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# Access – Programming

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National Competency Standard (ICA05):

ICAB4222B Apply introductory programming skills in another language



## General Description

This course aims to increase your productivity by providing the skills and knowledge to program using VBA in Access effectively.

## Pre-Requisites

This course is designed for participants with a sound knowledge of Access. Previous programming experience and knowledge of concepts would be an advantage.

## Duration

2 Days.

## Learning Outcomes

At the completion of this course participants will be able to:

1. Understand some of the aspects of developing applications in Access
2. Create and assign macros and understand the advantages and disadvantages of using macros
3. Understand the programming environment and how forms and modules are used in it
4. Create and work with subroutines and function procedures
5. Create and work with variables
6. Communicate with the user through input boxes and message boxes
7. Program decision structures using IF and CASE statements
8. Develop a variety of programming loops for repeating operations
9. Use the DoCmd object to perform most of the operations associated with a database
10. Use ADO to handle working with data in your programs
11. Use the debugging features of VBA to locate and identify errors
12. Develop safeguards in your program and prevent unforeseen errors

## Optional Assessment

**This is a nationally recognised training program.** Participants who successfully complete the optional assessment component of this course will receive a Statement of Attainment for the unit of competency outlined above (additional fee applies). Participants who choose not to be assessed will receive a Certificate of Attendance. The case study assignment is completed in the participant's own time.

## Course Content

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### Development Basics

- The Access Development Environment
- The Importance Of Splitting Databases
- Maintaining Links
- Using The Database Splitter
- Using Queries For Reports And Forms
- Access Run-Time
- Understanding Client/Server
- Quick Review

### Macros and VBA

- Macro Overview
- Creating Macros
- Assigning Macros
- Creating More Complex Macros
- Converting Macros To VBA Code
- Why You Shouldn't Use Macros
- Quick Review

### VBA Essentials

- Programming Environment Overview
- The Role Of Forms
- Creating A Startup Form
- Understanding Modules
- Code Behind Forms
- Standard Code Modules
- Standard Vs Class Modules
- Naming Conventions
- Quick Review

### **VBA Subroutines**

- Understanding Modules In Access
- The Anatomy Of A Module
- Creating A Subroutine
- Creating A Function
- Calling Procedures
- Passing Parameters
- Returning Values
- Scoping Procedures

### **Variable VBA**

- Overview Of Variables
- Creating String Variables
- Option Explicit
- Working With Numbers
- Dealing With Overflows
- Working With Decimals
- Working With Dates
- Default Values
- Scoping Variables
- Local Variables
- Module-Wide Variables
- Passing Parameters
- Passing Parameters By Value

### **Interactive VBA**

- The Act Of Communicating
- Creating A Simple Input Box
- Creating More Elaborate Input Boxes
- Global Positioning
- Simple Message Boxes
- Creating Larger Messages
- Breaking A Message Line
- Customising Icons And Buttons
- Message Box Functions
- Responding To Different Buttons

### **Decisive VBA**

- Decisions Overview
- Creating An In-Line If
- Creating A Block If
- Multiple If
- Multiple If Using Text
- Using Case Statements
- Value Ranges In Case Statements
- Case Statements With OR
- Asking Yes/No Questions

### **Looping VBA**

- Program Loops
- Creating A While Loop
- Taking Care Of Counters
- Creating An Until Loop
- For Each Loops
- Exiting From Loops
- For Next Loops

### **The DoCmd Object**

- Overview Of DoCmd
- Navigating With DoCmd
- Moving Through Records
- Filtering Records With DoCmd
- Opening A Form With DoCmd
- Opening A Report With DoCmd
- Closing A Form
- Creating Variable Reports

### **ActiveX Data Objects ADO Overview**

- Setting References Using VBA
- Creating A Table With ADO
- Removing A Table With ADO
- Populating A Form With ADO
- Dealing With An Empty Table
- ActiveX Data Objects Quick Reference

### **ADO Forms & Recordsets**

- Overview of ADO With Forms & Recordsets
- Navigating Records In A Form
- Finding A Record
- Updating A Record
- Deleting A Record
- Adding a New Record
- ADO Forms & Recordsets Quick Reference

### **Debugging VBA**

- Debugging Overview
- Setting A BreakPoint
- Setting Additional Breakpoints
- Stepping Through A Procedure
- Viewing The Call Stack
- Using The Locals And Immediate Windows
- Adding A Watch
- Deleting A Watch

### **Handling Errors in VBA**

- Error Handling Overview
- Understanding Common Errors
- Creating A Simple Error Handler
- Understanding The Error Object Model
- More Elegant Error Handling
- Resuming From Errors
- Forcing An Error
- Creating Custom Errors