

## DEVELOP AN INFORMATION SYSTEM

**UNIT CODE:** ICT/OS/CS/CR/06/6/A

### UNIT DESCRIPTION

This unit covers the competencies required to develop an information system. It involves understanding fundamentals of information systems, understanding the software development process, demonstrating human computer interaction principles, understanding the VB.net programming environment and developing and testing a VB.NET application.

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b>
These describe the <b>key outcomes</b> which make up <b>workplace function</b> .	These are <b>assessable</b> statements which specify the required level of performance for each of the elements.  <i>(Bold and italicized terms are elaborated in the range.)</i>
1. Understand fundamentals of Information Systems	1.1.Information system is explained 1.2. <i>Types of information systems</i> are outlined 1.3.Emerging trends in information systems are explained 1.4.Information systems are recommended for different scenarios
2. Understand the Software Development Process	2.1.Software Development Life Cycle is explained 2.2. <i>Software Development Methodologies</i> are explained 2.3. <i>Modeling techniques</i> are demonstrated using CASE tools
3. Demonstrate Human Computer Interaction Principles	3.1. Human Computer Interaction is explained 3.2 <i>Interface design principles</i> are explained 3.3 Interface design is demonstrated using a design software
4. Understand the VB.NET programming environment	4.1. The .Net framework is explained 4.2 Visual Studio is installed 4.3 Features of VB.Net are outlined 4.4 The IDE environment is explained 4.5 VB.Net program structure is explained 4.6. VB.Net project is created and compiled
5. Develop and test a VB.NET application	5.1 <i>Basic VB.Net Controls</i> are outlined 5.2 <i>Elements of a control</i> are explained

	<p>5.3 Basic VB.Net Controls' Properties, Methods and Events are demonstrated</p> <p>5.4 Event handling is demonstrated</p> <p>5.5 Forms design using HCI principles is demonstrated</p> <p>5.6 Connection of VB.Net applications to a database is demonstrated</p> <p>5.7 Deployment of VB.NET applications is demonstrated</p>
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## RANGE

This section provides work conditions to which the performance criteria apply. It allows for different work environments and situations that will affect performance.

Variable	Range
1.Types of information systems may include but not limited to:	<ul style="list-style-type: none"> <li>• Transaction Processing Systems</li> <li>• Management Information systems</li> <li>• Decision Support systems</li> <li>• Executive Information Systems</li> <li>• Office Automation Systems</li> <li>• Knowledge based systems</li> <li>• Expert Systems</li> </ul>
2. Software development methodologies may include but not limited to:	<ul style="list-style-type: none"> <li>• Waterfall</li> <li>• Spiral</li> <li>• Rapid Application Development</li> <li>• Agile</li> </ul>
3. Modeling techniques may include but not limited to:	<ul style="list-style-type: none"> <li>• Data Flow Diagrams</li> <li>• ER diagrams</li> <li>• Use Case Diagrams</li> </ul>
4. Interface Design Principles may include but not limited to:	<ul style="list-style-type: none"> <li>• Usability</li> <li>• Learnability</li> <li>• Flexibility</li> </ul>
5. Basic VB.Net Controls may include but not limited to:	<ul style="list-style-type: none"> <li>• Form</li> <li>• Text Box</li> <li>• Label</li> <li>• Button</li> <li>• List Box</li> </ul>

Variable	Range
	<ul style="list-style-type: none"> <li>• Combo Box</li> <li>• Radio Button</li> <li>• Check Box</li> <li>• Picture Box</li> <li>• Progress Bar</li> <li>• Scroll Bar</li> <li>• Date Time Picker</li> <li>• Tree View</li> <li>• List View</li> </ul>
6. Elements of a control may include but not limited to:	<ul style="list-style-type: none"> <li>• Properties</li> <li>• Methods</li> <li>• Events</li> </ul>

## REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit of competency.

### Required skills

The individual needs to demonstrate the following skills:

- Communications (verbal and written);
- Time management;
- Problem solving;
- Planning;
- Decision Making;
- Research;

### Required knowledge

- The individual needs to demonstrate knowledge of:
- Fundamentals of Information Systems
- Software Development Process
- Human Computer Interaction Principles
- VB.NET programming environment
- Developing and testing a VB.NET application

## EVIDENCE GUIDE

This provides advice on assessment and must be read in conjunction with the performance criteria, required skills and understanding and range.

1. Critical Aspects of Competency	Assessment requires evidence that the candidate: 1.1 Outlined <i>Types of information systems</i> 1.2 Explained Software Development Life Cycle 1.3 Described Software Development Methodologies 1.4 Demonstrated Modelling techniques using CASE tools 1.5 Created a VB.NET project demonstrating event handling, form design and connection to the database
2. Resource Implications	The following resources should be provided: 2.1 Access to relevant workplace where assessment can take place 2.2 Appropriately simulated environment where assessment can take place
3. Methods of Assessment	Competency may be assessed through: 3.1 Oral questioning 3.2 Practical tests 3.3 Observation 3.4 Written tests
4. Context of Assessment	Competency may be assessed 4.1 Off the job 4.2 on the job 4.3 During industrial attachment
5. Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.