

SOFTWARE DEVELOPMENT

UNIT CODE: SEC/CU/CS/CR/05/6/A

Relationship to Occupational Standards

This unit addresses the unit of competency: Develop computer software

Duration of Unit: 130 hours

Unit Description

This unit covers the competencies required to develop computer software. It involves establishing software purpose, analysing software requirements, designing computer software, developing computer software, performing programme testing and maintenance.

Summary of Learning Outcomes

1. Establish software purpose
2. Analyse software requirement
3. Design computer software
4. Develop computer software
5. Perform programme testing
6. Perform software maintenance

Learning Outcomes, Content and Suggested Assessment Methods

Learning Outcome	Content	Suggested Assessment Methods
1. Establish software purpose	<ul style="list-style-type: none">• Meaning of term• Software classification<ul style="list-style-type: none">• Factors to consider in software classification• Software functionality• Software selection<ul style="list-style-type: none">• Factors consider in software selection• Software acquisition method	<ul style="list-style-type: none">• Observation• Oral questioning• Written tests• Practical tests
2. Analyse software requirement	<ul style="list-style-type: none">• Meaning of terms• Software specification• Computer resources• Software installation platform• User vendor agreement	<ul style="list-style-type: none">• Observation• Oral questioning• Written tests• Practical tests
3. Design computer software	<ul style="list-style-type: none">• Meaning of terms• Software design specifications• Factors to consider in software design	<ul style="list-style-type: none">• Observation• Oral questioning• Practical tests

Learning Outcome	Content	Suggested Assessment Methods
	<ul style="list-style-type: none"> • Software life cycle • Integration of security in software design • Software installation devices • Software parameters 	<ul style="list-style-type: none"> • Written tests
4. Develop computer software	<ul style="list-style-type: none"> • Meaning of terms • Factors to consider in software development • Software coding • Testing and debugging of software errors • Software development requirements • User task analysis 	<ul style="list-style-type: none"> • Observation • Oral questioning • Written tests • Practical tests
5. Perform programme testing	<ul style="list-style-type: none"> • Meaning of terms • Types of tests <ul style="list-style-type: none"> • Software functionality testing • Software security testing • Software debugging • Configuration testing • Software reporting and testing • Quality assurance and testing • User acceptance and implementation 	<ul style="list-style-type: none"> • Observation • Oral questioning • Written tests • Practical tests
6. Perform software maintenance	<ul style="list-style-type: none"> • Meaning of terms • Preparation of software maintenance schedule • Software patch management • Software version control • Software review • Software monitoring and evaluation 	<ul style="list-style-type: none"> • Observation • Oral questioning • Written tests • Practical tests

Suggested Methods of Instructions

- Demonstration by trainer
- Practice by the trainee
- Field trips
- Discussions

Recommended Resources

<ul style="list-style-type: none"> • Computers • Printers 	Materials and supplies <ul style="list-style-type: none"> • Stationery
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<ul style="list-style-type: none"> • Cameras • Phones • Photocopiers 	<ul style="list-style-type: none"> •
<p>Reference materials</p> <ul style="list-style-type: none"> • Manufacturers' manuals • Relevant catalogues • Tables • National and international standards 	

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