



CATAPULT

ICTPRG302

Apply introductory programming techniques

Unit/Assessment Mapping (Extract)

NOTE: This is a sample only. This cover page is not included in Catapult Smallprint's printed books.

This Unit/Assessment Mapping extract is taken from Catapult Smallprint's full hardcopy Trainer/Assessor Guide for the unit ICTPRG302.

For more information, including using our enhanced online version of this unit in Catapult LMS, or to purchase the Learner or Trainer printed books, please see this unit on our website by clicking this link:

<https://catapultlearning.com.au/product/ICTPRG302/>

Unit mapping

KQ: Knowledge questions

PT : Performance tasks

KQ

PT

Elements and performance criteria

1 Establish application task

1.1	Clarify task with required personnel	Q 1.1	T 1
1.2	Identify design specifications, programming standards and guidelines according to task requirements	Q 1.2	T 1

2 Apply language syntax and layout

2.1	Apply basic language syntax rules	Q 2.1	T 2
2.2	Create code using language data types, operators and expressions	Q 2.2	T 2
2.3	Apply variables and variable scope	Q 2.3	T 2
2.4	Use program library functions	Q 2.4	T 2
2.5	Clarify meaning of code using commenting techniques	Q 2.5	T 2

3 Apply control structures

3.1	Apply language syntax in sequence, selection and iteration constructs	Q 3.1	T 3
3.2	Create expressions in selection and iteration constructs using logical operators	Q 3.2	T 3

4 Code using standard programming algorithms

4.1	Develop algorithms using sequence, selection and iteration constructs	Q 4.1	T 4
4.2	Create and use data structures	Q 4.2	T 4
4.3	Code standard sequential access algorithms used in reading and writing text files	Q 4.3	T 4
4.4	Apply string manipulation	Q 4.4	T 4

5 Test code

5.1	Examine variable contents and use debugging techniques to detect and correct errors	Q 5.1	T 5
5.2	Create and conduct simple tests and confirm code meets design specification	Q 5.2	T 5
5.3	Document actions carried out and results of tests performed	Q 5.3	T 5

6 Create a simple application and seek feedback

6.1	Design an algorithm in response to basic program specifications	Q 6.1	T 6
6.2	Develop application to meet program specification	Q 6.2	T 6
6.3	Confirm application meets initial specifications	Q 6.3	T 6
6.4	Present application to required personnel	Q 6.4	T 6
6.5	Obtain feedback and sign off from required personnel	Q 6.5	T 6

KQ: Knowledge questions**PT : Performance tasks****KQ****PT****Knowledge evidence**

Language data types, operators, expressions and variables	Q 2.2, Q 7.1
Basic language syntax rules	Q 2.1, Q 3.1, Q 7.2
Sequence, selection and iteration constructs	Q 3.1, Q 7.3
The development of small-sized applications	Q 2.1, Q 2.2, Q 2.3, Q 2.4, Q 2.5, Q 3.1, Q 3.2, Q 4.1, Q 4.2, Q 4.3, Q 4.4, Q 5.1, Q 5.2, Q 5.3, Q 6.1, Q 6.2, Q 6.3, Q 6.4, Q 6.5
Industry programming standards and guidelines	Q 1.2, Q 7.4
Commenting techniques	Q 2.5, Q 7.5
Debugging techniques	Q 5.1, Q 7.6
Application testing methods	Q 5.2, Q 6.3, Q 7.7
Basic data structures	Q 2.2, Q 2.3, Q 4.2

KQ: Knowledge questions**PT : Performance tasks****KQ****PT****Performance evidence**

Design and build one simple application according to programming standards and program specifications	T 1,
	T 2,
	T 3,
	T 4,
	T 5,
	T 6
Apply programming language syntax, sequence, selection and iteration constructs	T 2,
	T 3,
	T 4
Document changes and tests performed	T 5
Review code according to feedback obtained during design and development of application	T 6

smallprint training and assessment materials are a commercially produced resource designed to support and underpin a Registered Training Organisation's (RTO's) delivery strategies.

smallprint resources

As a provider of commercially available resources to a range of client organisations, smallprint is aware of and considerate of their clients' need to be compliant with quality standards such as NVR, AQTF and State VET Regulations.

smallprint ensures that all its resources are current according to information provided by the official National Register of Information on Training Packages, training.gov.au (TGA).

smallprint assessment tools are mapped against:

- elements and performance criteria
- performance evidence
- knowledge evidence

The RTO must conduct their own validation and mapping to verify that the assessment tools and instruments used:

- enable the collection of evidence that complies with the principles of assessment and the rules of evidence
- can be used by different trainer/ assessors
- can be consistently applied in a range of assessment situations
- fit effectively with the RTO's TAS

If any gaps are identified the RTO must develop their own evidence gathering methods, assessment tools or activities to address these gaps.

If used correctly smallprint assessment tools should provide the basis for a comprehensive assessment in accordance with the rules of evidence and the principles of assessment.

smallprint does not promote that the use of their resources by RTOs will ensure compliance with all VET Regulations.

There are a number of requirements which impact on compliance with VET Regulations and it is the responsibility of the RTO to meet those requirements including the development of their own Training and Assessment Strategy (TAS) or Learning and Assessment Strategy (LAS).

smallprint resources consist of:

- a learning resource
- an assessment workbook

The smallprint learning resource provides content for learning and new skills development.

Each resource is divided into topics which relate directly to the learning elements and performance criteria for each unit.

At the end of each section the learner is provided with:

- a set of true or false questions
- a set of multi choice questions

These questions are self-marking and do not form part of the assessment for the unit. They provide an opportunity to test their understanding of their progress.

The resource is designed for self-paced learning but is also suitable for face to face or workshop delivery.

Trainer/ assessor requirements

The trainer/ assessor should provide supplementary information including interpretation of the contents of this resource.

They should initiate discussion about the subject matter and should encourage the learner to contribute their own experiences and interpretations of the material.

The learner should be encouraged by their trainer/ assessor to undertake additional research.

This might include:

- reading
- reflection
- drawing upon their knowledge in practice situations beyond what has been facilitated by the trainer

It is not necessary to work through the guides in the order in which they are written; however this is at the discretion of the trainer/ assessor.

The assessment workbook contains the following sections:

- about this unit
- what is competency based training
- how will my competency be assessed
- the tools that will be used to assess competency including:
 - assessment agreement
 - foundation skills checklist
 - skills recognition (RPL) checklist
 - knowledge questions
 - third party agreement
 - performance tasks
 - completion record

Trainer/ assessor requirements

The trainer/ assessor needs to ensure the learner understands:

- the structure of units of competency
 - this specific unit
 - how competency-based assessment works
 - assessment conditions applicable to this unit
 - resources required for assessment
 - rules of evidence
 - reasonable adjustment to ensure equity in assessment for people with disability or with special needs
 - complaints and appeals procedures
 - what constitutes competency
 - your role as a trainer/ assessor
-

Assessment agreement

Purpose

To ensure that the learner understands the assessment process.

Trainer/ assessor requirements

The trainer/ assessor needs to ensure the learner understands:

- how and when the assessment will occur
- the tools that will be used to collect evidence
- the assessment conditions that apply to this unit
- adjustments available if special needs apply
- their rights in relation to complaints and appeals
- all work must be their own
- plagiarism is not acceptable

The learner and the trainer/ assessor both need to sign this form.

Foundation skills checklist

Purpose

To determine foundation skills as defined for this unit of competency.

Trainer/ assessor requirements

Foundation skills are generally defined as:

- LLN Skills
 - reading
 - writing
 - oral communication
 - numeracy
- Employability skills
 - navigate the world of work
 - interact with others
 - get the work done

Different training packages identify foundation skill requirements in a variety of ways.

In some packages foundation skills are described as being explicit in the performance criteria of the unit of competency.

In others specific foundation skills are identified for individual units of competency.

In others all foundation skills are identified separately.

The trainer/ assessor need to identify the foundation skills levels of the learner to determine whether they have the skills to cope with the training, or whether additional support needs to be provided.

The trainer/ assessor should source and use foundation skills assessment methodologies that are suitable for their learning cohort.

On completion of the assessment the trainer/ assessor should record their final comment and mark as satisfactory/ not satisfactory as appropriate.

Purpose

To obtain evidence of existing skills and knowledge through:

- previous training courses
- workplace documents
- skills obtained through unpaid work
- references
- other

Trainer/ assessor requirements

The trainer/ assessor needs to determine how they wish to use this section.

Evidence of existing skills may be provided for parts of this unit. This may mean that some of the knowledge questions or performance tasks do not need to be completed.

Where this is done trainer/ assessors should clearly identify and inform the learner what is required.

RTOs may wish to use this section as a Recognition of Prior Learning (RPL) process.

However the trainer/ assessor need to ensure that the evidence provided meets the principles of assessment and rules of evidence.

On completion of the assessment the trainer/ assessor should record their final comment and mark as satisfactory/ not satisfactory as appropriate.

Purpose

To obtain evidence of the learner's essential knowledge as outlined in the:

- elements and performance criteria for this unit
- knowledge evidence for this unit

The questions address each performance criteria and are designed to elicit responses that provide evidence of the essential knowledge. The questions are also designed to include the specific knowledge requirements that relate to performance criteria.

Where essential knowledge requirements have not been referred to in performance criteria, additional questions are provided.

Trainer/ assessor requirements

The trainer/ assessor needs to determine which questions need to be answered to ensure a satisfactory outcome.

The trainer/ assessor should provide clear instructions to the learner as to:

- which questions should be answered
- the manner in which responses should be presented eg, hand written in the space provided, in a word processed document, verbally, on-line
- whether additional questions need to be answered

The questions are designed to be answered in written format. The trainer/ assessor may ask for verbal responses. Where verbal responses are provided the trainer/ assessor needs to clearly note this and ensure that responses are recorded verbatim.

When questions are answered the trainer/ assessor should provide feedback to the learner. Where responses are unsatisfactory the learner should be given the opportunity to provide additional information.

On completion of each answer the trainer/ assessor should record their final comment and mark as satisfactory/ not satisfactory as appropriate.

Third party evidence collection agreement

Purpose

To provide third parties with clear instructions about their role.

Trainer/ assessor requirements

The performance tasks has been designed to be observed by either a trainer/ assessor or a third party.

This allows for the fact that some tasks may not be directly observable by the trainer/ assessor due to:

- the complexity of the task
- the need for tasks to be repeated or observed over time
- the presence of an observer may compromise workplace safety
- work activities involving issues of confidentiality and privacy

Where a third party is used to observe the tasks the trainer/ assessor must ensure that the third party clearly understands their role and that they are in a position that allows them to regularly and consistently observe the learner's work performance.

They must be informed that:

- they are not required to conduct the assessment
- their feedback is sought as confirmation that the learner has demonstrated the skills covered in the unit to the standard required
- the assessment decision will be made by a qualified assessor

They must also be informed of:

- the tasks to be observed
- the type and the quantity of evidence to be collected and reported
- the number of performances to observe
- the questions to ask to confirm understanding of the tasks
- the time frames and performance standards applicable to the learner's work performance
- the environment in which the tasks should be performed
- how to record their observations

The third party evidence collection agreement should then be signed.

Purpose

To obtain evidence of the learner's ability to:

- perform the tasks outlined in the elements and performance criteria
- perform the specific requirements outlined in the performance evidence

The tasks address:

- individual performance criterion
- where appropriate a group of performance criteria or an element of competency

The tasks are also designed to include the specific performance evidence requirements that relate to performance criteria. Where performance evidence requirements have not been included in performance criteria additional tasks are provided.

The tasks are designed to be observable and provide evidence that the learner has the necessary skills. Observations should occur over a period of time. Performance can be observed in an actual workplace or in a simulated environment.

Some units will require that certain tasks are performed a specific number of times.

Trainer/ assessor requirements

The trainer/ assessor needs to determine which of the tasks need to be performed to ensure a satisfactory outcome.

The trainer/ assessor should provide clear instructions to the learner as to:

- when the tasks are to be performed
- where the tasks are to be performed
- what they are required to do
- how many times the tasks are to be performed
- who will be observing them
- whether additional tasks need to be answered

Where tasks cannot be easily be observed they can be assessed using role plays and simulations. If performance of particular tasks cannot be observed you might enter into a discussion with the learner or ask them to explain a procedure. In some instances tasks might relate to the production of work products (portfolios/ documents/ outcomes). Although it might not be possible for the trainer/ assessor to observe the total process, the end product of work can provide evidence of performance.

When tasks have been completed the trainer/ assessor should provide feedback to the learner. Where performance is unsatisfactory the learner should be given the opportunity to attempt the task/s again.

Where the tasks have been observed by a third party the trainer/assessor should discuss with the third party what has been observed to ensure that all relevant criteria have been covered and that evidence provided meets the principles of assessment and rules of evidence. This should be recorded as part of the trainer/ assessor comments.

On completion of each task the trainer/ assessor should record their final comment and mark as satisfactory/ not satisfactory as appropriate.

Completion record

Purpose

To record the results of work completed in the assessment workbook.

Trainer/ assessor requirements

The trainer/ assessor needs to ensure that the:

- assessment conditions for this unit were met
- learner answered all questions required to the expected standard
- learner performed all the tasks required to the expected standard
- learner has been provided with comments and feedback regarding any additional assessment requirements

The completion record should be completed and signed by the learner and trainer/ assessor.
