# **Unit Assessment Pack (UAP) – Cover Sheet**

## **Student and Trainer/Assessor Details**

| **Student ID** |  |
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| **Student name** |  |
| **Contact number** |  |
| **Email address** |  |
| **Trainer/Assessor name** |  |

## **Course and Unit Details**

| **Course code** | ICT50115 |
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| **Course name** | Diploma of Information Technology |
| **Unit code** | **ICTSAD502** |
| **Unit name** | **Model data processes** |

## **Assessment Submission Method**

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| ☐ By hand to trainer/assessor | ☐ By email to trainer/assessor | ☐ Online submission via Learning Management System (LMS) |

**Student Declaration**

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| * I certify that the work submitted for this assessment pack is my own. I have clearly referenced any sources used in my submission. I understand that a false declaration is a form of malpractice; * I have kept a copy of this assessment pack and all relevant notes, attachments, and reference material that I used in the production of the assessment pack; * For the purposes of assessment, I give the trainer/assessor of this assessment the permission to:   + Reproduce this assessment and provide a copy to another member of staff; and   + Take steps to authenticate the assessment, including communicating a copy of this assessment to a checking service (which may retain a copy of the assessment on its database for future plagiarism checking).   Student signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Date: \_\_\_\_/\_\_\_\_\_/\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

## **Assessment Plan**

To demonstrate competence in this unit, you must be assessed as satisfactory in each of the following assessment tasks.

| **Evidence recorded** | **Evidence Type/ Method of assessment** | | | **Sufficient evidence recorded/Outcome** |
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| **Unit Assessment Task 1** | Unit Knowledge Test (UKT) | | | S / NS (First Attempt)  S / NS (Second Attempt) |
| **Unit Assessment Task 2** | Unit Project (UP) | | | S / NS (First Attempt)  S / NS (Second Attempt) |
| **Final result** | Competent/Not Yet Competent | **Date assessed** |  | |
| **Trainer/Assessor Signature** |  | |

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**Assessment Conditions**

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| **Unit purpose/application** |

* This unit describes the skills and knowledge required to gather process data and business information in order to model data processes within an organisation.
* It applies to individuals who can apply a broad range of technical knowledge and skills within the context of a complex project.
* No licensing, legislative or certification requirements apply to this unit at the time of publication.

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| **What the student can expect to learn by studying this unit of competency** |

* Learn the skills to design process models for an organization
* Learn about requirement gathering process, designing prototype as per business information
* Implement skills to a broad range of technical knowledge and skills within the context of a complex project.

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| **Training and assessment resources required for this unit of competency** |

The student will have access to the following:

* Learner guide
* PowerPoint presentation
* Unit Assessment Pack (UAP)
* Access to other learning materials such as textbooks

The resources required for these assessment tasks also include:

* Access to a computer, the Internet and word-processing system such as MS Word
* Sample program and their flowchart, algorithm
* A deep understanding of user interface design and its application on different tools.
* Existing test cases to check the specification

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| **Submission instructions** |

Your trainer/assessor will confirm assessment submission details for each assessment task.

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| **Academic integrity, plagiarism and collusion** |

**Academic Integrity:**

Academic Integrity is about the honest presentation of your academic work. It means acknowledging the work of others while developing your own insights, knowledge and ideas.

As a student, you are required to:

* Undertake studies and research responsibly and with honesty and integrity
* Ensure that academic work is in no way falsified
* Seek permission to use the work of others, where required
* Acknowledge the work of others appropriately
* Take reasonable steps to ensure other students cannot copy or misuse your work.

**Plagiarism:**

Plagiarism means to take and use another person's ideas and or manner of expressing them and to pass them off as your own by failing to give appropriate acknowledgement. This includes material sourced from the internet, RTO staff, other students, and from published and unpublished work.

Plagiarism occurs when you fail to acknowledge that the ideas or work of others are being used, which includes:

* Paraphrasing and presenting work or ideas without a reference
* Copying work either in whole or in part
* Presenting designs, codes or images as your own work
* Using phrases and passages verbatim without quotation marks or referencing the author or web page
* Reproducing lecture notes without proper acknowledgement.

**Collusion:**

Collusion means unauthorised collaboration on assessable work (written, oral or practical) with other people. This occurs when a student presents group work as their own or as the work of someone else.

Collusion may be with another RTO student or with individuals or students external to the RTO. This applies to work assessed by any educational and training body in Australia or overseas.

Collusion occurs when you work without the authorisation of the teaching staff to:

* Work with one or more people to prepare and produce work
* Allow others to copy your work or share your answer to an assessment task
* Allow someone else to write or edit your work (without rto approval)
* Write or edit work for another student
* Offer to complete work or seek payment for completing academic work for other students.

Both collusion and plagiarism can occur in group work. For examples of plagiarism, collusion and academic misconduct in group work please refer to the RTO’s policy on Academic integrity, plagiarism and collusion.

Plagiarism and collusion constitute cheating. Disciplinary action will be taken against students who engage in plagiarism and collusion as outlined in RTO’s policy.

Proven involvement in plagiarism or collusion may be recorded on students’ academic file and could lead to disciplinary action.

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| **Other Important unit specific Information** |

N/A

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| **Unit outcome** |

* This unit is not graded and the student must complete and submit all requirements for the assessment task for this cluster or unit of competency to be deemed competent.
* Students will receive a 'satisfactorily completed' (S) or 'not yet satisfactorily completed (NS) result for each individual unit assessment task (UAT).
* Final unit result will be recorded as competency achieved/competent (C) or competency not yet achieved/not yet competent (NYC).

# **Unit Assessment Task (UAT) - 1**

## **Assessment Task 1 - Unit Knowledge Test (UKT)**

**Assessment type:**

* Written Questions

**Questions:**

Question 1: Answer the following questions.

A) Define data modelling. What are the various advantages of data modelling? Write about 100-150 words.

B) List any four (4) techniques used to gather detailed requirements information? Describe each of them. Write 200-250 words.

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Question 2: Answer the following questions.

1. What are the four types of data models? Write a short note about any two data models with a neat diagram. Write in 200-250 words.
2. Why requirement analysis strategy is very important for successful development of any project? Write in 100-150 words.

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Question 3: Answer the following questions.

1. What are the various methods for model validation? Write a short paragraph about each of them. Write in 200-250 words.
2. Define external events and procedure.

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Question 4: Answer the following questions.

1. What is information system? What are the major business processes of student information management system?
2. Define process data. What is the key information that data process includes? Write in 100-150 words.

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Question 5: Explain about Joint application development (JAD)? Write 3 advantages of JAD. Write in 150-200 words.

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Question 6: Answer the following questions.

1. What do you understand by SDLC? What are the different phases of SDLC? Write in 100-150 words.
2. What can be the various sources of information for creating a data model? Write in 100-150 words.

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Question 7: Answer the following questions.

A) Why validating process model is required before development phase? Write in 50-100 words.

B) You are required to create a student enrolment process of a university and describe all the process. Also draw a neat activity and use-case diagram of the process.

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Question 8: Answer the following questions.

1. Define business rule. Write a general business rule to store student information during enrolment process of a university. Write in 200-250 words.
2. What is meant by process modelling conventions?

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Question 9: Answer the following questions.

* 1. What is the difference between validation and verification?
  2. Write a short note about process mapping. What is the use of process mapping? Write in 150-200 words.

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Question 10: What are the types of documentation is System design? Explain about system documentation. Write about 300-350 words.

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Question 11: What is meant by data analysis? Why is data analysis important? Write in 200-250 words.

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Question 12: Answer the following questions.

1. Why creating a requirement determination document is important? Write in between 100-150 words.
2. What do you understand by client sign-off document? Write in between 50- 100 words.

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# **Unit Assessment Task (UAT) - 2**

## **Assessment Task 2 – Unit Project (UP)**

**Assessment type:**

* Unit Project (UP)

**Instructions to complete this assessment task**:

* Please write your responses in the template provided.
* You may attach a separate sheet if required.
* You must include the following particulars in the footer section of each page of the attached sheets:
  + Student ID or Student Name
  + Unit ID or Unit Code
  + Course ID or Course Code
  + Trainer and assessor name
  + Page numbers
* You must staple the loose sheets together along with the cover page.
* You must attach the loose sheets chronologically as per the page numbers.
* Correction fluid and tape are not permitted. Please do any corrections by striking through the incorrect words with one or two lines and rewriting the correct words.
* The premise of the project must be closely related to the previous assessment task.
* This submission must be well presented and follow the guidelines and instructions provided.
* Please follow the format as indicated in the template section below.
* One of the most important steps that you can take: proofread your project.
* Appropriate citations are required.
* All RTO policies are in effect, including the plagiarism policy.

Resources required to complete the assessment task:

* Computer
* Internet
* MS Word
* UML designing software

***Assessment task Instructions***

* ***This assessment task requires student to assume as an database developer who is affiliated for the organization***
* ***Student must analyse the information given in the scenario given in Appendix 1.***
* ***Student must use templates provided to document their responses.***
* ***Word limit to complete activity 4 of this assessment task is 500-600words.***
* ***Time limit to complete activity 1 of this assessment task is 2 hours.***
* ***Time limit to complete activity 2 of this assessment task is 5-6 hour.***
* ***Time limit to complete activity 3 of this assessment task is 3-4 hours.***
* ***Trainer/assessor will assess the student based on the performance checklist provided.***

**Project Task:**

This assessment task is divided into following four (4) activities:

Activity 1: To successfully complete the task you need search the internet and understand about library system, tools applicable for the assignment. You need to gather all the requirements and features that can be embedded on the system.

You need to evaluate different software development models that can be feasible for the development of system.

Activity 2: You need to identify business functions and collect data using various methodologies to create a UML diagrams. Additionally, you need to identify external events, procedures and results that can be applicable for the interaction. You must test the UML model using appropriate validation process.

Activity 3: Create documentation with all design models, user requirements, screenshots of models and its functionality. Also, you have to create a client sign-off document to get completion agreement.

**Scenario:**

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| You have recently joined *“ESoft*” as junior IT consultant. The company has a new project in hand to evaluate your performance. The project is about a new library system for which you have to research, gather and analysis development model. You have to search various sources of information to gather relevant information for data processes. The methodology of structured systems analysis & design provides a roadmap for the development of functional specifications for library system.  For this assignment, you will write **one** report that covers the steps in the system analysis and design process based on a hypothetical firm's business profile. Your report should focus on defining, justifying, and planning the project, and on the tasks associated with testing, implementing, and maintaining the proposes system. |

**Activity 1: Understand the design principle new City library system**

You need to read and understand the above given scenario and write a brief about it.

Before you start designing a system you should remember to do following task:

* Search the internet about various models to system development (SDLC, AGILE), evaluate the usefulness and limitation of each approach
* Choose one model that is suitable for development of library system and justify your answer
* You must validate the model you have chosen for development of City library system
* You need to identify all source of information that are relevant
* Apply the best development process for the assignment
* Evaluate the results of applying this approach and how model meets the requirements
* Validate the model with your accessor/ trainer. Address necessary amendments that are required on the process models. Also, you need to assess different feasibility criteria on City library system.

You need to submit your report with all the output of test case to the assessor/ trainer in a word file. Also, you need to create java file so the assessor can check the program.

**Performance checklist criteria**

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| **Trainer/ Assessor to complete** | | | |
| **Does the candidate meet the following criteria** | **Yes** | **No** | **Trainer/Assessor Comments** |
| Identified and documentation about different development models  ***Included:***   * + Definition, advantages, limitation for the assignment |  |  |  |
| Documented initial methodology to the model validation |  |  |  |
| Documented various types of designing tools available on market |  |  |  |
| Documented all the requirements for the design and development |  |  |  |
| Documented various sources of information to gather relevant data |  |  |  |
| Used clear, logical document structures, relevant terminology and correct grammatical structures |  |  |  |

**Activity 2: You need to design UML models**

This activity is continuing from previous activity.

In this activity you need to analysis the scenario from the case study and carry out in-dept investigation using various fact-finding techniques.

* During the requirement analysis and feasibility study, you must demonstrate the complex problems with more the one variable from user and system functionality prospective. For eg: there can be multiple copies of one book which can be borrowed by multiple people
* List library’s main functions and business processes.
* After completing the investigation and analysis, you need to use appropriate system analysis and design tools and methods such as UML etc. to create a functional illustration of the system with user interactions and functions.
* While you are creating design, you must ensure use of a range of UML diagram such as USE case, class, object, activity diagrams, DFD (level 0,1,2) to present you finding of the system interactions including possible events, processes and results.

Your trainer will observe you during the session and complete the following performance checklist.

**Performance checklist criteria**

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| **Trainer/ Assessor to complete** | | | |
| **Does the candidate meet the following criteria** | **Yes** | **No** | **Trainer/Assessor Comments** |
| Identified and documentation about data processes |  |  |  |
| Documented different components with more than one variable from user and system functionality |  |  |  |
| Documented different types of external events, procedures and results |  |  |  |
| Applied appropriate and clear UML models |  |  |  |
| Developed the UML with required functionality to meet the specification |  |  |  |
| Used clear, logical document structures, relevant terminology and correct grammatical structures |  |  |  |

**Activity 3: Create a documentation**

This activity is continuing from previous activity.

You need to cover the following information in the session:

* Introduction about development methods and tools applicable for the assignment
* How to use the development tool for this assignment
* Attached screenshots of prototype/design
* Explanation the benefits of using the tool and development language
* Design and development of the UML model
* Description of functionality for the design
* Test cases and results of the UML
* Correctly validated the requirements to meet the specification of assignment
* Correct, concise and error free grammatical sentences

*Your trainer will act as Project manager. You will be acting as IT consultant and one of your class mate will work as quality assurance manager, who have to check if all the requirements are met or not.*

Your trainer will observe you during the session and complete the following performance checklist.

**Performance checklist criteria**

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| **Trainer/ Assessor to complete** | | | |
| **Does the candidate meet the following criteria** | **Yes** | **No** | **Trainer/Assessor Comments** |
| Identified and documentation about development methodologies with advantages and disadvantages |  |  |  |
| Documented about tools and development languages for the UML design |  |  |  |
| Designed and developed appropriate model for the library management system |  |  |  |
| Documented and applied appropriate model validation techniques |  |  |  |
| Attached clear UML design screenshots |  |  |  |
| Provided client sign-off document |  |  |  |
| Used clear, logical document structures, relevant terminology and correct grammatical structures |  |  |  |

# **End of the Assessment**