Australian Government

Department of Education, Employment and Workplace Relations

FDFLAB3001A Use computer technology for laboratory applications

Release 3

FDFLAB3001A Use computer technology for laboratory applications

Modification History

This unit supersedes and is equivalent to FDFLABCOMA Use computer technology for laboratory operations.
September 2012: clarified pre-requisite information.
April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required for information and data storage, retrieval, analysis and reporting.

Application of the Unit

Application of the unit	This unit has application in a wine operations laboratory environment. It typically targets the worker responsible for using technology to perform laboratory work operations.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFLAB2008A	Analyse laboratory data* *FDFLAB2006A Record laboratory data*

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Access equipment	1.1 Appropriate equipment required for information management is identified 1.2 Software is accessed from a personal computer or network terminal
2. Use application software	2.1 Laboratory information is entered into the computing system according to specified procedure 2.2 Searches for information output are conducted 2.3 Application features are used for calculations 2.4 Data sets and databases are constructed for numerical and graphical analysis 2.5 Data is obtained from diverse applications and integrated
3. Analyse data and document reports	3.1 Data is analysed using software package applications 3.2 Correct options are selected for constructing data reports 3.3 Results of data analysis are documented using appropriate document format and design 3.4 Data sources are referenced according to the style requirements of the workplace 3.5 Report is printed using software package functions
4 Complete software applications	4.1 Data is backed up and/or archived according to workplace procedures 4.2 Hard copies are filed and/or distributed according to workplace procedures 4.3 Anti-virus software is used as required

Required Skills and Knowledge

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

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- select the appropriate software package for the data processing operation
- use routine commands and instruction of the software package to complete the required operation
- use software package to analyse data. This may involve simple statistical and/or graphical analysis of quality assurance data
- present accurate results in the required format. This may include:
    - graphs
    - tables
    - graphics
    - spreadsheets
- identify deviations in performance and take appropriate action
- back up electronic files
- follow procedures to troubleshoot basic software problems
- use virus scanning software
- maintain the confidentiality of data according to workplace procedures
- generate reports in a timely manner in the required format
- secure records as required
- analyse simple statistical and/or graphical data according to enterprise procedures
- interpret hardware and/or software technical manuals according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce.

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- how the software package can be applied to wine laboratory information management
- functions and commands associated with the software package
- relationship between the package instructions and the data processing performed
- types of database models available
- relationship between procedures for data input and file storage
- file and record maintenance

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- basic statistical concepts where relevant
- methods of comparing quantitative data where relevant.

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Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of ability to: • prepare equipment and software for operation • use software for laboratory applications • obtain, analyse and record data • maintain laboratory data according to workplace system requirements.
Context of and specific resources for assessment	Assessment must occur in a real or simulated workplace where the assessee has access to: • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where

EVIDENCE GUIDE	
	possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	Workplace information may include: • laboratory data • Standard Operating Procedures (SOPs) • specifications • standards • certificates of compliance • quality assurance records • scientific articles and publications • reference texts • product information and purchase details (e.g. supplier catalogues and handbooks) • calibration records • maintenance and service records • production schedules • instructions • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions (hardware and software documentation) • verbal direction from laboratory manager, supervisor, or senior operator
Software packages	Software packages may include: • word processing

RANGE STATEMENT

	- spreadsheets - databases - graphical and statistical analysis - Laboratory Information Management Systems (LIMS)

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RANGE STATEMENT

Functions	Functions may include: • Formatting • Integrating • importing graphics • charts and tables
Laboratory software	Laboratory software may be applied to: • sample login, tracking and scheduling • results entry • quality assurance or quality control data reporting • export and invoicing • tracking labels • worksheets • status and backlog reports • control limit charting • barcoding
Data	Laboratory data may include: • the results of inspections, tests, quality or safety audits and trials • product or process non-compliance • quarantine procedures • materials compliance validation • calibration or maintenance schedules • stocktakes • instrument performance characteristics • wine shows
Information and reference sources	Information and reference sources may be accessed manually or electronically, and may include: • standards • specifications • analytical tolerances • supply details • stock control records • production statistics • automatic data transfer, including barcode systems • internet, intranet and email
Reports	Reports will involve the use of computer hardware and software tools to analyse laboratory data and interpret the information to produce reports for use by the laboratory

RANGE STATEMENT

	and its internal or external customers. These may include: • winemakers • production team members • external clients Reports may be distributed in: • hard copy or electronic format

Unit Sector(s)

Unit sector	Wine operations

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