Modification history

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| Release | Comments |
| Release 1 | This version released with FBP Food, Beverage and Pharmaceuticals Training Package Version 2.0. |

| FBPLAB2002 | Perform basic microbiological tests |
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| Application | This unit of competency describes the skills and knowledge required to perform a range of microbiological tests and procedures in a wine operations laboratory environment using standard methods.  The unit applies to individuals who perform on-site microbiological tests for the wine industry.  No occupational licensing, legislative or certification requirements apply to this unit at the time of publication.  All work must be carried out to comply with workplace procedures, in accordance with State/Territory work health and safety, and food safety regulations, legislation and standards that apply to the workplace. |
| Prerequisite Unit | Nil |
| Unit Sector | Laboratory (LAB) |

| Elements | Performance Criteria |
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| Elements describe the essential outcomes. | Performance criteria describe the performance needed to demonstrate achievement of the element. |
| 1. Prepare to perform microbiological procedures | 1.1 Confirm work instructions and identify potential WHS hazards and controls  1.2 Select personal protective equipment and clothing for safety and contamination control  1.3 Register and store samples appropriately for testing requirements  1.4 Prepare materials to meet requirements  1.5 Confirm that services and equipment are available and ready for use  1.6 Select, prepare and check equipment  1.7 Apply disinfection procedures to self and work areas |
| 2. Perform microbiological procedures | 2.1 Carry out microbiological procedure as directed  2.2 Operate sterilisation and microbiological equipment safely as instructed  2.3 Monitor equipment to confirm operating condition  2.4 Apply aseptic techniques when performing transfer and microbiological procedures  2.5 Read and interpret results  2.6 Identify and report out-of-standard results and anomalies and take appropriate action |
| 3. Complete microbiological procedures | 3.1 Ensure the safe disposal of biohazardous materials and other laboratory wastes  3.2 Prepare equipment for cleaning and sterilisation  3.3 Clean and sanitise all spills and wash hands to avoid contamination  3.4 Ensure work surfaces and work area are clean and tidy  3.5 Carry out work with consideration of workplace environmental guidelines  3.6 Record workplace information in the appropriate format |

| Foundation Skills  This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria. | |
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| Skill | Description |
| Reading | * Interpret codes of practice, regulations, and standards for food safety and critical limits of common bacterial genera * Interpret procedures for food testing, use of testing equipment and correct disposal of waste |
| Writing | * Record and report test data for microbiological levels on paper-based and electronic media |
| Numeracy | * Interpret and apply information * Record results of visual inspection, sampling and testing * Record and access laboratory test results including critical limits and allowable variances for common types of bacteria found in foods * Determine calibration procedures and schedule for test equipment |
| Navigate the world of work | * Apply knowledge of regulations and policies relevant to microbiological testing * Understand main tasks, responsibilities and boundaries of own role, including use of personal protective clothing and equipment, personal hygiene and housekeeping standards and procedures and quality requirements * Seek and provide feedback on current work performance |
| Interact with others | * Select and use communication strategies appropriate for purpose when interacting with work colleagues and customers * Use active listening, observational and questioning techniques to confirm information * Communicate and report operational and safety information to relevant persons |
| Get the work done | * Maintain a clean and hazard-free work area * Maintain hygiene standards and wear required PPE * Take corrective action in response to results outside standard microbiological levels * Manage and prioritise tasks and timelines * Use the main features and functions of digital tools to complete computational analysis and recording of results * Recognise and act on opportunities for continuous improvement in accordance with workplace practices |

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| Unit Mapping Information | | | |
| Code and title current version | Code and title previous version | Comments | Equivalence status |
| FBPLAB2002 Perform basic microbiological tests | FDFLAB2002A Perform basic microbiological tests | Updated to meet Standards for Training Packages  Removal of prerequisites - FDFLAB2012A Maintain aseptic environment and FDFLAB2011A Use basic laboratory - no longer required by industry | Equivalent unit |

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| Links | Companion Volumes, including Implementation Guides, are available at VETNet <https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=78b15323-cd38-483e-aad7-1159b570a5c4> |

| TITLE | Assessment requirements for FBPLAB2002 Perform basic microbiological tests |
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| Performance Evidence | |
| An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.  There must be evidence that the individual has prepared for and performed basic microbiological tests on at least one occasion, including:   * accessing workplace information to identify requirements * selecting, fitting and using appropriate personal protective clothing and equipment for both safety and contamination control * liaising with other work areas as required * confirming equipment status and condition: * checking that hygiene and sanitation standards, safety standards, pre-start requirements are met and that equipment is operational * checking the operation and/or calibration status * carrying out microbiological tests without contaminating the work area, equipment or the samples or materials under test: * yeast counts in ferments/cultures * sterility monitoring and/or hygiene monitoring * yeast/bacteria enumeration and differentiation * other tests as required by the workplace * reading and interpreting results as required * following procedures to repeat or validate results as required * recording results as required and completing workplace information * monitoring the process and equipment to identify out-of-specification results or non-compliance * taking corrective action in response to out-of-specification results, anomalies or non-compliance * reporting and recording corrective actions * sorting, collecting, treating, recycling or disposing of waste * disinfecting spillage and safely disposing of contaminated materials * decontaminating the work area on completion of work shutting down equipment in response to an emergency situation * maintaining work area to meet housekeeping standards and aseptic environment * cleaning, dismantling and preparing equipment for sterilisation * identifying, rectifying or reporting environmental non-compliance. | |

| Knowledge Evidence |
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| An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:   * purpose and principles of basic microbiological procedures: * yeast counts in ferments/cultures * sterility monitoring and/or hygiene monitoring * yeast/bacteria enumeration and differentiation * other tests as required by the workplace * relevant standards and specifications and basic legislative requirements (quality, health, food safety, labelling and equipment) and their implications * procedure specification and operating parameters * effect of process stages on results * common causes and knock-on effects of inaccuracies or contamination, and preventive or corrective action required * start-up and set-up procedures for procedures and related equipment * normal range of results for procedures performed * micro-organisms of importance in wine production and spoilage * characteristics of yeast/bacteria used in wine production * growth and isolation of organisms for identification * sample dilution for preparing materials to enumerate organisms and other pure culture work * aseptic requirements and techniques * disinfection and sterilisation as applied to practical aspects of microbiology * work health and safety (WHS) hazards and controls * procedures and responsibility for reporting problems * environmental issues and controls * cleaning, sanitising and sterilisation requirements of equipment and work area * emergency and troubleshooting procedures for a range of operational problems * environmental issues and controls * recording requirements and procedures. |

| Assessment Conditions |
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| Assessment of skills must take place under the following conditions:   * physical conditions: * a workplace or an environment that accurately represents workplace conditions * resources, equipment and materials: * personal protective clothing and equipment as required * equipment, services and corresponding information as required * products and materials as required * cleaning procedures, materials and equipment as required * documentation and recording requirements and procedures * specifications: * work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements * instructions, information, specifications and schedules as required * relationships (internal and/or external): * internal and external customers and suppliers as required.   Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards. |

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