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| **Title** | **Demonstrate knowledge of science and technology for the production of cake and biscuit products using manual methods** | | |
| **Level** | **4** | **Credits** | **14** |

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| **Purpose** | This unit standard is for people working or intending to work as a baking tradesperson in a commercial bakery.<br><br>People credited with this unit standard are able to demonstrate knowledge of: cake and biscuit baking science; cake and biscuit baking processes, recipe balance and faults; describe the production of cake and biscuit products; and demonstrate knowledge of a bakery layout that uses manual production methods. |

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| **Classification** | Food and Related Products Processing > Baking - Cake and Biscuit |

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| **Available grade** | Achieved |

**Explanatory notes**

1 Definitions
*Characteristics* refer to appearance, texture, colour, and shape.
*Workplace procedures* refer to procedures used by the organisation carrying out the work and applicable to the tasks being carried out, such as recipes, production specifications, standard operating procedures, site safety procedures, equipment operating procedures, codes of practice, quality assurance procedures, housekeeping standards, and procedures to comply with legislative and local body requirements.

2 Assessment information
This unit standard must be assessed against in a commercial bakery or in a simulated environment that demands performance equal to that required in a commercial bakery.

Evidence generated during assessment against this standard must meet applicable workplace procedures and must be consistent with industry practice and the generally accepted body of knowledge relating to baking science and technology. Such knowledge is available in relevant training manuals and reference texts. No one textbook or other source of information is envisaged, as new approaches to commercial baking and baking products are published regularly.

## Outcomes and evidence requirements

### Outcome 1

Demonstrate knowledge of cake and biscuit making science.

### Evidence requirements

1.1 The source and role of gluten in cake and biscuit making is explained.

1.2 The role of starch in cake and biscuit making is explained.

Range gelatinisation and retrogradation.

1.3 Primary ingredients are described in terms of their function and use in cake and biscuit making.

Range flour, sugar, fats, eggs.

1.4 Secondary ingredients are explained in terms of their function and reasons for use in cake and biscuit products.

Range emulsifiers, raising agents, flavourings.

1.5 Methods of aeration used in cake and biscuit making are explained.

Range mechanical, chemical.

### Outcome 2

Demonstrate knowledge of cake and biscuit making processes.

### Evidence requirements

2.1 Cake and biscuit making processes are described.

Range: sugar batter (creaming method), flour batter (combination method), one bowl (all in method), whisking (whipping method) muffin method (two bowl).

2.2 Steps in cake and biscuit making are identified and explained in accordance with the technique used.

Range preparation and weighing of ingredients, mixing, depositing, forming, baking, depanning, cooling, finishing.

### Outcome 3

Demonstrate knowledge of faults in cake and biscuit products.

### Evidence requirements

3.1 Cake and biscuit making ingredients are explained in terms of their role in achieving recipe balance.

Range flour, sugar, fats, eggs, emulsifier's, raising agents.

3.2 Cake faults caused by recipe imbalance are identified and the possible causes explained.

Range M fault, X fault, peaked top, white spots.

3.3 Biscuit faults caused by recipe imbalance are identified and the possible causes explained.

Range faults relating to – density, hardness, colour, spread.

3.4 Cake and biscuit faults caused by process and/or equipment are identified and the possible causes explained.

Range faults may include but not limited to – curdled batter, cracked tops, size, thick crust, shrinking.

3.5 Faults are analysed with regards to process and/or equipment and the possible causes described.

3.6 The procedures to correct common cake and biscuit faults are described.

**Outcome 4**

Describe the production of cake products.

Range fruit cake, carrot cake, pound cake, sponge, muffins, banana cake.

**Evidence requirements**

4.1 Cake products commonly produced in a commercial bakery are identified from product samples or photographs.

4.2 Cake products are described in terms of their characteristics.

4.3 Production processes for cake products are described and compared in terms of the equipment used, processing steps, and the relative complexities of each process.

**Outcome 5**

Describe the production of biscuit products.

Range Scottish shortbread cookies, Viennese biscuits, macaroons, ANZAC biscuits, gingerbread biscuits, chocolate chip cookies.

**Evidence requirements**

5.1 Biscuit products commonly produced in a commercial bakery are identified from product samples or photographs.

5.2 Biscuit products commonly produced in a commercial bakery are described in terms of their characteristics.

5.3 Production processes for biscuit products are described and compared in terms of the equipment used, processing steps, and the relative complexities of each process.

**Outcome 6**

Demonstrate knowledge of a bakery layout that uses manual production methods.

**Evidence requirements**

6.1 Equipment is identified and described in terms of its use in the production of cake and biscuit products produced.

6.2 Workflow patterns within a bakery are described in terms of production tasks and production requirements.

6.3 Optimum bakery layout is described in terms of safety, and efficiency in meeting production schedules.

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| **Planned review date** | 31 December 2021 |

**Status information and last date for assessment for superseded versions**

| Process | Version | Date | Last Date for Assessment |
|---|---|---|---|
| Registration | 1 | 17 March 2016 | N/A |

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| **Consent and Moderation Requirements (CMR) reference** | 0013 |

This CMR can be accessed at http://www.nzqa.govt.nz/framework/search/index.do.

**Please note**
Providers must be granted consent to assess against standards (accredited) by NZQA, before they can report credits from assessment against unit standards or deliver courses of study leading to that assessment.

Industry Training Organisations must be granted consent to assess against standards by NZQA before they can register credits from assessment against unit standards.

Providers and Industry Training Organisations, which have been granted consent and which are assessing against unit standards must engage with the moderation system that applies to those standards.

Requirements for consent to assess and an outline of the moderation system that applies to this standard are outlined in the Consent and Moderation Requirements (CMR). The

CMR also includes useful information about special requirements for organisations wishing to develop education and training programmes, such as minimum qualifications for tutors and assessors, and special resource requirements.

**Comments on this unit standard**

Please contact Competenz at qualifications@competenz.org.nz if you wish to suggest changes to the content of this unit standard.