

THE DESIGN BASIS FOR THE QUALIFICATION: FOOD LABORATORY ANALYST

by

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Scope of presentation

- Relevant authorities
- Sequence of events in qualification design
- Purpose of the qualification
- Occupational tasks
- Preliminary theory outcomes (per task)
- Preliminary practical outcomes (per task)
- Preliminary experience learning outcomes (per task)
- Conclusion

Relevant authorities (1)

- Department of Higher Education (DHET), with two quality assurance councils:
 - CHE or Council on Higher Education (tertiary)
 - **QCTO** or Quality Council on Trades and Occupations (post-school, trades and occupations)
 - *[UMALUSI is based in Dept Basic Education]*
- SETAs (in our case FoodBev, the custodian of trade and occupational learning). NOT ALWAYS, but MOSTLY appointed as Development Quality Partner (**DQP**) and Assessment Quality Partner (**AQP**) for curriculum design & development.

Relevant authorities (2)

- Partners to the authorities:
 - Industry/Qualification ‘**champion**’ (SAMPRO)
 - Qualification Development Facilitator (QDF)
 - Constituency Group (CG) (**nominated**)
 - Communities of Expert Practitioners (CEP) [**workplace+**]
- Role of the **Milk SA Advisory Sub-Committee and Skills Development Project**, in conjunction with
- **Dairy Chamber** of FoodBev SETA

Sequence of events in qualification design (1)

- **Occupational profile** (agreed upon by CG)
- Research (enterprise based) into:
 - **Occupational knowledge** (theory requirements)
 - **Occupational responsibility** (practical skills)
 - **Occupational context** (experience requirements)

Per task

- **Assessment specifications** for all theory, skills and experience requirements

Sequence of events in qualification design (2)

- Development of:
 - **Qualification document** (outcomes per task)
 - **Curriculum document** (theory, practical & experience requirements in modules) [HUGE]
 - **Qualification assessment specifications** (internal assessment, external assessment)

PROGRESS REPORT PER ABOVE OUTPUT

- **Process Report** (overall participation, methods deployed)

Purpose of Qualification

- A Food Laboratory Analyst performs **sampling** on and **analyzes** ingredients of food, various stages of products during manufacturing, equipment and packaging materials **to evaluate the safety for consumption, legal and company compositional compliance and integrity of ingredients, products and packaging.**

Occupational tasks

- **Sampling** of ingredients, products (at various manufacturing stages), packaging materials and surfaces of manufacturing equipment for applicable physical-chemical, microbiological and integrity evaluation.
- **Preparing and analysing** such samples for physical-chemical, microbiological and integrity attributes as required by law and/or company specifications.
- **Recording of and reporting on** the obtained evaluation measurements in terms of specifications.
- Conducting analyses for the appropriate implementation of a **HACCP system** as instituted at the workplace.

Preliminary **theory** outcome

(task 2 only) [prepared & analyzed samples]

- **Sampling** of different dry and liquid food raw materials
- **Ingredient specific analytical tests** and **interpretation** of results against statutory and organisational requirements and specifications
- **Nature of analysed products** (physical, chemical and rheological attributes)
- **Quality, GMP, food safety, OHS and the fundamentals of microbiology** (generic as per parent qualification)
- **Analysis methodology** pertaining to the method of analysis applied

Preliminary **practical** outcomes

(task 2 only) [prepared & analyzed samples]

- **Sample raw material** at a raw material reception and/or storage facility
- **Sample products at various stages of manufacturing** as specified in the QA mandate
- **Sample packaging materials** (pre and post-manufacturing) for safety, compliance and integrity evaluation as required.
- **Prepare and analyse ingredients, raw materials** (food additives and foodstuffs for addition), **products and packaging materials** at the targeted location and evaluate the results against statutory and organisational requirements and specifications
- **Determine** whether ingredients, raw material, products (interim and final) and packaging materials **conform to safety, compositional and integrity standards and requirements**

Preliminary **experience learning**

outcomes (task 2 only) [prepared & analyzed samples]


- At the targeted storage or production area and analytical laboratory, **sample and analyse food ingredients, raw materials, products (interim and final)** while interfacing with other workers in the manufacturing area, including general workers, machine operators, process controllers, supervisors, technicians, laboratory workers and managers.
- Sample and analyse as required for **30 practical interventions**. A practical intervention includes one shift of sampling and analyses as specified for the product range.
- As a minimum, analysis of a product type will include tests for **microbiological specifications and physical-chemical specifications** (including sensory attributes). Where applicable, packaging integrity evaluation will be done in addition. For other food raw materials, food additives and foodstuffs for addition, analyses will be determined by operational requirements.

Conclusion (1)

- This is a **sector-wide** qualification (dairy; baking & confectionary; beverages; food processing; prepared food NOT MEALS)
- There ought to be **variations** in the qualification to cater for all 5 sub-sectors
- There will be **variations within the DAIRY version** to cater for different dairy processing technologies (see following depiction) **BY WAY OF CHOICES**

Conclusion (2)

Example only (dairy specialization and variants)

Type analysis	Fresh	Fermented	Cottage cheese	Ripened cheese	Long life liquids	Concen= trated liquids	Dried	Fat-based spreads	Processed cheese	Frozen
1	X	X	X	X	X	X	X	X		X
2	X	X	X	X	X	X	X	X		X
3	X	X	X	X	X	X	X	X	X	X
4	X				X	X	X	X		X
5	X	X	X	X	X	X		X	X	X
										
41	X			X						