



The Digital Skills Standard

ICDL Professional

USING DATABASES

Syllabus 6.0



Syllabus Document



Purpose

This document details the syllabus for the Using Databases module. The syllabus describes, through learning outcomes, the knowledge and skills that a candidate for the Using Databases module should possess. The syllabus also provides the basis for the theory and practice-based test in this module.

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Using Databases Module

This module sets out essential concepts and skills relating to understanding the concept of a database and demonstrating competence in using a database application.

Module Goals

Successful candidates will be able to:

- Understand what a database is and how it is organised.
- Create a simple database and view the database content in various modes.
- Create a table, define and modify fields, and create relationships between tables. Enter and edit data in a table.
- Use filters and queries to retrieve specific information from a database.
- Create a form to enter, modify and delete records and data in records.
- Create routine reports and prepare outputs ready for print or electronic distribution.

CATEGORY	SKILL SET	REF.	TASK ITEM
1 Understanding Databases	1.1 Key Concepts	1.1.1	Understand what a database is.
		1.1.2	Understand that information is the processed output of data.
		1.1.3	Understand how a database is organised in terms of tables, records and fields.
		1.1.4	Understand that all database data is stored in tables. Understand that changes are automatically saved.
		1.1.5	Know some of the common uses of databases like: social networks, booking systems, government records, bank account records, hospital patient details.
	1.2 Database Organisation	1.2.1	Understand that each table in a database should contain data related to a single subject type.
		1.2.2	Understand that each record in a database should contain data related to a single subject.
		1.2.3	Understand that each field in a table should contain only one element of data.
		1.2.4	Understand that field content is associated with an appropriate data type like: text, number, date/time, yes/no.
		1.2.5	Understand that fields have associated field properties like: field size, format, default value.
		1.2.6	Understand what a primary key is.

CATEGORY	SKILL SET	REF.	TASK ITEM
		1.2.7	Understand that the main purpose of an index is to speed up search queries.
	<i>1.3 Relationships</i>	1.3.1	Understand that the main purpose of relating tables in a database is to minimise duplication of data.
		1.3.2	Understand that a relationship is built by matching a unique field in one table with a field in another table.
		1.3.3	Understand the importance of maintaining the integrity of relationships between tables.
2 Using the Application	<i>2.1 Working with Databases</i>	2.1.1	Open, close a database application.
		2.1.2	Open, close a database.
		2.1.3	Create a new database and save to a location on a drive.
		2.1.4	Display, hide built-in toolbars. Restore, minimise the ribbon.
		2.1.5	Use available help resources.
	<i>2.2 Common Tasks</i>	2.2.1	Open, save, close a table, query, form, report.
		2.2.2	Switch between view modes in a table, query, form, report.
		2.2.3	Delete a table, query, form, report.
		2.2.4	Navigate between records in a table, query, form. Navigate between pages in a report.
		2.2.5	Sort records in a table, form, query output in ascending, descending numeric, alphabetic order.
3 Tables	<i>3.1 Records</i>	3.1.1	Add, delete records in a table.
		3.1.2	Add, modify, delete data in a record.
	<i>3.2 Design</i>	3.2.1	Create and name a table and specify fields with their data types like: text, number, date/time, yes/no.
		3.2.2	Apply field property settings: field size, number format, date/time format, default value.
		3.2.3	Understand consequences of changing data types, field properties in a table.
		3.2.4	Create a simple validation rule for numbers.
		3.2.5	Set a field as a primary key.

CATEGORY	SKILL SET	REF.	TASK ITEM		
4 Retrieving Information	3.3 Relationships	3.2.6	Index a field with, without duplicates allowed.		
		3.2.7	Add a field to an existing table.		
		3.2.8	Adjust the width of column(s) in a table.		
	4.1 Main Operations	3.3.1	3.3.1	Create a one-to-many relationship between tables.	
		3.3.2	3.3.2	Delete a one-to-many relationship between tables.	
	4.2 Queries	3.3.3	3.3.3	Apply referential integrity between tables.	
		4.1.1	4.1.1	Use the search command for a specific word, number, date in a field.	
		4.1.2	4.1.2	Apply a filter to a table, form.	
	5 Forms	4.1 Main Operations	4.1.3	4.1.3	Remove filter from a table, form.
			4.2.1	4.2.1	Understand that a query is used to extract and analyse data.
5.1 Using Forms		4.2.2	4.2.2	Create a named single-table query using specific search criteria.	
		4.2.3	4.2.3	Create a named two-table query using specific search criteria.	
		4.2.4	4.2.4	Add criteria to a query using one or more operators: = (Equal), <> (Not equal to), < (Less than), <= (Less than or equal to), > (Greater than), >= (Greater than or equal to).	
		4.2.5	4.2.5	Add criteria to a query to sort records in ascending, descending numeric, alphabetic order.	
		4.2.6	4.2.6	Add criteria to a query using one or more logical operators: AND, OR, NOT.	
		4.2.7	4.2.7	Use a wildcard in a query like: * or %, ? or _.	
		4.2.8	4.2.8	Edit a query: modify, remove criteria.	
		4.2.9	4.2.9	Edit a query: add, remove, move, hide, unhide fields.	
4.2.10	4.2.10	Run a query.			
5.1 Using Forms	5.1.1	5.1.1	Understand that a form is used to display, add and edit records.		
	5.1.2	5.1.2	Create and name a simple form.		
	5.1.3	5.1.3	Use a form to insert new records.		

CATEGORY	SKILL SET	REF.	TASK ITEM	
6 Outputs	6.1 Reports, Data Export	5.1.4	Use a form to delete records.	
		5.1.5	Use a form to add, modify, delete data in a record.	
		5.1.6	Add, modify text in headers, footers in a form.	
		6.1.1	Understand that a report is used to present selected information from a table, query.	
		6.1.2	Create and name a simple report based on a table, query.	
		6.1.3	Create and name a grouped report. Sort records and calculate summary information like: sum, minimum, maximum, average.	
	6.2 Printing		6.1.4	Edit a report: change arrangement of data fields, headings.
			6.1.5	Edit a report: add, modify text in headers, footers.
			6.1.6	Export a table, query output in spreadsheet, text file, csv, XML format to a location on a drive.
			6.1.7	Export a report output in pdf format to a location on a drive.
			6.2.1	Change table, form, query output, report orientation: portrait, landscape. Change paper size.
			6.2.2	Print a page, selected record(s), complete table.
			6.2.3	Print all records, specific page(s) using form layout.
			6.2.4	Print the result of a query.
			6.2.5	Print specific page(s) in a report, print complete report.