
At the completion of this course you should be able to:
- understand how Access is used and how to navigate around it
- design a relational database project
- create a relational database file with multiple tables
- modify the structure of an existing table
- set table relationships and join tables together
- add records to a new table
- add transactional records to a lookup database
- use various data validation features in Access to protect data
- work with the records in a database table
- export records to and import records from a wide variety of sources and applications
- create simple and effective queries
- perform more advanced queries using a variety of querying techniques
- create queries based on one or more tables
- create and use parameter queries
- create calculated queries
- create and work with aggregation queries
- create and use a series of action queries
- create meaningful reports from tables
- create and use forms
- modify and adapt an existing form according to specific needs
- create a navigation form for a database in Access 2016
- understand how to access and use help

## Prerequisites
BSBITA411 Design And Develop Relational Databases assumes some knowledge of Microsoft Access 2016.

## Topic Sheets
257 topics

## Methodology
The InFocus series of publications have been written with one topic per page. Topic sheets either contain relevant reference information, or detailed step-by-step instructions designed on a real-world case study scenario. Publications can be used for instructor-led training, self-paced learning, or a combination of the two.

## Formats Available
A4 Black and White, A5 Black and White (quantity order only), A5 Full Colour (quantity order only), Electronic Licence
There are a number of complementary titles in the same series as this publication. Information about other relevant publications can be found on our website at www.watsoniapublishing.com.

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**Querying Techniques**
- Modifying a Saved Query
- Creating AND Queries
- Creating OR Queries
- Querying Numeric Data
- Querying Dates
- Using a Range Expression
- Querying Opposite Values
- Moving Fields in a Query
- Sorting Query Data
- Removing Fields From a Query
- Querying Using Wildcards
- Problem Characters
- Querying With a Lookup Table
- Sorting Query Data Numerically
- Displaying NULL Values
- Challenge Exercise
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**Multi Table Queries**
- Understanding Relational Queries
- Creating a Relational Query Design
- Filtering a Relational Query
- Filtering Related Fields
- Adding More Tables and Fields
- Utilising Hidden Fields
- Challenge Exercise
- Challenge Exercise Sample

**Parameter Queries**
- Creating a Parameter Query
- Displaying All Records
- Using Parameters to Display a Range
- Using Parameters in Expressions
- Challenge Exercise
- Challenge Exercise Sample

**Calculations in Queries**
- Creating a Calculated Field
- Formatting Calculated Fields
- Summarising Data Using a Query
- Changing the Grouping
- Calculating With Dates
- Using Criteria in Calculations
- Concatenating String Fields
- Challenge Exercise
- Challenge Exercise Sample

**Aggregation Queries**
- Creating an Aggregation Query
- Working With Aggregation Queries
- Multiple Aggregations
- Modifying Aggregation Headings
- Aggregating Calculated Fields
- Applying Criteria to Aggregates
- Understanding Nested Queries
- Creating an Assembly Query
- Creating the Nesting Query
- Challenge Exercise
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**Action Queries**
- Creating a Make Table Query
- Using a Make Table Query
- Understanding Expressions and Update Queries
- Preparing an Update Query
- Running an Update Query
- Updating Using Expressions
- Running an Expression-Based Update
- Creating a Delete Query
- Running a Delete Query
- Creating an Append Query
- Running an Append Query
- Turning Action Messages Off
- Challenge Exercise
- Challenge Exercise Sample

**Modifying Forms**
- Understanding Form Design and Layout
- Switching Between Form Views
- Selecting Form Objects
- Working With a Control Stack
- Changing Control Widths
- Moving Controls on a Form
- Aligning Controls
- Understanding Properties
- Changing Label Captions
- Adding an Unbound Control
- Adding a Control Source
- Formatting a Control
- Checking the Current Tab Order
- Changing the Tab Order
- Inserting the Date Into the Form Header
- Challenge Exercise
- Challenge Exercise Sample

**Using a Navigation Form**
- Creating a Simple Navigation Form
- Creating a More Complex Navigation Form
- Creating the Navigation Form Page Tabs
- Creating Subsidiary Pages
- Adding Subsidiary Pages
- Editing Page Tab Names
- Applying a Theme
- Modifying Properties
- Automatically Starting the Navigation Form
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**Creating and Using Reports**
- Understanding Reporting in Access
- Creating a Basic Report
- Working With Existing Reports
- Previewing and Printing a Report
- Changing the Report Layout
- Using the Report Wizard
- Creating a Grouped Report
- Creating a Statistical Report
- Working With Grouped Reports
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**Creating and Using Forms**
- Understanding Forms
- Creating a Basic Form
- Creating a Split Form
- Binding a Form to a Query
- Using the Form Wizard
- Working With Existing Forms
- Editing Records in a Form
- Deleting Records Through a Form
- Deleting an Unwanted Form
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- Working With Aggregation Queries
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- Creating Subsidiary Pages
- Adding Subsidiary Pages
- Editing Page Tab Names
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**Getting Help**
- Understanding the Help Pane
- Navigating the Help Pane
- Accessing Training
- Accessing the Office Help Centre
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Microsoft Access 2016

In Focus Courseware

Unit Mapping

This unit describes the skills and knowledge required to design and develop a database (including queries, forms and reports) to meet a defined need using existing data.

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<thead>
<tr>
<th>Performance Criteria</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Design Databases</td>
<td></td>
</tr>
<tr>
<td>1.1 Identify organisational and task requirements to confirm scope and functionality of database design, including data redundancy</td>
<td>Chapter 2: Relational Database Design</td>
</tr>
<tr>
<td>1.2 Develop a logical data model to identify and classify data into types in accordance with organisational and task requirements</td>
<td>Chapter 2: Relational Database Design</td>
</tr>
<tr>
<td>1.3 Select appropriate digital application/platform according to organisational and task requirements and required scope and functionality of database</td>
<td>Chapter 1: Getting to Know Access 2016</td>
</tr>
<tr>
<td>1.4 Create and document proposed database structure, and share with appropriate personnel in accordance with organisational policies and procedures</td>
<td>Generally assumed throughout</td>
</tr>
<tr>
<td>1.5 Seek feedback on proposed database design from appropriate personnel</td>
<td>Generally assumed throughout. Can be tested through practice exercises and integration assignment</td>
</tr>
<tr>
<td>2 Develop database</td>
<td></td>
</tr>
<tr>
<td>2.1 Set field attributes according to data type and link databases by a common field in accordance with database application usage</td>
<td>Chapter 3: Creating a Relational Database</td>
</tr>
<tr>
<td>2.2 Assign primary key to uniquely identify data</td>
<td>Chapter 3: Creating a Relational Database</td>
</tr>
<tr>
<td>2.3 Assign foreign keys to establish associations between data, in accordance with organisational and task requirements</td>
<td>Chapter 2: Relational Database Design, Chapter 3: Creating a Relational Database, Chapter 5: Setting Table Relationships</td>
</tr>
<tr>
<td>2.4 Use software functions and formulae to meet organisational and task requirements</td>
<td>Generally assumed throughout. Can be tested through practice exercises and integration assignment</td>
</tr>
<tr>
<td>2.5 Create password and access system according to organisational and task requirements</td>
<td>Chapter 21: Using a Navigation Form</td>
</tr>
<tr>
<td>2.6 Access and use application help functions overcome intermediate-level issues with database design and production, where required</td>
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</tr>
<tr>
<td>3 Develop queries, forms and reports</td>
<td></td>
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<tr>
<td>3.1 Identify information output, database tables to be used and report layout, in accordance with task requirements</td>
<td>Chapter 3: Creating a Relational Database, Chapter 18: Creating and Using Reports, Generally assumed throughout</td>
</tr>
<tr>
<td>3.2 Identify data groupings, search and sort criteria, in accordance with task requirements</td>
<td>Chapter 2: Relational Database Design, Chapter 9: Working With Records, Chapter 12: Querying Techniques</td>
</tr>
<tr>
<td>3.3 Run reports and queries to confirm that results and formulae produce required data</td>
<td>Chapter 11: Creating Queries, Chapter 12: Querying Techniques, Chapter 18: Creating and Using Reports</td>
</tr>
<tr>
<td>3.4 Modify reports to include or exclude additional requirements, where necessary</td>
<td>Chapter 19: Creating and Using Forms</td>
</tr>
<tr>
<td>4 Test and finalise database</td>
<td></td>
</tr>
<tr>
<td>4.1 Populate database with sample dataset for testing, meeting organisational requirements for speed and accuracy</td>
<td>Chapter 6: Adding Records to a Table, Chapter 7: Adding Transactional Records, Chapter 10: Importing and Exporting Records</td>
</tr>
<tr>
<td>4.2 Assess and document effectiveness of data relationships, query forms and reports, assessing against organisational and task requirements</td>
<td>Chapter 8: Data Validation</td>
</tr>
<tr>
<td>4.3 Document and address any errors in database design</td>
<td>Generally assumed throughout. Can be tested through practice exercises and integration assignment</td>
</tr>
<tr>
<td>4.4 Name and store database in accordance with organisational policies and procedures relating to data security, and exit the application without data loss or damage</td>
<td>Chapter 3: Creating a Relational Database</td>
</tr>
<tr>
<td>4.5 Confirm database readiness with appropriate personnel</td>
<td>Generally assumed throughout. Can be tested through practice exercises and integration assignment</td>
</tr>
</tbody>
</table>