

No. 1014

26 September 2008

**SOUTH AFRICAN QUALIFICATIONS AUTHORITY (SAQA)**

In accordance with Regulation 24(c) of the National Standards Bodies Regulations of 28 March 1998, the Standards Generating Body (SGB) for

**Manufacturing and Assembly Processes**

registered by Organising Field 06 – Manufacturing, Engineering and Technology, publishes the following Qualification and Unit Standards for public comment.

This notice contains the titles, fields, sub-fields, NQF levels, credits, and purpose of the Qualification and Unit Standards. The full Qualification and Unit Standards can be accessed via the SAQA web-site at [www.saqqa.org.za](http://www.saqqa.org.za). Copies may also be obtained from the Directorate of Standards Setting and Development at the SAQA offices, SAQA House, 1067 Arcadia Street, Hatfield, Pretoria.

Comment on the Qualification and Unit Standards should reach SAQA at the address below and **no later than 27 October 2008**. All correspondence should be marked **Standards Setting – SGB for Manufacturing and Assembly Processes** and addressed to

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## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

**QUALIFICATION:**  
**National Certificate: Winemaking**

SAQA QUAL ID	QUALIFICATION TITLE		
63869	National Certificate: Winemaking		
ORIGINATOR	PROVIDER		
SGB Manufacturing and Assembly Processes			
QUALIFICATION TYPE	FIELD	SUBFIELD	
National Certificate	6 - Manufacturing, Engineering and Technology	Manufacturing and Assembly	
ABET BAND	MINIMUM CREDITS	NQF LEVEL	QUAL CLASS
Undefined	120	Level 3	Regular-Unit Stds Based

**This qualification replaces:**

Qual ID	Qualification Title	NQF Level	Min Credits	Replacement Status
20510	National Certificate: Food and Beverages Processing: Wine Processing	Level 3	127	Will occur as soon as 63869 is registered

**PURPOSE AND RATIONALE OF THE QUALIFICATION**

**Purpose:**

A person acquiring this qualification will be able to work in a winemaking environment by performing all the necessary processes applicable to his/her work environment, from intake of the raw material (grapes) to winemaking and presentation of the final product (wine) for packaging/bottling. By applying quality control practices throughout the process, the learner will contribute to the quality assurance and food safety requirements of the final product.

A person acquiring this qualification will also be able to operate equipment applicable to the relevant winemaking process. Portable competencies such as performing quality control practices and knowledge about introductory microbiology and heating and cooling media will also be obtained. The person will be able to apply all relevant personal safety and food safety practices during the performance of his/her tasks.

This qualification will allow a person to have access to education, training and career paths within the winemaking industry, ensuring learning mobility and progression on the framework through articulation with other qualifications. This qualification will enhance the social, economic and personal development of the learner, as well as the sustainability and productivity of the winemaking industry. The qualification will accelerate the redress of past unfair discrimination in education, training and employment opportunities.

**Rationale:**

This qualification reflects the current and future workplace-based needs of the winemaking industry that are expressed by both employers and employees.

Typical learners will be:

- > Persons who are currently working in a winemaking environment who have not received any formal recognition for their skills and knowledge.
- > Learners with a broad knowledge and skills base in food handling practices who want to specialise in the winemaking industry.
- > New entrants who want to develop employable skills in the winemaking industry.

This qualification is a direct outcome of an analysis of the former National Certificate in Food and Beverage Processing: Wine Processing NQF Level 3 (NLRD 20510), which came to the end of its three-year lifespan.

This qualification aims at providing formal recognition for competencies already obtained and will continue to do so by providing recognition to current workers in the winemaking industry. In addition, this qualification provides the new learner with the opportunity to obtain competencies in winemaking within the workplace, as well as in quality control and food safety practices, which will ensure wine products that are healthy and safe for human consumption. In this way, value is added to workers' employability and competence and the sustainability of the winemaking industry is improved.

This qualification provides the learner with competencies to be employed within different careers within the winemaking industry, as well as the flexibility to pursue careers within other sectors of the food industry (see Articulation Possibilities). Besides winemaking, the range of electives will allow the individual the opportunity to pursue careers within quality control, as well as to be introduced to some principles of team management, generic management and small business development. Skilled workers are one of the key players in better manufacturing standards and productivity, which may increase business prosperity. This qualification will assist in social and economic transformation.

#### **RECOGNIZE PREVIOUS LEARNING?**

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#### **LEARNING ASSUMED IN PLACE**

A knowledge, comprehension and application of language at NQF Level 2 or equivalent; and mathematics, natural science and technology principles at ABET Level 3 or equivalent.

#### **Recognition of Prior Learning:**

This qualification may be achieved in part or completely through the recognition of prior learning, which includes formal, informal and non-formal learning and work experience. Evidence can be presented in a variety of forms, including previous international or local qualifications, reports, testimonials, mentoring functions performed, portfolios, work records and performance records. As such, evidence should be judged according to the general principles of assessment. Learners who have met the requirements of any unit standard that forms part of this qualification may apply for recognition of prior learning to the relevant ETQA. The applicant must be assessed against the specific outcomes and assessment criteria for the relevant unit standards. A qualification will be awarded should a learner demonstrate that all the exit level outcomes of the qualification have been attained.

#### **Access to the Qualification:**

Open to any person.

#### **QUALIFICATION RULES**

- > All the unit standards in the Fundamental component (36 credits) are compulsory.
- > All the unit standards in the Core component (61 credits) are compulsory.
- > In addition, the learner must choose at least 23 credits from the Elective component.

**EXIT LEVEL OUTCOMES**

1. Maintain and apply food safety, personal safety and quality control practices in a winemaking environment.
2. Process raw material (grapes) into juice for fermentation (vinification).
3. Perform the vinification process through fermentation and post-fermentation processes.
4. Work with and interpret numbers and shapes in a winemaking environment.
5. Communicate in variety of ways in a winemaking environment.

Critical cross-field outcomes have been addressed by the exit level outcomes as follows:

Qualifying learners can:

Identify and solve problems in which response displays that responsible decisions, using critical and creative thinking, have been made by:

- > Maintaining and applying food safety, personal safety and quality control practices in a winemaking environment; Evident in Exit Level Outcome 1.
- > Problem solving during processing and manufacturing tasks; Evident in Exit Level Outcome 2 and 3.

Work effectively with others as a member of a team, group, organisation or community by:

- > Applying team-work during maintenance, personal and product safety practices and winemaking procedures; evident in Exit Level Outcome 2, 3 and 4.
- > Co-ordinating one's work with that of others in the direct surrounding area; Evident in Exit Level Outcome 2 and 3.

Organise and manage oneself and one's activities responsibly and effectively by:

- > Planning one's activities; Evident in Exit Level Outcome 2 and 3.
- > Keeping organised, legible, coherent and focused records; Evident in Exit Level Outcome 5.

Collect, analyse, organise and critically evaluate information by:

- > Performing quality control practices and evaluating the results; Evident in all Exit Level Outcome.
- > Keeping organised, legible, coherent and focused records; Evident in Exit Level Outcome 5.

Communicate effectively by using mathematical and/or language skills in the modes of oral and/or written presentations by:

- > Reading and interpreting quality control documentation; Evident in Exit Level Outcome 5.
- > Gathering and applying information regarding knowledge, processes and procedures in a winemaking environment; Evident in Exit Level Outcome 5.
- > Keeping organised, legible, coherent and focused records; Evident in Exit Level Outcome 5.

Use science and technology effectively and critically, showing responsibility towards the environment and health of others by:

- > Working according to health and safety regulations; Evident in Exit Level Outcome 1, 2, 3 and 4.

- > Performing quality control practices and evaluating the results; Evident in all Exit Level Outcomes.

Demonstrate an understanding of the world as a set of related systems by recognising that problem solving contexts do not exist in isolation by:

- > Problem solving during processing and manufacturing tasks; Evident in Exit Level Outcome 2 and 3.
- > Reporting poor food safety, personal safety and hygiene conditions; Evident in Exit Level Outcome 1.
- > Identifying poor quality products and reporting it; Evident in Exit Level Outcome 2, 3 and 4.

Contribute to the full personal development of each learner and the social and economic development of the society at large by:

- > Maintaining and applying food safety, personal safety and quality control practices in a winemaking environment; Evident in Exit Level Outcome 1.
- > Processing raw material (grapes) into juice for fermentation (vinification); Evident in Exit Level Outcome 2.
- > Performing the vinification process through fermentation and post-fermentation processes; Evident in Exit Level Outcome 3.
- > Working with and interpreting numbers and shapes in a winemaking environment; Evident in Exit Level Outcome 4.
- > Communicate in variety of ways in a winemaking environment; Evident in Exit Level Outcome 5.

#### **ASSOCIATED ASSESSMENT CRITERIA**

Associated Assessment Criteria for Exit Level Outcome 1:

- > Knowledge and comprehension of the concept of microbiology and the effect of micro-organisms on personal health, hygiene and food and beverage product safety are applied according to standard food and beverage microbiological principles.
- > Quality control practices are performed in the winemaking environment according to the quality assurance policy and standard operating procedures.
- > Knowledge and comprehension regarding personal safety practices in a winemaking environment are applied according to standard operating procedures, safety requirements and current legislation.

Associated Assessment Criteria for Exit Level Outcome 2:

- > Raw material (grapes) is received for winemaking according to standard operating procedures.
- > Grapes are destalked and crushed for winemaking according to standard operating procedures.
- > Grape mash is cooled according to standard operating procedures.
- > Grape juice is separated from solids according to standard operating procedures.
- > Knowledge and comprehension of cooling media is applied according to standard operating procedures.

Associated Assessment Criteria for Exit Level Outcome 3:

- > Planning for fermentation, as well as personal, equipment and product preparations are done according to standard operating procedures.
- > Quality control practices are performed in the specific context of the learner's work environment and according to the quality assurance policy and standard operating procedures.
- > Fermentation is performed according to standard operating procedures.

- > Knowledge and comprehension of heating and cooling media is applied according to standard operating procedures.
- > Fermented product is processed further into final wine products according to standard operating procedures.
- > Range: Processing refers to any combination of the following:
  - > Clarifying through settling, racking, fining and centrifugation.
  - > Clarifying through filtering.
  - > Flash pasteurisation.
  - > Transfer and blending/fortification.
  - > Stabilisation.
  - > Wood maturation.
  - > Cap Classique procedures.

Associated Assessment Criteria for Exit Level Outcome 4:

- > Analytical and quality control parameters are measured, interpreted and controlled within the winemaking environment.
- > Quality control documentation is read and interpreted for application in further processing.
- > Processing parameters are set, monitored and controlled according to standard operating procedures.

Associated Assessment Criteria for Exit Level Outcome 5:

- > Effective verbal communication is demonstrated during working with peers, colleagues and members of management.
- > Quality control documentation is read and interpreted for application in further processing.
- > Processing reports, records and documentation are identified, understood, organised, interpreted and presented in a legible, focused and coherent manner.
- > Information is gathered and applied regarding knowledge, processes and procedures within a winemaking environment.

Integrated Assessment:

The applied competence (practical, foundational and reflexive competencies) of this qualification will be achieved if a learner is able to perform all the necessary processes applicable to his/her work environment, from intake of the raw material (grapes) to the final product ready for packaging/bottling.

The identification and solving of problems, team work, organising one-self, the using of applied science, the implication of actions and reactions in the world as a set of related systems must be assessed during any combination of practical, foundational and reflexive competencies demonstrated. Assessment methods and tools must be designed to determine the whole person development and integration of applied knowledge and skills.

Applicable assessment tool(s) must be used to establish the foundational, reflexive and embedded knowledge applied to solve problems.

A detailed portfolio of evidence is required to prove the practical, applied and foundational competencies of the learner.

Assessors should develop and conduct their own integrated assessment by making use of a range of formative and summative assessment methods and should assess combinations of practical, applied, foundational and reflexive competencies. Assessors should assess and give credit for the evidence of learning that has already been acquired through formal, informal and non-formal learning and work experience.

The exit level outcomes of this qualification can be assessed in one application.

Unit standards in the qualification must be used to assess specific and critical cross-field outcomes.

### **INTERNATIONAL COMPARABILITY**

Training programmes and best practices of the following leading countries in the winemaking sector were compared:

- > Argentina.
- > Italy.
- > France.
- > Australia.
- > New Zealand.
- > California.
- > Germany.

No information could be found for Africa.

Argentina:

The College of Agricultural Science - The National University of Cuyo - Mendoza:

The College of Agricultural Sciences, belonging to the National University of Cuyo, offers courses in viticulture and oenology and an undergraduate level, as well as a Master of Science degree programme in Viticulture and Oenology. The latter originated as a result of increasing demand for technology from the wine industry.

The content includes:

- > Viticulture.
- > Physiology of the vine.
- > Vine genetics.
- > Raw materials.
- > Sanity and protection of the vineyard - plagues.
- > Characteristics of the vines.
- > Wine and human health.
- > Viticulture economy and sociology.
- > Viticulture regulations and law.
- > Oenology (microbiology).
- > Viticulture engineering.
- > Winemaking technology.
- > Methodology.
- > Treatment and conservation of grapes and musts.

The National Institute for Agricultural Technology - Mendoza:

The National Institute for Agricultural Technology (Instituto Nacional de Tecnologia Agropecuaria, or INTA) offers regular tuition on agribusiness, wine, and equipment for both sectors.

The Agriculture Experimental Station Mendoza, part of INTA, also offers courses on viticulture and oenology. Every September the Station offers a wine tasting course at its Centre of Oenological Studies. A "Superior Wine Tasting Course" was also introduced and covers a

variety of topics related to the wine tasting practice over 12 days. The National Technological University for the Mendoza Region also offers a degree in oenology.

Alta Direccion - Escuela de Negocios (ADEN) - Mendoza:

ADEN offers two courses:

Graduate Course in Wine Management:

This course is directed at managerial professionals who want to guide their career towards the wine sector. The programme is presented in the form of weekly classes in theory and practice, case studies and integrative final experience with activity in winery.

The contents include:

- > World wine industry overview and wine projects evaluation.
- > Wine marketing, accounting and finances for cellars.
- > Managing of cellar operations.
- > Human resources in the wine industry.
- > Commercialisation of wines.
- > Winemaking and their styles; quality of wines.

Seminar of International Commercialisation of Wines:

Contents include:

- > International commercialisation of wines.
- > Techniques and operative instruments of international trade.
- > Construction of the international mix.
- > Searching of markets.
- > Regulatory barriers.
- > Export and international prices.
- > Documentation.

MAZA University, School of Oenology and Agribusiness - Mendoza:

Strategic Management of Wines:

This programme is directed at professionals, technicians and managers of the wine industry and has the following content:

- > Strategies of wine operations.
- > Location and productive infrastructure of vineyards and cellars.
- > Operations of vineyards and planning activities.
- > Administration and planning of productive processes of the wine.
- > Selection and evaluation of equipment.
- > Handling of capacity in cellar and outsourcing.
- > Process control of vineyards and cellars.
- > Integral logistics strategic and operative administration.
- > Supply chain management.
- > Administration of inventories and warehouses.
- > Production systems.
- > Wines traceability.
- > Total productive maintenance.
- > Legislation and standards.

- > Board of operative command, system of administration indicators.
- > System for administration of information.

#### Strategic Marketing and Export of Wines:

This programme is directed at professionals, technicians and managers in general and has the following content:

- > Strategic marketing of wine.
- > Analysis of national and international markets.
- > Consumers behaviour and valuation.
- > Entrance strategies to international markets.
- > External trade operation.
- > Product strategies and packaging.
- > Price and relationship with product quality.
- > Integrated promotion programmes.
- > Distribution channels and commercial logistics.
- > Commercial plans for wine business.

#### Oenology Degree:

##### Content:

- > Acquisition of techniques of winemaking and other products of the grape.
- > Physical and chemical analyses.
- > Organising and advice to wineries.
- > Directing and conducting scientific and technical investigations.
- > Studying and projecting winery business.
- > Directing, organising and advising suppliers of services and inputs of the wine industry.
- > Having a global vision of the national and international wine industry.

Clearly the programmes offered by the first two institutions are more focused on viticulture and oenology on higher educational levels, whereas the latter two institutions direct their programmes more towards management and marketing in the wine industry. Vocational training is not formalised, as through this qualification, but rather takes place by means of experiential learning and influences from international investors and consultants from France, Italy, Chile and the United States, who came on board after the economic downfall of Argentina's currency in 2002. Young graduates tend to be taken up easily within the industry.

#### Italy:

In the last few years the wine sector in Italy has been characterised by a strong expansion in terms of production and consumption, as well as the consumer's preference towards a quality and territorial-linked product. These trends led to an increase of competitiveness among the wine farms, which are now expressing the need of new professional consultants, with specific managerial and marketing skills, capable of interacting both on the global market and with the more and more demanding consumers.

The town of Florence, in first place, tried to give an answer to the wine farms' requests. In fact, starting from its own experience, in which tradition, quality and entrepreneurship have always meant the reason of the worldwide success of its typical productions, Florence promoted the first high level Italian post-degree initiative in this direction, setting up the Master in Wine Management.

The commitment of the province of Florence in setting up the above-mentioned programme has been undertaken during the inauguration of the great Wine Capitals Global Network at

"WINEXPO" in 1999 in Bordeaux. By undersigning an Agreement, the town of Florence joined Great Wine Capital Global Network together with Bordeaux, Oporto, San Francisco, Melbourne, Santiago de Chile, Bilbao and Cape Town (all important economic and cultural metropolis on the international panorama of viticulture and oenology. With regards to education and training, one of the main objectives of the Great Wine Capitals Global Network is the promotion of academic exchanges in order to increase the participation of the educational institutions in the international scenario.

The University of Florence is able to give a qualified contribution to the above-mentioned aim of the Network, by means of high profile educational courses and as the answer to a widespread need for skilled experts.

The First Specialisation Course covered basic elements of viticulture, oenology and the general wine sector, problem solving, features of the wine farms and enterprises, quality, wine testing and the international wine market. The course was later transformed into a University Master, which had the aim of giving a professional updating for the expert already operating in the wine sector and to train new entrants.

The content of the Master includes:

- > Technical and economic aspects.
- > Wine production and commercialisation.
- > Qualitative aspects of the product.
- > Characteristics of the enterprises in the sector.
- > Enterprises' strategies.
- > Management control.
- > Business finance.
- > Marketing of vine products.

During the first four years, more than 70% of the learners were able to find a job in important enterprises of the sector, showing the effectiveness of this educational method, strongly driven by the market. Moreover, this positive result highlights the importance of planning among the promoting State Body, Universities and the enterprises in the sector, in order to identify the correct and winning educational strategies on which it is necessary to invest in the future to stay competitive.

However, as in Argentina, vocational training is not formalised as through this qualification. Although the Master programme covers aspects of winemaking, it is on high educational level and focus strongly on marketing and management, which is different than the focus of this qualification.

France:

Vine and Wine Training and Research - Bordeaux:

To satisfy the needs of a sector which has a relevant economic importance and significant reputation, Bordeaux proposes a whole selection of training to cover the entire industry. Furthermore, a vine and wine research centre has been established since 1991 which, in 1996, became a Federating Research Institute for vine and wine sciences.

The four Bordeaux universities, several engineering schools, a business school and research organisations all contribute to the great quality of Bordeaux vine and wine science.

Moreover, a Vine and Wine Institute is in progress of creation in Bordeaux and it will group together all the university training courses about the vine-growing and winemaking sector.

#### Bordeaux Wine School:

The Bordeaux Wine School was set up a few years ago with the vision of offering courses for wine lovers, with the focus on wine tasting.

Again, the focus of the above-mentioned programmes is different than the aim of this qualification.

#### Australia:

Benchmarking was done against the Australian Qualifications Framework (AQF). A Winemaking Certificate II and III in Food Processing (Wine) - Cellar Operations were found. These courses were designed to provide participants with skills and knowledge to enable them to operate under limited supervision as skilled cellar door operations personnel across a wide range of winery activities. Learners graduating from the Certificate III may continue with the Diploma in Winemaking.

The content of the Certificate II and III is as follows:

##### Certificate II:

- > Effective performance in the workplace.
- > Food safety practices.
- > Health and safety.
- > Quality and implementation of quality systems.
- > Communication and mathematics.
- > Presenting and applying information.
- > Sampling.
- > Additions and finings.
- > Inert gas handling.
- > Oak handling and wine transfer.
- > Cleaning and sanitising.
- > Crushing, fermentation and must draining.
- > Pressing.
- > Heat exchanging.
- > Stock handling.

##### Certificate III:

- > OHS policies and procedures (monitoring the implementation).
- > Quality and food safety programmes ((monitoring the implementation)).
- > Reporting on workplace performance.
- > Fine filtration.
- > Pressure leaf filtration.
- > Product knowledge applied to organise work operations.
- > Environmental management policies and procedures (mentoring the implementation).
- > Setting up a production/packaging line for operation.

Other industry streams of the Certificate II and III in Food Processing (Wine) are possible by choosing units across streams, namely Wine Grape Growing, Laboratory, Bottling and Packaging, and Cellar Door Sales. Although the quality and food safety aspects of these Certificates are coming to the front more strongly, it compares well with this qualification.

In addition, the following institutions in Australia offer training related to winemaking:

#### Wine Technology and Marketing - Melbourne:

This institution offers training for the expanding wine industry in marketing, business and finance, as well as knowledge and understanding of viticulture and the winemaking involved in producing the unique wines of Australia.

The Diploma and Master courses in Wine Technology and Marketing at Monash University use an integrated approach to cover all of the many facets involved in wine business enterprises - from the production of grapes, through to winemaking, to wine marketing and distribution in the local and international export markets.

#### Australian College of Wine (ACW):

The ACW is a world class wine industry education and research facility and provides quality training in viticulture, winemaking, wine evaluation and wine marketing. It is unique in Australia in that it offers a range of programmes from intensive short courses to Certificate and Diploma level studies. The courses are designed for those already working in the industry and wanting to upgrade their skills, as well as for those looking to enter the industry. This system correlates well with the South African version.

#### Australian and International Agricultural Exchange:

This programme focuses on agricultural training for exchange students.

#### New Zealand:

On the New Zealand National Qualifications Framework (NZNQF), the National Certificates in Hospitality (Level 3 and Level 4) included the following winemaking-related unit standards:

- > Produce blended bulk wines.
- > Clean bulk wine tanks using automated equipment.
- > Move yeast lees from bottle-fermented sparkling wines by riddling manually.
- > Move yeast lees from bottle-fermented sparkling wines by disgorging.
- > Prepare and wax wine tanks.
- > Transfer bottle-fermented sparkling wines using automated equipment.
- > Prepare and recondition oak wine barrels.
- > Determine wine styles and characteristics using sensory evaluation.
- > Use and maintain winery plant.

In addition, the National Certificates in Food and Related Products Processing (Level 3 and Level 4) with the sub-field and domain of Food Production (Beverages) contained the following unit standards related to winemaking:

- > Transfer and racking.
- > Handling of yeast lees.
- > Pressing of grapes and juice extraction.
- > Acetifying alcohol.
- > Cap Classique procedures.
- > Cleaning and sanitising.
- > Knowledge of raw materials, mixing and blending.
- > Yeast fermentation and microbiology.
- > Maturation and storage of wine.
- > Filtration, filtering and clarifying.
- > Blending.
- > Engineering.
- > Operations control by means of computerised systems.

- > Preparing and waxing wine tanks, preparing and reconditioning oak wine barrels.
- > Propagating and distributing seed cultures for fermentation.
- > Sensory evaluation of wines.

The latter NZNQF qualifications therefore correlate well with this South African version:

Other, non-NQF based qualifications (so-called KiwiQuals) offered by institutions in New Zealand includes:

- > Certificate in Grape Growing and Winemaking, Level 4 (Wine management, establishing a vineyard, wine technology, wine analysis, small scale winemaking, winery establishment, winery engineering, sanitation and cellar safety).
- > Certificate in Viticulture and Wine Production, Level 4 (pruning, marketing and wine production process).
- > Certificate in Viticulture and Winemaking, Level 4 (viticulture, grape harvest, winemaking at technician level, wine technology, microbiology, analysis, winery operations, sensory evaluation, vineyard operations and vine physiology).
- > Certificate in Wine, Level 4 (Viticulture, grape growing, establishment and maintenance of a vineyard, winemaking methods, analysis, sensory evaluation, marketing and management).
- > Diploma in Viticulture and Wine Production, Level 5 (Viticulture, soil studies, weeds, pests and diseases, science and engineering, irrigation, wine production and technology, business information systems, communications, marketing and human resource management).
- > Diploma in Wine Science, Level 6 (Botany, chemistry, microbiology, viticulture, biochemistry, metabolic biochemistry, plant physiology, wine evaluation and wine production).
- > Graduate Diploma in Viticulture and Oenology, Level 7 (Viticulture, viticultural science, grape pest and disease management, wine quality assessment, wine chemistry and technology, vineyard and winery management, winery equipment and structures).

The trend in the above-mentioned qualifications is to combine the viticulture and winemaking skills, whereas this qualification focuses on the winemaking component only.

California:

The Napa Valley College in San Francisco offers training programmes for viticulture and oenology for the North Coast wine industry. The Certificate in Viticulture and Winery Technology consists of production-oriented courses in viticulture and winemaking. The Certificate in Wine Marketing and Sales is a mix of viticulture, winemaking and business courses. Certificate programmes may be modified to meet the career goals of the individual learner. The Associate of Science in Viticulture and Winery Technology degree allows the learner to specialise in either viticulture, winemaking or wine marketing and sales.

The winemaking option includes the following topics, pitching it at a slightly higher level than this qualification:

- > Fundamentals in oenology.
- > Laboratory analysis.
- > Introduction to chemistry.
- > Language and mathematics.
- > Wines of California.
- > Sensory evaluation of wine.
- > Introduction to biology.
- > Introduction to organic and biological chemistry.
- > Wines of the world.
- > Advanced winemaking.
- > Full winery operations.
- > General viticulture.

- > Winery management.
- > Fundamentals of wine chemistry and microbiology.
- > Spring winery operations.

Germany:

Although no information could be found about specific vocational training towards winemaking in Germany, this country does implement a very pertinent vocational training system. When leaving schools, 70% of German students take a course of vocational training, mostly within their so-called "dual system". This system combines practical, on-the-job training with theoretical instruction at a part-time vocational school. Through their close cooperation, private business, industry and the public sector are sharing responsibility: Training regulations are drawn at federal level, while the states oversee the vocational schools.

There are three types of vocational schools in Germany:

Part-time vocational schools (Berufsschulen):

In the dual system, the vocational schools complement the training received in a company. Trainees attend a part-time vocational school one or two days a week for three years. The schools teach general subjects and theories that are easier understood in the classroom than at work. Usually about 40% of the school work is in basic academic subjects such as languages, mathematics and sciences and about 60% in subjects directly related to the chosen profession. Performance is assessed in an exam and documented by a certificate issued mostly by the chamber of industry and commerce.

The full-time vocational school (Berufsfachschule):

This school offers courses lasting one to three years. These can be part of an apprenticeship or even replace an apprenticeship entirely.

The vocationally oriented upper secondary school (Fachoberschule):

This school admits students with an intermediate school certificate. Courses cover theoretical instruction as well as training workshops and on-the-job training. They generally last two years and qualify participants for the specialised college (Fachhochschule).

On-the-job training (apprenticeships), last between two and three and a half years, depending on the complexity of the occupation. During this period, the apprentice earns a training allowance. The professional requirements that have to be learned during the vocational training are spelled out in training regulations. Based on proposals from the business associations and trade unions, these regulations are regularly revised and updated. The training concludes with an examination conducted by a board of examiners, generally organised by the local chamber of industry and commerce. On the board of examiners are representatives of employers as well as vocational school teachers.

Although no company is obliged to provide training, over 500 000 firms in all branches of the economy, including the independent professions and the public service, provide vocational training. Larger enterprises have their own training workshops, but smaller firms train their apprentices right on the job. Very specialised firms pool their resources and send their apprentices to inter-company training centres in order to broaden their vocational skills.

The above system therefore compares well with the NQF based education and training system of our country.

## ARTICULATION OPTIONS

This qualification provides horizontal articulation (through Exit Level Outcome 1) with other NQF Level 3 National Certificates in Food and Beverage Processing. Further horizontal articulation exists with the new National Certificate in Spirits Production NQF Level 3.

This qualification articulates vertically with the Further Education and Training Certificate in Generic Management NQF 4 (NLRD 57712), as well as with the General Education and Training Certificate in Food and Beverage Handling Processes NQF 1 (NLRD 58026).

### **MODERATION OPTIONS**

- > Anyone assessing a learner or moderating the assessment of a learner against this qualification must be registered as an assessor and moderator respectively with the relevant ETQA, or with another ETQA that has a Memorandum of Understanding with the relevant ETQA.
- > Any institution offering learning that will enable the achievement of this qualification must be accredited as a provider with the relevant ETQA, or with another ETQA that has a Memorandum of Understanding with the relevant ETQA.
- > Assessment and moderation of assessment will be overseen by the relevant ETQA, or by another ETQA that has a Memorandum of Understanding with the relevant ETQA, according to the ETQA's policies and guidelines for assessment and moderation.
- > Moderation must include both internal and external moderation of assessments at exit points of the qualification, unless ETQA policies specify otherwise. Moderation should also encompass achievement of the competence described both in individual unit standards, exit level outcomes and the integrated competence described in the qualification.
- > Anyone wishing to be assessed against this qualification may apply to be assessed by any assessment agency, assessor or provider institution that is accredited by the relevant ETQA.

### **CRITERIA FOR THE REGISTRATION OF ASSESSORS**

For an applicant to register as an assessor, the following are essential:

- > Anyone assessing a learner against this qualification must be registered as an assessor with the relevant ETQA, or with another ETQA that has a Memorandum of Understanding with the relevant ETQA.
- > The applicant needs well-developed interpersonal skills, as well as subject matter and assessment experience.
- > The applicant should have completed this qualification OR a similar qualification than this one at NQF Level 3 or higher, with a minimum of 12 months field experience after he/she has completed the qualification.

### **NOTES**

This qualification replaces qualification 20510, "National Certificate: Food and Beverages Processing: Wine Processing", Level 3, 127 credits.

### **UNIT STANDARDS**

	ID	UNIT STANDARD TITLE	LEVEL	CREDITS
Fundamental	119472	Accommodate audience and context needs in oral/signed communication	Level 3	5
Fundamental	9010	Demonstrate an understanding of the use of different number bases and measurement units and an awareness of error in the context of relevant calculations	Level 3	2
Fundamental	9013	Describe, apply, analyse and calculate shape and motion in 2-and 3-dimensional space in different contexts	Level 3	4
Fundamental	119457	Interpret and use information from texts	Level 3	5

	ID	UNIT STANDARD TITLE	LEVEL	CREDITS
Fundamental	9012	Investigate life and work related problems using data and probabilities	Level 3	5
Fundamental	119467	Use language and communication in occupational learning programmes	Level 3	5
Fundamental	7456	Use mathematics to investigate and monitor the financial aspects of personal, business and national issues	Level 3	5
Fundamental	119465	Write/present/sign texts for a range of communicative contexts	Level 3	5
Core	120416	Apply personal safety practices in a food or sensitive consumer product environment	Level 2	5
Core	120242	Demonstrate an understanding of heating and cooling media in a food-manufacturing environment	Level 2	4
Core	259148	Receive raw material for winemaking	Level 2	6
Core	259160	Clarify wine by means of a physical or physical-chemical process	Level 3	6
Core	120235	Demonstrate an understanding of the concept of microbiology in a food handling environment	Level 3	6
Core	259147	Ferment grape juice for winemaking	Level 3	10
Core	259149	Operate a grape mash cooler	Level 3	4
Core	259158	Operate grape destalking and crushing plant	Level 3	6
Core	119802	Perform quality control practices in a food or sensitive consumer product operation	Level 3	6
Core	259165	Separate grape juice and solids for winemaking	Level 3	8
Elective	120405	Clean and sanitise a fast moving consumer goods (FMCG) processing system using an automated cleaning-in-place (CIP) system	Level 2	5
Elective	259171	Maintain wooden barrels for winemaking or spirits production	Level 2	7
Elective	252435	Apply basic invoicing and accounting principles	Level 3	6
Elective	244574	Apply knowledge of HIV/AIDS to a specific business sector and a workplace	Level 3	4
Elective	244611	Apply problem-solving techniques to make a decision or solve a problem in a real life context	Level 3	2
Elective	8025	Controlling and locating stock	Level 3	8
Elective	259159	Evaluate the sensory quality of wine products	Level 3	3
Elective	259167	Filter wine by means of an automated or semi-automated process	Level 3	8
Elective	242814	Identify and explain the core and support functions of an organisation	Level 3	6
Elective	242812	Induct a member into a team	Level 3	4
Elective	14665	Interpret current affairs related to a specific business sector	Level 3	10
Elective	120239	Monitor critical control points (CCPs) as an integral part of a hazard analysis critical control point (HACCP) system	Level 3	6
Elective	120234	Pasteurise, thermise or vaccreate a liquid food product by means of a plate or tubular heat exchanger	Level 3	12
Elective	259164	Perform Cap Classique production procedures	Level 3	6
Elective	9913	Perform first line maintenance	Level 3	14
Elective	259161	Perform wine or spirits wood maturation	Level 3	8
Elective	259157	Perform wine stabilisation procedures	Level 3	6
Elective	259162	Perform wine transfer and blending	Level 3	6
Elective	116942	Use a GUI-based word processor to create merged documents	Level 3	3
Elective	116940	Use a Graphical User Interface (GUI)-based spreadsheet application to solve a given problem	Level 3	6
Elective	117241	Develop a business plan for a small business	Level 4	5
Elective	242821	Identify responsibilities of a team leader in ensuring that organisational standards are met	Level 4	6

**LEARNING PROGRAMMES RECORDED AGAINST THIS QUALIFICATION**  
**None**



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

## UNIT STANDARD:

*Ferment grape juice for winemaking*

SAQA US ID	UNIT STANDARD TITLE		
259147	Ferment grape juice for winemaking		
ORIGINATOR	PROVIDER		
SGB Manufacturing and Assembly Processes			
FIELD	SUBFIELD		
6 - Manufacturing, Engineering and Technology	Manufacturing and Assembly		
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 3	10

*This unit standard does not replace any other unit standard and is not replaced by another unit standard.*

**SPECIFIC OUTCOME 1**

Demonstrate an understanding of grape juice fermentation.

**SPECIFIC OUTCOME 2**

Prepare to ferment grape juice.

**SPECIFIC OUTCOME 3**

Ferment grape juice as part of the vinification process.

**SPECIFIC OUTCOME 4**

Maintain the area and product after fermentation.

**QUALIFICATIONS UTILISING THIS UNIT STANDARD**

	ID	QUALIFICATION TITLE	LEVEL
Core	63869	National Certificate: Winemaking	Level 3



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

## UNIT STANDARD:

*Receive raw material for winemaking*

SAQA US ID		UNIT STANDARD TITLE	
259148		Receive raw material for winemaking	
ORIGINATOR		PROVIDER	
SGB Manufacturing and Assembly Processes			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Manufacturing and Assembly	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	6

*This unit standard does not replace any other unit standard and is not replaced by another unit standard.*

**SPECIFIC OUTCOME 1**

Demonstrate an understanding of raw material intake for winemaking.

**SPECIFIC OUTCOME 2**

Prepare the intake area.

**SPECIFIC OUTCOME 3**

Receive raw material for further processing.

**SPECIFIC OUTCOME 4**

Maintain the area and product after intake.

**QUALIFICATIONS UTILISING THIS UNIT STANDARD**

	ID	QUALIFICATION TITLE	LEVEL
Core	63869	National Certificate: Winemaking	Level 3



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

## UNIT STANDARD:

*Operate a grape mash cooler*

SAQA US ID	UNIT STANDARD TITLE		
259149	Operate a grape mash cooler		
ORIGINATOR	PROVIDER		
SGB Manufacturing and Assembly Processes			
FIELD	SUBFIELD		
6 - Manufacturing, Engineering and Technology	Manufacturing and Assembly		
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 3	4

*This unit standard does not replace any other unit standard and is not replaced by another unit standard.*

**SPECIFIC OUTCOME 1**

Demonstrate an understanding of cooling of grape mash.

**SPECIFIC OUTCOME 2**

Prepare for cooling of grape mash.

**SPECIFIC OUTCOME 3**

Cool grape mash prior to further processing.

**SPECIFIC OUTCOME 4**

Maintain the area and product after grape mash cooling.

**QUALIFICATIONS UTILISING THIS UNIT STANDARD**

	ID	QUALIFICATION TITLE	LEVEL
Core	63869	National Certificate: Winemaking	Level 3



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

## UNIT STANDARD:

*Perform wine stabilisation procedures*

SAQA US ID	UNIT STANDARD TITLE		
259157	Perform wine stabilisation procedures		
ORIGINATOR	PROVIDER		
SGB Manufacturing and Assembly Processes			
FIELD	SUBFIELD		
6 - Manufacturing, Engineering and Technology	Manufacturing and Assembly		
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 3	6

*This unit standard does not replace any other unit standard and is not replaced by another unit standard.*

**SPECIFIC OUTCOME 1**

Demonstrate an understanding of wine stabilisation.

**SPECIFIC OUTCOME 2**

Prepare to stabilise wine.

**SPECIFIC OUTCOME 3**

Stabilise wine prior to bottling/packaging.

**SPECIFIC OUTCOME 4**

Maintain the area and product after wine stabilisation.

**QUALIFICATIONS UTILISING THIS UNIT STANDARD**

	ID	QUALIFICATION TITLE	LEVEL
Elective	63869	National Certificate: Winemaking	Level 3



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

## UNIT STANDARD:

*Operate grape destalking and crushing plant*

SAQA US ID	UNIT STANDARD TITLE		
259158	Operate grape destalking and crushing plant		
ORIGINATOR	PROVIDER		
SGB Manufacturing and Assembly Processes			
FIELD	SUBFIELD		
6 - Manufacturing, Engineering and Technology	Manufacturing and Assembly		
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 3	6

*This unit standard does not replace any other unit standard and is not replaced by another unit standard.*

**SPECIFIC OUTCOME 1**

Demonstrate an understanding of grape destalking and crushing.

**SPECIFIC OUTCOME 2**

Prepare for grape destalking and crushing.

**SPECIFIC OUTCOME 3**

Destalk and crush grapes for further processing.

**SPECIFIC OUTCOME 4**

Maintain the area and product after destalking and crushing.

**QUALIFICATIONS UTILISING THIS UNIT STANDARD**

	ID	QUALIFICATION TITLE	LEVEL
Core	63869	National Certificate: Winemaking	Level 3



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

**UNIT STANDARD:***Evaluate the sensory quality of wine products*

SAQA US ID		UNIT STANDARD TITLE	
259159		Evaluate the sensory quality of wine products	
ORIGINATOR		PROVIDER	
SGB Manufacturing and Assembly Processes			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Manufacturing and Assembly	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 3	3

*This unit standard does not replace any other unit standard and is not replaced by another unit standard.*

**SPECIFIC OUTCOME 1**

Demonstrate an understanding of the sensory quality of in-line and final wine products.

**SPECIFIC OUTCOME 2**

Determine the sensory quality of wine products.

**SPECIFIC OUTCOME 3**

Report on the sensory quality of wine products.

**QUALIFICATIONS UTILISING THIS UNIT STANDARD**

	ID	QUALIFICATION TITLE	LEVEL
Elective	63869	National Certificate: Winemaking	Level 3



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

**UNIT STANDARD:***Clarify wine by means of a physical or physical-chemical process*

SAQA US ID		UNIT STANDARD TITLE	
259160		Clarify wine by means of a physical or physical-chemical process	
ORIGINATOR		PROVIDER	
SGB Manufacturing and Assembly Processes			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Manufacturing and Assembly	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 3	6

*This unit standard does not replace any other unit standard and is not replaced by another unit standard.*

**SPECIFIC OUTCOME 1**

Demonstrate an understanding of clarification of wine.

**SPECIFIC OUTCOME 2**

Prepare for clarification of wine.

**SPECIFIC OUTCOME 3**

Clarify wine through a physical or physical-chemical process.

**SPECIFIC OUTCOME 4**

Maintain the area and product after clarification.

**QUALIFICATIONS UTILISING THIS UNIT STANDARD**

	ID	QUALIFICATION TITLE	LEVEL
Core	63869	National Certificate: Winemaking	Level 3



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

**UNIT STANDARD:*****Perform wine or spirits wood maturation***

<b>SAQA US ID</b>		<b>UNIT STANDARD TITLE</b>	
259161		Perform wine or spirits wood maturation	
<b>ORIGINATOR</b>		<b>PROVIDER</b>	
SGB Manufacturing and Assembly Processes			
<b>FIELD</b>		<b>SUBFIELD</b>	
6 - Manufacturing, Engineering and Technology		Manufacturing and Assembly	
<b>ABET BAND</b>	<b>UNIT STANDARD TYPE</b>	<b>NQF LEVEL</b>	<b>CREDITS</b>
Undefined	Regular	Level 3	8

***This unit standard does not replace any other unit standard and is not replaced by another unit standard.***

**SPECIFIC OUTCOME 1**

Demonstrate an understanding of maturation of wine and spirits.

**SPECIFIC OUTCOME 2**

Prepare for wood maturation.

**SPECIFIC OUTCOME 3**

Mature wine or spirits with the aid of wood.

**SPECIFIC OUTCOME 4**

Maintain the area and product after wood maturation.

**QUALIFICATIONS UTILISING THIS UNIT STANDARD**

	<b>ID</b>	<b>QUALIFICATION TITLE</b>	<b>LEVEL</b>
Elective	63869	National Certificate: Winemaking	Level 3



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

## UNIT STANDARD:

*Perform wine transfer and blending*

SAQA US ID		UNIT STANDARD TITLE	
259162		Perform wine transfer and blending	
ORIGINATOR		PROVIDER	
SGB Manufacturing and Assembly Processes			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Manufacturing and Assembly	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 3	6

*This unit standard does not replace any other unit standard and is not replaced by another unit standard.*

**SPECIFIC OUTCOME 1**

Demonstrate an understanding of wine transfer and blending.

**SPECIFIC OUTCOME 2**

Prepare to transfer and blend wine.

**SPECIFIC OUTCOME 3**

Transfer and blend wine.

**SPECIFIC OUTCOME 4**

Maintain the area and product after wine transfer and blending.

**QUALIFICATIONS UTILISING THIS UNIT STANDARD**

	ID	QUALIFICATION TITLE	LEVEL
Elective	63869	National Certificate: Winemaking	Level 3



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

## UNIT STANDARD:

*Perform Cap Classique production procedures*

SAQA US ID	UNIT STANDARD TITLE		
259164	Perform Cap Classique production procedures		
ORIGINATOR	PROVIDER		
SGB Manufacturing and Assembly Processes			
FIELD	SUBFIELD		
6 - Manufacturing, Engineering and Technology	Manufacturing and Assembly		
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 3	6

*This unit standard replaces:*

US ID	Unit Standard Title	NQF Level	Credits	Replacement Status
9098	Operate beverage cap classique plant and process	Level 3	25	Will occur as soon as 259164 is registered

**SPECIFIC OUTCOME 1**

Demonstrate an understanding of Cap Classique procedures.

**SPECIFIC OUTCOME 2**

Prepare to perform Cap Classique procedures.

**SPECIFIC OUTCOME 3**

Perform Cap Classique procedures.

**SPECIFIC OUTCOME 4**

Maintain the area and product after Cap Classique procedures.

**QUALIFICATIONS UTILISING THIS UNIT STANDARD**

	ID	QUALIFICATION TITLE	LEVEL
Elective	63869	National Certificate: Winemaking	Level 3



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

## UNIT STANDARD:

*Separate grape juice and solids for winemaking*

SAQA US ID	UNIT STANDARD TITLE		
259165	Separate grape juice and solids for winemaking		
ORIGINATOR	PROVIDER		
SGB Manufacturing and Assembly Processes			
FIELD	SUBFIELD		
6 - Manufacturing, Engineering and Technology	Manufacturing and Assembly		
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 3	8

*This unit standard does not replace any other unit standard and is not replaced by another unit standard.*

**SPECIFIC OUTCOME 1**

Demonstrate an understanding of separation of grape juice and solids.

**SPECIFIC OUTCOME 2**

Prepare for separation of grape juice and solids.

**SPECIFIC OUTCOME 3**

Separate grape juice from solids for further processing.

**SPECIFIC OUTCOME 4**

Maintain the area and product after separation.

**QUALIFICATIONS UTILISING THIS UNIT STANDARD**

	ID	QUALIFICATION TITLE	LEVEL
Core	63869	National Certificate: Winemaking	Level 3



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

## UNIT STANDARD:

*Filter wine by means of an automated or semi-automated process*

SAQA US ID	UNIT STANDARD TITLE		
259167	Filter wine by means of an automated or semi-automated process		
ORIGINATOR	PROVIDER		
SGB Manufacturing and Assembly Processes			
FIELD	SUBFIELD		
6 - Manufacturing, Engineering and Technology	Manufacturing and Assembly		
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 3	8

*This unit standard does not replace any other unit standard and is not replaced by another unit standard.*

**SPECIFIC OUTCOME 1**

Demonstrate an understanding of wine filtration.

**SPECIFIC OUTCOME 2**

Prepare for wine filtration.

**SPECIFIC OUTCOME 3**

Clarify wine through filtration.

**SPECIFIC OUTCOME 4**

Maintain the area and product after filtration.

**QUALIFICATIONS UTILISING THIS UNIT STANDARD**

	ID	QUALIFICATION TITLE	LEVEL
Elective	63869	National Certificate: Winemaking	Level 3



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

## UNIT STANDARD:

*Maintain wooden barrels for winemaking or spirits production*

SAQA US ID		UNIT STANDARD TITLE	
259171		Maintain wooden barrels for winemaking or spirits production	
ORIGINATOR		PROVIDER	
SGB Manufacturing and Assembly Processes			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Manufacturing and Assembly	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	7

*This unit standard replaces:*

US ID	Unit Standard Title	NQF Level	Credits	Replacement Status
9094	Maintain the beverage wooden barrels	Level 2	10	Will occur as soon as 259171 is registered

**SPECIFIC OUTCOME 1**

Demonstrate an understanding of maintaining wooden barrels.

**SPECIFIC OUTCOME 2**

Prepare the working environment for and perform maintenance of wooden barrels.

**SPECIFIC OUTCOME 3**

Maintain the working area after wooden barrel maintenance.

**QUALIFICATIONS UTILISING THIS UNIT STANDARD**

	ID	QUALIFICATION TITLE	LEVEL
Elective	63929	National Certificate: Spirits Production	Level 3
Elective	63869	National Certificate: Winemaking	Level 3