

Occupational Certificate: Software Engineer (NQF6) Document system design (DSD)	
Curriculum Code	251201
SAQA Qualification ID	119458
Intake / year	1-2026
Assessment Name	Formative Assessment
Module NQF Level	6
Credits	25
Open date and time	23 February 2026 • Open time: 08:00
Close date and time	05 April 2026 • Close time: 23:45
Assessment Total Marks	130 (50% of total mark percentage)
Pass percentage	65%

Lecturer Information	
Lecturer	Thaveshan Govender
Lecturer E-mail	thaveshang@aie.ac

IMPORTANT NOTICE

Before submitting your assessment, please ensure that it is signed and that all your personal details are accurately filled in the designated space below (Section in red). Work will not be accepted unless the required sections below are fully completed prior to submission, resulting in a 0% grade for this assessment.

The signature must be your valid handwritten signature and NOT your name and surname typed in the space provided.

Student Number:	461476		
Student name and surname:	John Herbst	Date:	2026/4/5
Student cell phone number:	0604944665		
Student Signature:			
Lecturer name and surname:	Thaveshan Govender	Date:	
Lecturer Signature:			
Assessor name and surname:		Date:	
Assessor Signature:			
Moderator name and surname:		Date:	
Moderator Signature:			

Assessment Objective/s:

The Formative assessment will cover the following assessment topics:

No	PM/PS number	PM Description
1.	PM-01-PS01	Define the problem
2.	PM-01-PS02	Conduct research to determine requirements
3.	PM-01-PS03	Design the solution

Scope:

This module is crafted to offer you a unique opportunity to immerse yourself in the activities related to system design, moving beyond theoretical knowledge to the practical application of designing effective and efficient systems. It aims to equip you with the skills necessary to navigate the complexities of system design, from the initial problem definition to the final design solution.

Technical Aspects:

Please verify that all pages are included when downloading this assessment by checking the page numbers at the bottom of the document.

Ensure the following font and size is used in this assessment

- Font: Arial
- Size: 12
- Font colour: Black

Save and upload the report as a .PDF (**No backgrounds**) with the following naming convention: StudentName_ StudentSurname _Student no_ ModuleCode_FA1

Question 1

(50)

<i>PM No</i>	<i>PS No</i>	<i>PS Description</i>
<i>01</i>	<i>01</i>	<i>Define the problem</i>

Project Brief: Imagine you are part of a software development team tasked with creating a mobile application for a local bookstore. The application aims to enhance online shopping experiences for customers and include features like book browsing, personalized recommendations, and an efficient checkout process.

Resources:

- Project Management Software (e.g., Trello, Asana)
- Documentation Tools (e.g., Google Docs, Microsoft Word)
- Communication Platforms (e.g., Slack, Email)

a)	Define the Problem (PA0101): • Understand the core objectives of the mobile application. • Document the key features and functionalities that the application should have.	[10]
	ANSWER:	
b)	Engage with Stakeholders (PA0102 & PA0103): • Discuss the project specifications with the client (the bookstore owner) and other stakeholders (possibly a marketing team). • Arrange a meeting with your team members to ensure everyone understands the project goals and requirements.	[20]
	ANSWER:	
c)	Documentation (PA0104): • Document all agreements and discussions. This could include meeting minutes or a more formal document outlining the project specifications.	[10]

	ANSWER:	
d)	Planning (PA0105): Develop a basic plan for the project's execution, including task assignments and timelines.	[10]
	ANSWER:	

Evidence Required:

- A written document defining the problem.
- Records of communication with the client and team (emails, meeting notes).
- A project plan outlining the tasks and timelines.

Criteria	Yes	No	Comments
PA0101 Define the problem (discuss, understand and document)			
PA0102 Discuss and confirm the problem or specifications with the client and stakeholders			
PA0103 Discuss and confirm the problem or specifications with team members			
PA0104 Document agreements reached			
PA0105 Plan for execution of the project (task)			

Name: _____ John_Herbst_____

Signature: _____


Date: __2026/4/5__

Question 2

(40)

<i>PM No</i>	<i>PS No</i>	<i>PS Description</i>
<i>01</i>	<i>02</i>	<i>Conduct research to determine requirements</i>

Structured Scenario: You are part of a team developing a web-based platform for a local library to **manage book inventories** and **track user borrowings**. The platform needs to be user-friendly for both library **staff and patrons**.

Resources:

- Data Analysis Tools (e.g., Excel, Google Sheets)
- Survey Platforms (e.g., SurveyMonkey, Google Forms)
- Modeling Software (e.g., Lucidchart, Draw.io)

a)	Conduct Research to Collect Data (PA0201): • Identify the key data points you need to collect (e.g., current inventory management processes, user behaviors). • Employ various data gathering techniques to collect this data.	[10]
	ANSWER:	

b)	Analyze Data (PA0202): - Analyze the gathered data to understand the current challenges and needs of the library. - Identify patterns or trends that may influence the design of the platform.	[10]
	ANSWER:	
c)	Discuss and Evaluate Solutions (PA0203): - Based on your data analysis, brainstorm potential solutions or features for the platform. - Discuss these solutions with your team and evaluate their feasibility and effectiveness in meeting the library's needs.	[10]
	ANSWER	
d)	Document Requirements Specifications (PA0204): Create a detailed requirements document that outlines the specifications for the web platform, including functionalities, performance criteria, and user interface elements.	[10]
	ANSWER:	

Evidence Required:

- A dataset compiled from your research.
- Analysis reports showing how you interpreted the data.
- A document detailing the discussed solutions and their evaluations.
- The final requirements specification document.

Criteria	Yes	No	Comments
PA0201 Conduct research to collect data			
PA0202 Analyse data			

PA0203 Discuss and evaluate possible solutions to meet requirements			
PA0204 Document requirements specifications			

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Signature: _____  _____

Date: __2026/4/5__

Question 3

(40)

<i>PM No</i>	<i>PS No</i>	<i>PS Description</i>
<i>04</i>	<i>0103</i>	<i>Design the solution</i>

Structured Scenario: You are part of a team developing a web-based platform for a local library to manage book inventories and track user borrowings. The platform needs to be user-friendly for both library staff and patrons.

Resources:

- Data Analysis Tools (e.g., Excel, Google Sheets)
- Survey Platforms (e.g., SurveyMonkey, Google Forms)
- Modeling Software (e.g., Lucidchart, Draw.io)

a)	Conduct Research to Collect Data (PA0201): • Identify the key data points you need to collect (e.g., current inventory management processes, user behaviors).	[10]
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	ANSWER:		
b)	Analyze Data (PA0202): - Analyze the gathered data to understand the current challenges and needs of the library. - Identify patterns or trends that may influence the design of the platform.	[10]	
	ANSWER:		
c)	Discuss and Evaluate Solutions (PA0203): - Based on your data analysis, brainstorm potential solutions or features for the platform. - Discuss these solutions with your team and evaluate their feasibility and effectiveness in meeting the library's needs.	[10]	
	ANSWER:		
d)	Document Requirements Specifications (PA0204): Create a detailed requirements document that outlines the specifications for the web platform, including functionalities, performance criteria, and user interface elements.	[10]	
	ANSWER:		

Evidence Required:

- A dataset compiled from your research.
- Analysis reports showing how you interpreted the data.
- A document detailing the discussed solutions and their evaluations.
- The final requirements specification document.

Criteria	Yes	No	Comments
PA0201 Conduct research to collect data			

PA0202 Analyse data			
PA0203 Discuss and evaluate possible solutions to meet requirements			
PA0204 Document requirements specifications			

Name: _____ John_Herbst_____

Signature: _____  _____

Date: __2026/4/5__

Mark allocation for student		
Question	Maximum Mark	Learner mark
Question 1.a	10	
Question 1.b	20	
Question 1.c	10	
Question 1.d	10	
Question 2.a	10	
Question 2.b	10	
Question 2.c	10	
Question 2.d	10	

Question 3.a	10	
Question 3.b	10	
Question 3.c	10	
Question 3.d	10	
Total:	130	

STUDENT ASSESSMENT FEEDBACK

Qualification Name:	Occupational Certificate: Software Engineer (NQF6)
Qualification SAQA Number:	119458
Subject Name:	Document system design
Subject Code:	DSD
Assessment Name:	Formative Assessment
Assessment Code:	DSD_FA

Assessment Decision	Competent		Not yet competent	
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Feedback report	1st Attempt		2nd Attempt	
	C	NYC	C	NYC
Practical module/Practical skill				
PM01				
PS01				
PS02				
PS03				

General feedback to learner Supply comprehensive feedback why learner is found NYC