



Australian Government

Department of Education, Employment and Workplace Relations

FDFLAB2011A Use basic laboratory equipment

Release: 2

FDFLAB2011A Use basic laboratory equipment

Modification History

This unit supersedes and is equivalent to FDFLABLETB Use basic laboratory equipment.
April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to operate a range of basic laboratory equipment. Work is usually done under routine supervision.
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Application of the Unit

Application of the unit	This unit has application in a wine operations environment. It typically targets the worker responsible for using basic laboratory equipment to conduct sampling of wine product components.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
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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. Prepare basic laboratory equipment for use	1.1 Materials are confirmed and available for use 1.2 Materials are prepared to meet requirements 1.3 Services are confirmed as available and ready for use 1.4 Equipment is selected, prepared and checked to confirm readiness for use
2. Use basic laboratory equipment and techniques	2.1 Equipment is set up and operated according to workplace procedures 2.2 Accurate measurements are delivered 2.3 Out-of-specification process and equipment performance is identified, rectified and/or reported
3. Complete equipment operation	3.1 Equipment is prepared for cleaning 3.2 Work is conducted in accordance with workplace environmental guidelines 3.3 Workplace information is recorded in the appropriate format

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:

- access workplace information to identify requirements
- select, fit and use appropriate personal protective clothing and/or equipment
- confirm supply of necessary materials, equipment and services
- prepare materials as required
- select equipment appropriate for the task
- liaise with other work areas
- confirm equipment status and condition. This may include:
 - recognising and rejecting contaminated or faulty glassware and equipment
 - safety checks
 - replacing consumables
 - instrument setting and calibration
- follow operating procedures and deliver accurate amounts. This can involve:
 - weighing
 - centrifuging
 - separating
 - pipetting
 - measuring
 - titrating
- monitor the process and equipment operation to identify out-of-specification results or non-compliance. What should be monitored will vary between equipment (e.g. with calibrated glassware, the meniscus position)
- take corrective action and/or report out-of-specification results, anomalies or non-compliance
- report and/or record corrective action as instructed
- sort, collect, treat, recycle or dispose of waste
- shut down equipment in response to an emergency situation
- shut down equipment in response to routine shutdown requirements. This may include removing samples or consumables
- record workplace information
- maintain work area to meet housekeeping standards
- prepare equipment for cleaning. This may include dismantling equipment or rinsing in preparation for sanitation
- lean and sanitise equipment according to enterprise procedures
- carry out routine maintenance according to enterprise procedures

- identify, rectify and/or report environmental non-compliance according to enterprise procedures
- use aseptic techniques 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:

- purpose, principles and use of a range of basic laboratory equipment
- identity, features and operating techniques of basic laboratory equipment
- equipment and instrumentation components, purpose and operation
- process specifications, procedures and operating parameters
- affect of process stages on results and/or outcomes
- emergency procedures for a range of operational problems
- services required
- significance and method of monitoring equipment operation
- common causes and knock-on effects of inaccuracies or cross-contamination, and preventive or corrective action required
- Occupational health and safety (OHS) hazards and controls
- lock-out and tag-out procedures as required
- procedures and responsibility for reporting problems
- shutdown sequence as required
- environmental issues and controls
- cleaning and sanitising requirements of equipment and work area
- recording requirements and procedures
- cleaning and sanitation procedures where relevant
- routine maintenance procedures where relevant
- aseptic techniques where relevant.

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: • safely use basic laboratory equipment according to procedure • prepare and store equipment according to work requirements • take measurements • complete workplace records.
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

EVIDENCE GUIDE

	circumstances, cases and responsibilities, and where possible, over a number of assessment activities.
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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:

- Standard Operating Procedures (SOPs)
- specifications
- production schedules
- instructions
- work notes
- Material Safety Data Sheets (MSDS)
- manufacturer instructions
- verbal direction from manager, supervisor, or senior operator

Equipment and glassware

Equipment and glassware may include:

- balances, autoclaves, laminar flow cabinets, fume cupboard, centrifuge and other separating equipment
- general and volumetric glassware, pipettes, burettes, incubators, ovens, filtration apparatus, thermometers, hydrometers, transfer and inoculation tools

It does not include any specialist equipment required under other units

Materials

Materials may include:

- filters
- chemical reagents

RANGE STATEMENT	
	• samples
Equipment status	Confirming equipment status involves: • checking that hygiene and sanitation standards, safety standards and pre-start requirements are met and that equipment is operational • checking the operation and/or calibration of measuring instrumentation
Services	Services may include: • power • water • gases
Information systems	Information systems may be: • print or screen based

Unit Sector(s)

Unit sector	Wine operations
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