MCAST

MQF/EQF Level 6

AG6-02-22

Bachelor of Science (Honours) in Horticulture

Course Specification

Course Description

This programme gives learners skills in the latest horticultural practices with the use of modern technology. Learners will have the opportunity to study and practise different aspects related to their main area of study, with the aim of seeking employment at management level in private enterprise, in research and development and/or in regulatory services both locally and internationally. This programme offers the required knowledge and competences related to Sustainable Land Use, Integrated Pest Management, Plant Nutrition and Fertilisation, Agricultural Technology, Rural Development and Garden Design/Landscaping. Furthermore, learners will undertake a research project whereby they will be expected to select a topic for investigation following an established methodology.

Programme Learning Outcomes

At the end of the programme the learner will be able to:

1. *Understand and apply research methods to carry out an advanced project study based on scientific research related to specific units within the course's area of study.*
2. *Understand and research different entrepreneurial skills required at management level and to plan for a successful business.*
3. *Undertake practical tasks related to horticultural skills and services including plant nutrition/ fertilisation and agricultural technology.*
4. *Study and apply principles of sustainability, integrated pest management and rural development.*

Entry Requirements

MCAST Advanced Diploma in Fish Management
OR
MCAST Advanced Diploma in Animal Management and Veterinary Nursing
OR
MCAST Advanced Diploma in Horticulture
OR
2 A-Level passes and 2 I-Level passes

Key Information

Awarding Body – MCAST

Accreditation Status – Accredited via MCAST's Self Accreditation Process (MCAST holds Self-Accrediting Status as per 1st schedule of Legal Notice 296/2012)

Type of Programme: Qualification

MQF Level	Examples of Qualifications	'Qualification' Minimum Credits Required	'Award' Credits Required
Level 8	Doctoral Degree Third Cycle Bologna Process	NA	NA
Level 7	Masters Second Cycle Bologna Process	90-120	Less than 30
	Post-Graduate Diploma	60	
	Post-Graduate Certificate	30	
Level 6	Bachelor[23]/Bachelor (Hons.)[24] First Cycle Bologna Process	180-240	Less than 180
Level 5	Short Cycle Qualification	120	Less than 60
	Undergraduate Higher Diploma	90	
	Undergraduate Diploma	60	
	Undergraduate Certificate	30	
	VET Level 5 Programme[25]	60-120	
Level 4	Pre-Tertiary Certificate	30	Less than 120
	VET Level 4 Programme[26]	120	
	MATSEC Certificate	NA	
Level 3	VET Level 3 Programme[27]	60	Less than 60
	General and Subject Certificate	NA	
Level 2	VET Level 2 Programme[28]	60	Less than 60
	General and Subject Certificate	NA	
Level 1	VET Level 1 Programme[29]	40	Less than 40
	General and Subject Certificate	NA	
Introductory Level A	Preparatory Programme	30	Less than 30
Introductory Level B	Pre-entry Basic Skills Course	30	Less than 30

Table 1: Minimum number of credits for 'Qualifications' and parameters for 'Awards'

Fig.1: p56, Ministry for Education and Employment & National Commission for Further and Higher Education Malta (2016). *Referencing Report, 4th Edition*. NCFHE.

Total number of Hours: 4500

Mode of attendance: Full Time

Duration: 3 Years

Target audience for MCAST full-time courses is 16 to 65+

The official language of instruction at MCAST is English. All notes and textbooks are in English (except for language courses which will be in the respective language being instructed). International candidates will be requested to meet English language certification requirements for access to the course.

This course will be offered at

MCAST has four campuses as follows:

MCAST Main Campus
Triq Kordin, Paola, Malta

All courses except for the Institute for the Creative Arts, Centre of Agriculture, Aquatics and Animal Sciences are offered here.

Institute for the Creative Arts
Mosta Campus
Misraħ Għonoq Tarġa Gap,
Mosta

Institute of Applied Sciences,
Centre of Agriculture, Aquatics and Animal Sciences,
Luqa Road, Qormi

Gozo Campus
J.F. De Chambray Street
MCAST, Għajnsielem
Gozo

Teaching, Learning and Assessment

The programmes offered are vocational in nature and entail both theoretical lectures delivered in classes as well as practical elements that are delivered in laboratories, workshops, salons, simulators as the module requirements dictate.

Each module or unit entails a number of in person and/or online contact learning hours that are delivered by the lecturer or tutor directly (See also section 'Total Learning Hours).

Access to all resources is provided to all registered students. These include study resources in paper or electronic format through the Library and Resource Centre as well as tools, software, equipment and machinery that are provided by the respective institutes depending on the requirements of the course or module.

Students may however be required to provide consumable material for use during practical sessions and projects unless these are explicitly provided by the College.

All Units of study are assessed throughout the academic year through continuous assessment using a variety of assessment tools. Coursework tasks are exclusively based on the Learning Outcomes and Grading Criteria as prescribed in the course specification. The Learning Outcomes and Grading Criteria are communicated to the Student via the coursework documentation.

The method of assessment shall reflect the Level, credit points (ECTS) and the schedule of time-tabled/non-timetabled hours of learning of each study unit. A variety of assessment instruments, not solely Time Constrained Assignments/Exams, are used to gather and interpret evidence of Student competence toward pre-established grading criteria that are aligned to the learning outcomes of each unit of the programme of study.

Grading criteria are assessed through a number of tasks, each task being assigned a number of marks. The number of grading criteria is included in the respective Programme Specification.

The distribution of marks and assessment mode depends on the nature and objectives of the unit in question.

Coursework shall normally be completed during the semester in which the Unit is delivered.

Time-constrained assignments may be held between 8 am and 8 pm during the delivery period of a Unit, or at the end of the semester in which the Unit is completed. The dates are notified and published on the Institute notice boards or through other means of communication.

Certain circumstances (such as but not limited to the Covid 19 pandemic) may lead Institutes and Centres to hold teaching and assessment remotely (online) as per MCAST QA Policy and Standard for Online Teaching, Learning and Assessment (Doc 020) available via link https://www.mcast.edu.mt/college-documents/

The Programme Regulations referenced below apply. (DOC 005 available at: link https://www.mcast.edu.mt/college-documents/

Total Learning Hours

The total learning hours required for each unit or module are determined as follows:

Credits (ECTS)	Indicative contact hours	Total Student workload (hrs)	Self-Learning and Assessment Hours
1	5 – 10 hrs	25 hrs	20-15 hrs*
2	10 – 20 hrs	50 hrs	40-30 hrs*
3	15 – 30 hrs	75 hrs	60-45 hrs*
4	20 – 40 hrs	100 hrs	80-60 hrs*
6	30 – 60 hrs	150 Hrs	120-90 hrs*
9	45 – 90 hrs	225 hrs	180-135 hrs*
12	60 – 120 hrs	300 hrs	240-180 hrs*

* The 'Self-Learning and Assessment Hours' amount to the difference between the contact hours and total student workload.

Grading system

All MCAST programmes adopt a learner centred approach through the focus on Learning Outcomes. The assessment of MCAST programmes is criterion-referenced and thus assessors are required to assess learners' evidence against a pre-determined set of Learning Outcomes and assessment criteria.

For a student to be deemed to have successfully passed a unit, a minimum of 50% (grade D) must be achieved. In case of part time programmes, the student must achieve a minimum of 45% to successfully pass the unit.

All units are individually graded as follows:
A* (90-100)
A (80-89)
B (70-79)
C (60-69)
D (50-59)
Unsatisfactory work is graded as 'U'.

Work-based learning units are graded on a Pass/Fail basis only.

Detailed information regarding the grading system may be found in the following document: DOC 005 available at: link https://www.mcast.edu.mt/college-documents/

Intake Dates

•MCAST opens calls for application once a year between July and August of each year for prospective applicants residing in MALTA.
•Applications to full-time courses from international students not residing in MALTA are accepted between April and Mid-August.
•For exact dates re calls for applications please follow this link https://www.mcast.edu.mt/online-applications-2/

Course Fees

MCAST course are free for Maltese and EU candidates. International candidates coming from outside the EU need to pay fees for the respective course. Course fees are set on a per-level and course duration basis. For access to course fee structure and payment methods please visit https://www.mcast.edu.mt/fee-payments-for-non-eu-candidates/.

Method of Application

Applications to full-time courses are received online via the College Management Information System. Candidates can log in using Maltese Electronic ID (eID) or European eIDAS (electronic identification and trust services) to access the system directly and create an account as the identity is verified electronically via these secure services.

Non-EU candidates need to request account creation though an online form by providing proof of identification and basic data. Once the identity is verified and the account is

created the candidate may proceed with the online application according to the same instructions applicable to all other candidates.

Non-EU candidates require a study visa in order to travel to Malta and joint the course applied for. For further information re study-visa please access https://www.identitymalta.com/unit/central-visa-unit/.

For access to instructions on how to apply online please visit https://www.mcast.edu.mt/online-applications-2/

Contact details for requesting further information about future learning opportunities:

MCAST Career Guidance
Tel: 2398 7135/6
Email: career.guidance@mcast.edu.mt

Current Approved Programme Structure

Unit Code	Unit Title	ECTS	Year	Semester
ASHRT-506-1516	Bedding Flowers, Turf and Nursery Production	6	1	A
ASHRT-506-1518	Crop Biology and Physiology	6	1	B
CDKSK-503-1907	English I	3	1	A
ASHRT-506-1512	Pesticides and Safe Pesticide Application	6	A	A
ASHRT-506-1513	Post-Harvest Management	6	A	B
ASHRT-506-1514	Professional Garden Design	6	A	B
ASHRT-506-1515	Field Crop Planning and Production: Vegetables and Fruits (Umbellifers, Alliums, Salads and Herbs)	6	A	YEAR
ASFDD-506-1504	Food Flavour and Tasting	6	A	A
ASHRT-509-2203	Oeonology and Viticulture	9	A	YEAR
ASHRT-506-2206	Agriculture and the Environment	6	A	B
ASRSH-506-1509	Research Methodologies	6	2	B
ASWBL-509-2202	Work-Based Learning	9	2	B
ASHRT-506-1517	Field Crop Planning and Production: Cereals, Legumes and Brassicas	6	B	B
ASHRT-506-1520	Field Crop Planning and Production: Olives, Vines, Citrus and Stone Fruits	6	B	A
ASHRT-506-1521	Plant Propagation	6	B	B
ASHRT-506-1522	Soil and Organic Matter Management	6	B	A
ASHRT-506-2204	Tree Care and Management	6	B	B
ASHRT-506-2205	Microbiology and Biochemistry	6	B	A
CDKSK-503-1908	English II	3	B	A
CDKSK-604-1909	Entrepreneurship	4	B	B
CDKSK-602-2105	Community Social Responsibility	2	B	B
ASHRT-606-2207	Greenhouse Production	6	3	YEAR
ASHRT-603-2208	Agriculture Policy	3	3	B
ASVTN-603-2218	Business Management	3	3	A
ASANM-606-1506	Wildlife Science and Conservation	6	3	YEAR
ASANM-606-1507	Rural Development	6	3	B
ASANM-606-1508	Development of Land-Based Activities	6	3	YEAR
ASHRT-606-1525	Integrated Pest Management	6	3	A
ASHRT-606-1526	Plant Nutrition	6	3	B
ASHRT-606-1527	Agricultural Technologies	6	3	A
ASDIS-612-1501	Dissertation	12	3	YEAR
Total ECTS		**180**	**/**	**/**

This course will be delivered on a back-to-back system.

ASHRT-506-1516: Bedding Flowers, Turf and Nursery Production

Unit level (MQF/EQF): 5
Credits: 6
Delivery Mode: Face to Face
Total Learning Hours: 150

Unit Description

Malta's tourism industry and the need to provide high quality and colourful displays in public spaces as well as private accommodation ensures the continued need for production and installation of decorative plants and turf.

The knowledge gained from the study within this unit will be of benefit to those students interested in the ornamental and landscape sectors of the horticulture industry whether employed within the supply or the installation business. This sector is largely made up of small to medium sized businesses where employees have a wide skills base to reflect the genetic diversity of the crops produced.

The unit aims to provide a broad underpinning knowledge of the production of a range of decorative plants to include annuals and perennials. Plant varieties selection suitable to the local climatic conditions will be studied and the scheduling of plant production to meet target sales period will be covered and assessed. The principles as well as practice of plant production are evaluated and prepare learners to adapt to future changes and market demands.

Though classroom based, every opportunity will be taken to include involvement of local enterprises where possible. The assignments are designed to encourage the students to undertake research and to compile technical details for presentation.

Learning Outcomes

On completion of this unit the student will be able to

1. *Discuss the principles of bedding plant production to supply local markets.*
2. *Examine the production techniques and the uses of shrubs and perennials within the landscape sector.*
3. *Evaluate the range of day to day operations for crop cultivation on a nursery.*
4. *Identify the requirements for successful turf production.*

ASHRT-506-1518: Crop Biology and Physiology

Unit level (MQF/EQF): 5
Credits: 6
Delivery Mode: Face to Face
Total Learning Hours: 150

Unit Description

This module develops the knowledge and understanding achieved at level 4 in plant biology and genetics. Emphasis is placed on production related aspects of plant biology, biochemistry and physiology; the internal governing processes that control plant and crop growth and development to produce an acceptable yield quantity and quality in horticultural enterprise.

The module also concentrates on plant and crop responses to the inputs that are within the scope of production management techniques and methods. Advances in research in crop physiology are integrated into this module, and the potential application of novel production technologies is examined.

Studies are based on the crop as a unit of production rather than individual plants but the contribution of plant physiology to the understanding of physiological aspects is included.

The module is based on the life cycle of crops, and undertakes a reviewing content wherever possible of phenologically based crop life stages.

Light is studied as a component of the environment that drives growth. Both natural and artificial light is studied in their properties and characteristics.
Crop utilisation of light as both a source of energy for growth and an environmental signal for developmental processes are studied in relation to crop lighting system technology.

Photosynthesis is presented as a process that can be examined from the level of the chloroplast to the entire crop. Conditions that limit the photosynthetic activity and efficiency of crops resulting in the limitation of production are presented and means to alleviate this are studied. Similarly, the relationship between photosynthesis and respiration are examined and related to production processes. Source and sink activity and dependency will be studied.

The partitioning and utilisation of photoassimilates in the growth process is described, and the biochemistry of yield formation is studied.

The final part of the module deals with further interactions between the crop and the environment such as the physiology of water stress, competition and nutrient uptake, and the modelling of these processes in computer software.

On completion of this module students will be able to define, understand, assess and interpret the various processes that are drive or control crop growth and development at the level of plant communities in a field or protected space, and their interaction with the environment.

Learning Outcomes

On completion of this unit the student will be able to

1. *Describe plants' needs for light and vernalization.*
2. *Perform assessments of photosynthetic characteristics of crops.*
3. *Evaluate crop water and nutrient use.*
4. *Explain how crop models can be utilized to predict better crop production scenarios.*

ASHRT-506-1512: Pesticides & Safe Pesticide Application

Unit level (MQF/EQF): 5
Credits: 6
Delivery Mode: Face to Face
Total Learning Hours: 150

Unit Description

This module provides the opportunity to study the chemicals used for crop protection purposes in horticultural crop production and their safe and effective use in horticulture.

The module will develop an understanding of the principles, techniques and equipment used to optimize and exploit the biological activity of pesticides in horticultural crop protection.

The groups of central relevance are those that are utilised for the control of pest populations such as insects, weeds, fungi, nematodes, and bacteria, by direct toxic action.

Note that the definition of pesticides used throughout this module includes not only those exerting poisonous effects on the biochemistry of the target organism but also those used to disrupt other life processes such as behavior and chemicals or treatments that control the effects of injurious biota through physical means.

Crop management chemicals are therefore studied in detail across a wide range of chemistries and uses.

The module will develop an understanding of the interaction between pesticides and organisms and the principles and techniques used in the assessment of the biological properties and activity of pesticides.

Toxicology is introduced to describe the general action of toxic chemicals on populations, and the theory of bioassay and probit analysis is presented. Studies include the use of bioassays to identify pesticide tolerant populations, the joint action of pesticides in synergism, antagonism, and potentiation. The biochemical, biophysical, and application basis of pesticide target/non-target selectivity will be studied.

Modes of action of the principal groups of chemicals used in horticultural production are included.

Pesticide formulation is reviewed and the principles of formulation chemistry are studied in relation to the production, storage, use, and biological performance of active ingredients and commercial products.

The module will develop knowledge of the various types of equipment used for the application of crop protection chemicals together with an appreciation of the practical techniques involved in the compliance with legislation to achieve the safe and effective use of pesticides through application equipment.

A wide range of application technologies are studied, and the comparative advantages and disadvantages of relevant application systems are appraised.

Pesticide safety is discussed in relation to both human and environmental aspects.

Techniques and methods used to quantify risk and hazard are studied in relation to legislative requirements for the safe and effective use of pesticides.

Safe use is studied at applicator level, and the requirements for achieving this are reviewed in the context of good horticultural practice.

The use of pesticides is approached with the theme of integrated pest management (IPM), and the requirement for product management to sustain the effective lifetime of new horticultural pesticide products.

At the end of this unit, learners will be in a position to sit for Malta's pesticide applicator license.

Learning Outcomes

On completion of this unit the student will be able to

1. *Appreciate and understand the biological, chemical and physical properties of the range of chemicals used for crop protection purposes in horticulture.*
2. *Describe the biological mode of action of pesticides and the terminology and methods used to estimate toxicity to humans and the environment.*
3. *Appreciate the role of legislation to reduce health and environmental risks posed by pesticides.*
4. *Demonstrate familiarity with the principles and practice of the safe and effective use of pesticides.*

ASHRT-506-1513: Post-Harvest Management

Unit level (MQF/EQF): 5
Credits: 6
Delivery Mode: Face to Face
Total Learning Hours: 150

Unit Description

The unit will set the context for understanding in the context of post-harvest management of produce in terms of storage, especially controlled storage, post-harvest processing and distribution to customers. Marketing standards can be regulatory or market driven and organisations need to be aware of the standards required by legislation and the procurement standards of their direct customers and/ore retail customers who may be several steps detached from their operation. Marketing standards include not only standards for the produce but also for the primary, secondary and tertiary packaging that forms part of the final product or provides protection during transit. Hazard analysis critical control point (HACCP) is the management tool that ensures that quality management systems focus on product safety as well as quality issues.

Key pre-requisite programmes (PRP) such as traceability systems, temperature control and monitoring, foreign body control, pest control and premises and personal hygiene procedures all limit the risk of contamination or a loss of product quality. Postharvest activities including controlled and ambient storage of product, techniques for ripening or retarding maturity and measures for post control such as post-harvest crop protection product applications will be considered.

By the end of the unit, students would be in a position to obtain the 'Food Handling license B' (as issued by Malta's Food Safety Commission) which is a license suited for people directly involved in the preparation and production of food.

Learning Outcomes

On completion of this unit the student will be able to:

1. *Demonstrate the principles of HACCP and the Quality Management System.*
2. *Demonstrate the applicability of regulatory and market standards to a given horticultural example.*
3. *Define how post-harvest operations can control product quality, shelf-life and safety.*
4. *Assess procedures, systems and mechanisms to grade and trace food items.*

ASHRT-506-1514: Professional Garden Design

Unit level (MQF/EQF): 5
Credits: 6
Delivery Mode: Face to Face
Total Learning Hours: 150

Unit Description

This unit will provide a detailed understanding and professional application of garden design processes and practices to design small and medium sized gardens

This is achieved through learners undertaking real site based design projects and applying professionally design activities from contemporary practice. Learners will also be required to evaluate design theories and processes and appraise their own understanding and development within this discipline. Self and Peer evaluation will be an important learning tool through formative design critiques, tutorials and project reviews. These research, evaluation and design activities will allow learners to develop a detailed comprehension of the stages of the garden design process.

This unit will give learners the knowledge and skills required to understand, contextualise and apply a design process to produce effective, creative and practical garden designs.

This will include historical contextual studies; applied design theories and processes, producing garden designs for small and medium gardens, both hypothetical show gardens and real site gardens; detail design packages for appropriate technical, creative and financial solutions; producing appropriate visualisations, plans and drawings to present their designs; and how designers quantify and cost-budget their garden designs.

It is anticipated that this unit will occur in the second year of the HND because of the advanced evaluative nature of the subject at this academic level.

However, there should be open access to the unit with no requirement for prior knowledge or experience in the subject areas.

Learning Outcomes

On completion of this unit the student will be able to

1. *Recognise the historical and contemporary contexts and influences in garden design.*
2. *Demonstrate the use of design theories within the stages of a professional design process.*
3. *Design, evaluate and present small and medium garden designs.*
4. *Identify the technical, creative and financial requirements of detail design packages.*

ASHRT-506-1515: Field Crop Planning and Production: Vegetables and Fruits (Umbellifers, Alliums, Salads and Herbs)

Unit level (MQF/EQF): 5
Credits: 6
Delivery Mode: Face to Face
Total Learning Hours: 150

Unit Description

The commercial production of vegetables, salad crops and herbs to meet the local market, ensures that reliance on importation of fresh produce to the island of Malta is reduced. Due to the Mediterranean climate with maritime influence which create a more equitable environment for crop growth, then an extended season allows continuation of production through much of the year.

There is currently increased interest in expanding the fresh and processed market of herbs either for culinary use or essential oil extraction.

This unit offers career opportunities and employment to students in both the growing industry as well as post-harvest, marketing and manufacturing of value added products.

The unit aims to bring together the underlying principles of crop production with the practical applications as seen through local enterprises and other resources which will enrich the leaners understanding.

The focus of the unit should primarily encompass the following commercially important crops:- umbellifers (to include carrots, celery, fennel), alliums(to include bulbous and green onions, garlic), salads (lettuce and baby leaf) and herbs(annual and perennial).

The principles of field grown crops will be discussed with relevance given to the above named crops. The choice of variety to meet seasonal needs and continuity of production, methods for plant raising, significance of plant spacing to meet market specifications will be covered. This will be followed by input of husbandry techniques such as water application, nutrient requirements and prevention of weeds pests and diseases.

Identifying the need for correct handling methods and in the case of leafy crops, hygiene procedures at the point of harvest is important to ensure the successful short

and long term of produce. Removal of field heat and post-harvest treatments relevant to specific crops will be analysed.

Plants classified as herbs extends to a potentially significant range of annual and perennial plants. Identifying those that are of particular merit and commercial significance for use as culinary and /or essential oil extraction will be assessed.

Harvesting and processing of the herbs will be researched by students and their finding presented to the group.

Learning Outcomes

On completion of this unit the student will be able to

1. *Discuss the field preparations required to establish Umbellifers, Alliums and salad crops.*
2. *Identify the requirements for establishing and maintaining a crop of Umbellifers, Alliums, salad crops and herbs.*
3. *Compare the growth stages and determinants for a range of crops.*
4. *Investigate the post-harvesting procedures for different crops.*

ASHRT-506-1517: Field Crop Planning and Production- Cereals, Legumes and Brassicas

Unit level (MQF/EQF): 5
Credits: 6
Delivery Mode: Face to Face
Total Learning Hours: 150

Unit Description

Understanding of the major cropping groups is important skill required to becoming a successful grower in these globally traded products. Due to the unpredictable nature of weather it is important to understand how the weather can influence growing cereals, legumes and brassicas. Students will develop a good understanding of crop growth and development so they can appreciate the opportunities and challenges of growing these crops.

In this unit learners will develop knowledge related to crop rotations, crop suitability and the impact of crop management on the environment. Learners will study processes of considering and developing suitable cropping systems. Soil types, crop establishment, understanding growth stages, weed, pest and disease control will be considered for the different crop groups. Fieldwork skills will be developed to allow identification of weeds, pests and diseases and the skills of crop monitoring.

Interactions between different cropping families and how the crops work together will be investigated and how these factors can influence yield and quality. Introduce the concepts of dry matter partitioning, sources and sinks, and harvest index will be introduced. Students will then be cover with reference to cereal cropping the principles and practices of; soil tillage; crop sowing and establishment; irrigation; crop nutrition; crop protection and harvesting. These cropping principles will then be tested against the agronomy requirements of individual crops as case studies covering field beans, oilseed rape and wheat.

Learners will also explore basic crop protection strategies and the role of crop nutrition for growing good quality and high yielding cereals, legumes and brassicas. The impact of these different crops on the environment and their risks will be studied. Consideration will be given to potential different production techniques including organic, low input and high input strategies.

Learning Outcomes

On completion of this unit the student will be able to

1. *Discuss the field preparations required to establish cereals, legumes and brassicas.*
2. *Identify the requirements for establishing and maintaining a crop of cereals, legumes and brassicas.*
3. *Compare the growth stages and determinants for a range of crops.*
4. *Investigate the post-harvesting procedures for different crops.*

ASFDD-506-1504: Food Flavour and Tasting

Unit level (MQF/EQF): 5
Credits: 6
Delivery Mode: Face to Face
Total Learning Hours: 150

Unit Description

Different types of foods contain thousands of chemical compounds that are responsible to the flavour of the food consumed. There established methods to determine the nutritional compositions of foods, but to reach sensory approval by consumers is far more complicated due to the number of variables in the process such as colour, texture, and shape, flavour of consumed foods. It is also important not to forget the cultural background, dietary habits of consumers and on top of that foodstuff undergoes various chemical and biochemical reactions during storage, transport, and processing. All of these could result in poor or improved sensory experience by the consumer which adds to the complexity.

This is unit will allow the learners to understand what components in food is responsible in giving its characteristic tastes. Therefore, the main aim would be to give a broad overview of the relation between colour, food flavor and sensory insight.

The learners taste and aroma/smell senses will be put to test through practical sessions in which they will learn about the sensory evaluation process and the different taste panel methods such as difference, ranking tests and category scaling.

Learning Outcomes

On completion of this unit the student will be able to

1. *Describe how flavour is generated.*
2. *Explain the dynamics of flavor perception.*
3. *Discuss the process used for the classification of food items.*

ASHRT-509-2203: Oeonology and Viticulture

Unit level (MQF/EQF): 5
Credits: 9
Delivery Mode: Face to Face
Total Learning Hours: 225

Unit Description

This unit seeks to give the learners a detailed understanding of the process of vine cultivation and wine production. The unit commences with a general introduction of the importance of wine in Maltese, Mediterranean and cultures around the world. The vine's biology is then discussed in detail together with its phenological cycle. The unit then delves into the management of vineyards and covers topics including the setting up of the vineyard, pruning, irrigation, fertilization and pest control. This lends itself to the rest of the unit which goes through the process of wine production from harvesting to packaging, quality control and the sensorial evaluation of wines.

Learning Outcomes

On completion of this unit the student will be able to

1. *Outline the history, botany and physiology of the grapevine.*
2. *Describe soil characteristics and choice of planting system in vineyards.*
3. *Apply orchard management during training and production.*
4. *Compare and contrast abiotic, pest and disease management techniques for a vineyard.*
5. *Summarize the processing procedure for various common wines found on the market.*

ASHRT-506-2205: Microbiology and Biochemistry

Unit level (MQF/EQF): 5
Credits: 6
Delivery Mode: Face to Face
Total Learning Hours: 150

Unit Description

A plant is made up of a wide array of tissues that function in tandem for the plant to function adequately and reach its objectives. This unit builds towards an understanding of this complex structure and for the learners to appreciate the microscopic realities behind numerous processes that are vital for plant growth.

Learners following this unit will explore the structure and function of different molecules and cell types in the plants, as well as different biochemical processes that are vital for the proper functioning of any plant. This unit also introduces the learner to the structure and modes of action of various micro-organisms and microscopy.

The unit will also delve into the various interactions and relationships between plants and microbes and how these reciprocal connections are essential for the healthy growth and reproduction of plants.

Learning Outcomes

On completion of this unit the student will be able to

1. *Compare and contrast the different structures of the various molecules making up the plant body.*
2. *Outline the movement of molecules across cells.*
3. *Outline the structure and function of different cells, cell organelles and micro-organisms.*
4. *Identify various cells under the microscope.*
5. *Explain various biochemical processes occurring in plants and soil.*
6. *Examine plant-microbe interactions in horticulture.*

ASHRT-506-2206: Agriculture and the Environment

Unit level (MQF/EQF): 5
Credits: 6
Delivery Mode: Face to Face
Total Learning Hours: 150

Unit Description

This is a knowledge based unit and will build the learner's abilities to evaluate and understand the benefits of organic principles from a variety of philosophies that can be utilised in crop production for the protection of the environment.

The learner will be exposed to key organic concepts that can be applied to crop production and the permissible and non-permissible practices under organic certification schemes. The unit also enhances knowledge of general environmental practices, issues and problems. On completion of the unit learner's will be able to understand the need for good environmental practices as an investment for the future and the role that organic organizations may have in developing environmentally friendly management of the soil and production techniques.

By the end of this unit, learners will gain knowledge of key organic organisations and the services they offer and be able to analyse and compare different systems and their feasibility in crop production. The learner's will also gain an understanding of certification processes and their implications on management systems.

This unit will delve into the differences between 'conventional growing systems' and organic systems, and the impact they have on the environment. The learner's will also explore specific philosophies and system such as Permaculture and Biodynamic and the background to their development and what they have to offer as production systems.

Learning Outcomes

On completion of this unit the student will be able to

1. *Explain the principles of organic agriculture.*
2. *Evaluate organic practices and techniques in the cultivation of crops.*
3. *Appraise organic certification and its implications in the agricultural sector.*
4. *Analyse the principles of permaculture and biodynamic agriculture.*

ASWBL-509-2202: Work-Based Learning

Unit level (MQF/EQF): 5
Credits: 9
Delivery Mode: Face to Face
Total Learning Hours: 225

Unit Description

This Unit presents comprehensive, specialized, factual and theoretical knowledge that engages a range of cognitive and practical skills required to develop creative solutions to abstract problems in the context of work-based scenarios. Learners will be able to demonstrate that they have the necessary skills to be able to understand the relevance of industrial work-based experience, to exercise management and supervision skills especially where there is unpredictable change and to be able to plan, undertake and review their own placement performance as well as of others within the organisation. Learners will familiarise themselves with important aspects of planning and negotiating for a work-based experience, whilst taking into account business constraints and possible conflicts of interest whilst exercising autonomy and responsibility in managing their expectations of work-based learning when faced with the specific requirements of their work experience.

Work-based Experience is a unit that while implemented as a stand-alone course of studies, it equips the learners with several other skills, including Entrepreneurship, Business Planning and Intrapersonal & Interpersonal Skills, preparing learners towards the successful completion of their studies. This strategy builds learners' skills and knowledge in their chosen career path or furthers their study within the area of interest.

The Unit is relevant to learners wishing to further develop their knowledge and understanding of the benefit of work-based experience in an industrial setting, that various industrial sectors present in Malta and Europe and the ways with which they can access these various career opportunities. On completion of the Unit, learners will have grasped the three step process to preparing for work-based experience: prepare, undertake and review. They will obtain insight into what steps are required in the application process, what resources they require to undertake the placement and the limitations they need to consider before commencing their placement. They will also develop those skills necessary to establish and maintain working relationships with others, including awareness of employment, social and ethical issues, conveying structured and coherent ideas to peers, supervisors and clients using judgmental skills, and communicating qualitative and quantitative information with some autonomy enabling them to contribute to the organizational team. Furthermore, learners will gain knowledge of various methods with which they can keep track of their progress, as well as methods of how they can review their performance for self-improvement.

Learners will also be able to seek guidance from a mentor or supervisor, contribute their suggestions to business and provide recommendations on how such placements can be improved.

Learners will carry out a placement relevant to their areas of study and interest. Industry-based training is developed by the learner together with the workplace coach and/or WBL mentor and workplace mentor to guide the learner's work-based learning experiences and assist in evaluating achievement and performance, in both the stand-alone WBL unit as well as in the practical work placement component

Learning Outcomes

On completion of this unit the student will be able to

1. *Prepare for the performance of multiple tasks and responsibilities related to them.*
2. *Perform several tasks at the workplace in a timely and effective manner.*
3. *Establish working relationships with colleagues and superiors.*
4. *Analyse own work experience for further personal performance development.*

ASRSH-506-1509: Research Methodologies

Unit level (MQF/EQF): 5
Credits: 6
Delivery Mode: Face to Face
Total Learning Hours: 150

Unit Description

This unit prepares students for their independent research project linked to Fisheries or Aquaculture. In both cases, students are guided in the process of carrying out a research enquiry from initial concept to final report. The unit will demonstrate methodological approaches to collecting and analysing data and will address ethics in research.

Another key aspect of this unit is the development of a working relationship between the student and their supervisor(s) and this will be addressed though the recommended timeline and activities.

Finally, the unit will guide students in how to write critically and objectively in producing their final project and how to correctly cite and reference the work of others in their own original work.

Learning Outcomes

On completion of this unit the student will be able to:

1. *Develop a research enquiry from initial objectives and a review of others work, through the proposed research.*
2. *Complete the research through to the final report.*
3. *Evaluate findings and results of research project.*
4. *Present the proposal and findings of the project.*

ASHRT-506-1520: Field Crop Planning & Production- Olives, Vines, Citrus & Stone Fruits

Unit level (MQF/EQF): 5
Credits: 6
Delivery Mode: Face to Face
Total Learning Hours: 150

Unit Description

This is a management skills based unit and will demonstrate a learners abilities to analyse and evaluate a range of cultural practices for successful production and a basic understanding of site selection, breeding and developmental processes, species selection and post-harvest biology. The learner will also gain an understanding of the management of growth, fruit quality and the importance of quality control measures.

The learner will demonstrate an understanding of a range of field crop fruits including vines, olives, citrus and stone fruits as well as minor fruits including loquat, almond, mulberry and Pomegranates and specific requirements needed to produce successful crops. The unit is relevant to learners to further enhance their knowledge of alternative and potential crop plants and markets. On completion of the unit learners will understand management of the soil and cultivation of a range of suitable species and cultivars suitable to the climate and resources.

The learners will also gain knowledge of a wide range of information sources from the internet, case studies, forums, and international professional bodies as well as governmental sources.

Visits to local producers of the crops and if possible breeding research establishments are essential to aid learning and expand understanding of the principles of cultivation, local markets, economic importance, and possible career opportunities and employment within the production industry or with ancillary suppliers.

Learning Outcomes

On completion of this unit the student will be able to

1. *Plan the establishment of a fruit tree orchard.*
2. *Evaluate factors affecting different aspects of tree growth and production.*
3. *Explain the requirements for good management of fruit tree orchards.*
4. *Outline the processing methods for the production of olive oil and wine.*

ASHRT-506-1521: Plant Propagation

Unit level (MQF/EQF): 5
Credits: 6
Delivery Mode: Face to Face
Total Learning Hours: 150

Unit Description

The knowledge gained and the skills developed during the delivery of this unit will prepare learners for a key role in any horticultural enterprise. The broad spectrum of propagation methods outlined and studied reflect the very diverse and international approach to the propagation of plants generally, all plants have to start either from seed or vegetative means.

The needs and scale of the larger economically important crops has allowed government and private enterprises to developed blue-prints for the successful raising of young plants. However due to the significantly wider botanical diversity of plants used for ornamental or indeed minor vegetable and fruit crops, necessitates that leaners develop an independent approach. Encouraging experimentation is essential to develop crop species formulae to ensure successful raising of crops that meet the needs of what may sometimes be a niche or local market.
References may be available that provide pointers but the ability to determine the most successful methods following careful trialling and recording of results is still the best reference for much of the industry.

A significant and increasing proportion plant raising for economically important crops is often contracted to specialist nurseries, this relies on economy of scale for distribution that can also mean shipping worldwide often using air freight. However, the scale of smaller growing enterprises and their more remote location can exclude them from these sources. The solution being to either propagate under licence for protected varieties or undertake their own young plant enterprise to feed the production side of the business. This therefore offers the opportunity for a small number of highly specialised key individuals who can locally provide those needs either as independent businesses or under the umbrella of a main production enterprise. Propagation does not end at just being able to “put roots on things” but needs an understanding of how to manipulate growth of young plants during those early phases to ensure speedy and successful growth of the right quality to enter the production stage.

The practical element of this unit ensures that the underlying principles are being used in the methodology being applied to a specific propagation method. This experience should prepare them by developing their self-confidence to tackle other methods at a future time if the need arises.

The written assignments further help develop an awareness of the need to start with disease free clean mother material and be able to compare and contrast a range of propagation environments, how they may support the young plant during the root initiation and development stages.

By examining seed propagation to which considerable technology in seed treatments and equipment (some of it highly automated) for accurate sowing in a range of environments completes the most common methods employed

The principles of micro-propagation are provided to learners but the likelihood that learners will ever get to work in such a facility or even be involved in the setting up of such an enterprise are very low. The high euphoria that developed some twenty years ago with this technique has given way to a small and often international group of businesses who can afford the high capital and running costs.

Learning Outcomes

On completion of this unit the student will be able to

1. *Identify the requirements and equipment for establishing propagation facilities.*
2. *Explain the principles and practice of sexual propagation to be able to grow a range of plants from seed.*
3. *Explain the principles of asexual propagation in order to select and prepare material for vegetative propagation.*
4. *Undertake a range of methods of vegetative plant propagation.*

ASHRT-506-1522: Soil and Organic Matter Management

Unit level (MQF/EQF): 5
Credits: 6
Delivery Mode: Face to Face
Total Learning Hours: 150

Unit Description

This is a theory and skills-based unit which prepares learners to be able to manage the nutrients and organic matter within the soil, so that crops can be grown more sustainably, without damaging or degrading the soil.

It covers the appropriate sampling and analyses of soils, and students will be able to take samples of soil from various farm or garden locations, analyse them in the laboratory for the main nutrients (N, P, K) as well as lime and trace elements such as magnesium, and then interpret the results to determine crop requirements for artificial or natural fertiliser applications. The soil analysis sessions will also include texture determination through quantitative measurement and hand texturing techniques.

Students will also be introduced to the concepts of optimum soil structure for crop growth and will examine soil profiles and a range of seedbed conditions.

The unit will cover in outline the use of corrective measures to improve topsoil and subsoil structure, as well as temporary drainage methods.

Wider, more comprehensive soil management plans will be covered in the unit. These will include measures to protect against soil erosion, avoid loss of organic matter, avoid loss of nutrients through leaching and volatilization, maintain soil structure, protect any environmental or archaeological features, avoid salinization, and avoid soil contamination.

The unit will finish by explaining the composting process and the use of the end product as a fertilizer and soil conditioner.

Learning Outcomes

On completion of this unit the student will be able to

1. *Analyse soil samples and interpret the resulting report.*
2. *Describe the soil's physical properties and their effects on nutrient and water dynamics.*
3. *Formulate a soil management plan for the improvement and maintenance of soil fertility.*
4. *Set up a successful on-farm composting process.*

ASANM-606-1506: Wildlife Sciences and Conservation

Unit level (MQF/EQF): 6
Credits: 6
Delivery Mode: Face to Face
Total Learning Hours: 150

Unit Description

This unit delves into the science of wildlife management and conservation. With a growing concern on biodiversity loss, numerous entities are prioritizing conservation to restore and maintain populations of species. This unit prepares students for work related to habitat management and biodiversity conservation. It starts with an overview of evolutionary mechanisms that played a significant role in giving rise to the myriad of species we currently have in our midst. The unit then seeks to shed light on the importance of biodiversity and on the challenges that are contributing to its decline. Subsequently, a more technical analysis of biodiversity will be undertaken with the dynamics of species populations and the factors affecting their distribution discussed at length. The unit closes with an overview of measures that are commonly used to conserve species followed by the different methods that are usually used to conduct an ecological survey.

Learning Outcomes

On completion of this unit the student will be able to:

1. *Discuss evolutionary processes that gave rise to different plant and animal species.*
2. *Understand how wildlife can be valued as a resource and the factors threatening it.*
3. *Explain strategies that can be utilized to conserve wildlife and their respective habitats.*
4. *Conduct a study of habitats and wildlife population.*

ASANM-606-1507: Rural Development

Unit level (MQF/EQF): 6
Credits: 6
Delivery Mode: Face to Face
Total Learning Hours: 150

Unit Description

During this course the student will be learning the main concepts of rural development and how it is contributing to the local and EU in general. Besides that other aspects which are linked to rural development will also be discussed such as the contribution of agriculture, the challenges and opportunities of rural livelihoods, natural resources and policies and legislation. Case studies will be an important learning tool so that students can link better the concept of the subject in practice.

Learning Outcomes

On completion of this unit the student will be able to:

1. *Describe the origins and evolution of rural development over time.*
2. *Describe EU and local agricultural and rural development policies and their contribution towards rural development.*
3. *Discuss the contribution of rural economic activities towards rural development.*
4. *Explain the contribution of rural areas towards the quality of public goods and the use of natural resources.*
5. *Debate the challenges and opportunities of rural areas.*

ASANM-606-1508: Development of Land Based Activities

Unit level (MQF/EQF): 6
Credits: 6
Delivery Mode: Face to Face
Total Learning Hours: 150

Unit Description

This unit is essential for learners to understand the process that must be taken if they decide on setting up a business related to the rearing and management of animals. This unit mainly deals with the following enterprises: animal farms, pet shops, animal sanctuaries and horse stables. It starts by providing learners with a thorough understanding of the administrative procedures that must be followed for an animal-related business to be set up. It spans the whole process- from acquisition of land or premises to taxes and animal registration. The second module deals with the financial aspects of setting up business with a detailed overview of taking loans, having a business plan and applying for start-up funds. The unit then delves into the development of a site and provides a detailed explanation of the range of legislations and procedures that must be followed to design a farm, animal sanctuary or stable. The last module goes into more detail on the development, design and management of pet shops.

Learning Outcomes

On completion of this unit the student will be able to:

1. *Manage administrative procedures needed to set up and run an animal-related enterprise.*
2. *Manage financial procedures needed to set up and run an animal-related enterprise.*
3. *Choose the best design for an animal-related enterprise in line with relevant legislation.*
4. *Design and management of a pet shop.*

ASHRT-606-1525: Integrated Pest Management

Unit level (MQF/EQF): 6
Credits: 6
Delivery Mode: Face to Face
Total Learning Hours: 150

Unit Description

Integrated Pest Management (IPM) is an effective and environmentally sensitive approach to pest management that relies on a combination of common-sense practices. IPM programs use current, comprehensive information on the life cycles of pests and their interaction with the environment. This information, in combination with available pest control methods, is used to manage pest damage by the most economical means, and with the least possible hazard to people, property, and the environment.

This course will introduce the basic principles and mechanisms involved in integrated management

Providing a wide array of examples of pests, including insects, weeds, plant pathogens, nematodes, and vertebrates. Specifically, the course will explore how knowledge of the agro-ecosystem, population dynamics, and provide in-depth clarification of biological, chemical, cultural, and mechanical/physical approaches to pest management. The latter will then be used to create integrated pest management systems. Throughout the course, case studies will be used to generate discussion and aid in the students' ability to formulate an integrated management program.

Learning Outcomes

On completion of this unit the student will be able to:

1. *Develop Integrated Pest Control programs by identifying suitable chemical, biological, physical and cultural intervention methods to given pest and disease scenarios.*
2. *Critique the sound management of biotic and abiotic factors in the context of IPM of various plant species.*
3. *Evaluate how crop backgrounds and other crop information can be used in an IPM strategy.*
4. *Discuss the use of IPM for a range of cropping and non-cropping industries.*

ASHRT-606-1526: Plant Nutrition

Unit level (MQF/EQF): 6
Credits: 6
Delivery Mode: Face to Face
Total Learning Hours: 150

Unit Description

This unit will give learners the necessary tools to understand the plant nutrient requirements and the fertilization that must complement a crop's cultivation to make sure it is absorbing all the necessary nutrients but without compromising the integrity of the water table. Learners will then be able to apply these principles in their private businesses as growers and in other institutions helping farmers draft their fertilizer programs.

This unit will first provide a thorough evaluation of the roles of each macro- and micro-nutrient followed by modules in which the considerations for nutrient management will be analyzed. The factors that must be considered before deciding which and how much nutrients to apply will give the learner a more complete overview of the science of fertilization. The learners will also be introduced to nutrient management software which is becoming more commonly used by agronomists.

Learning Outcomes

On completion of this unit the student will be able to:

1. *Evaluate how a deficiency in a range of macro- and micro- nutrients can affect the physiology of a plant.*
2. *Discuss the methods used to assess nutrients in the soil and plant.*
3. *Discuss how nutrient placing, application of fertilizers, various ion interactions and other crop and soil characteristics affect nutrient availability.*
4. *Prepare a fertilizer program.*

ASHRT-606-1527: Agricultural Technologies

Unit level (MQF/EQF): 6
Credits: 6
Delivery Mode: Face to Face
Total Learning Hours: 150

Unit Description

The rate of change, the new technologies available and today's technological era places agriculture in a situation where investment in such technologies is a must. These changes are driven by demand for food, less cultivable area available due to competition for land use, and scarcity of resources such as water.

This unit will introduce students to some of the new inventions that are making their way into the agricultural sector and that are becoming more popular with Maltese farmers. This will give the students a better understanding of the options that are available to make their work at the farm easier and to do away with inefficient methods, opting instead for scientific solutions.

Overall purposes of the module is to present the students with a holistic scenario of what technology is available on the market and what can be adapted to our typical agriculture, changing its difficulties and constraints into potential plusses.

The unit will be divided into four parts- each highlighting a different area where novel technologies have been introduced.

- Plant breeding,
- Agricultural machines & equipment
- Sensors & control systems
- Soilless techniques will be looked into each with its own applications for the Maltese agricultural realities.

Tours to local investors in Agriculture technologies such as Micro-propagation centre, Hydroponic farm and Propagation Units under controlled environments will also be held.

Learning Outcomes

On completion of this unit the student will be able to:

1. *Appraise a wide range of agricultural technologies by using engineering principles.*
2. *Distinguish between different soilless production systems.*
3. *Evaluate different plant breeding techniques and the use of micro-propagation.*
4. *Evaluate sensors and control systems available in agriculture.*

CDKSK-503-1907: English

Unit level (MQF/EQF): 5
Credits: 3
Delivery Mode: Face to Face
Total Learning Hours: 75

Unit Description

This unit is intended to be run in the first semester of the first year of undergraduate degree programmes and consolidates prior knowledge, skills and competences in English reading, writing, listening and speaking by further strengthening the more academic functions of the language.

English I is intended to be an EAP (English for Academic Purposes), focusing specifically on improving learners' awareness of, and familiarity, with the core skills necessary for successful academic reading and writing in English, especially preparing them for the rigours of extended writing by research and the reading of academic sources of information.

Learners will become familiar with academic features of style and the principles and mechanics of good text structure. They will also learn how to consult, understand and use secondary material from academic sources within their field of study and effectively integrate it as part of a larger argument or body of work.

Learning Outcomes

Upon completing the unit, learners should be able to:

1. *Recognise the form, content and style of academic texts.*
2. *Use an academic style of writing when working on assignments and dissertations.*
3. *Reproduce secondary content by means of direct and indirect quoting methods.*
4. *Apply proper referencing conventions when citing secondary content.*

CDKSK-503-1908: English II

Unit level (MQF/EQF): 5
Credits: 3
Delivery Mode: Face to Face
Total Learning Hours: 75

Unit Description

This unit is intended to be run in the second semester of the second year of undergraduate degree programmes and consolidates prior knowledge, skills and competences of Academic English by further strengthening reading, writing, listening and speaking skills as determined by the rigours of pre-dissertation research.

English II is targeted at learners who have successfully completed their degree programme's first year and exposes undergraduate students to a higher level of critical reading and writing skills demanded in the second and final years of the degree programme. This usually involves the identification and select reading of academic texts, their review and their eventual use in a research proposal, dissertation and academic presentation.

It is also the objective of this unit to train learners to be more aware of, and proficient in, spoken Academic English as this becomes a key requirement at this level of studies.

Learning Outcomes

Upon completing the unit, learners should be able to:

1. *Evaluate academic sources of information when working on own dissertation.*
2. *Produce texts of an academic nature using appropriate language and style.*
3. *Communicate verbally in a manner which conveys proficiency of the subject being researched.*
4. *Respond effectively to key questions in relation to research in own field.*

CDKSK-604-1909: Entrepreneurship

Unit level (MQF/EQF): 6
Credits: 4
Delivery Mode: Face to Face
Total Learning Hours: 100

Unit Description

The working definition of '**entrepreneurship**' employed in this unit is that stated by the European Commission: "*Entrepreneurship refers to an individual's ability to turn ideas into action. It includes creativity, innovation and taking calculated risk, as well as the ability to plan and manage projects in order to achieve objectives. This supports everyone in day-to-day life at home and in society, makes employees more aware of the context of their work and better able to seize opportunities, and provides a foundation for entrepreneurs establishing a social or commercial activity*" (Entrepreneurship in Vocational Education & Training, June 2009).

In line with this definition, the unit places an emphasis on fostering a mind-set that *entrepreneurship* is the vehicle that drives *creativity* and *innovation*. The learner will, amongst others, be encouraged to gain an insight as to how to investigate customer needs and markets to generate an innovative idea for a start-up; participate in the realistic simulation of the creation of a start-up[1]; create and pitch sections of a business plan, as well as draft sections of a business plan for an identified business idea.

The assessment of the unit is designed in a way to provide an opportunity for learners to strengthen transversal competencies which UNESCO highlights as necessary for the 21st century. These include intrapersonal skills, interpersonal skills, critical and innovative thinking, media and information literacy and global citizenship.

Learners with different backgrounds and experiences are required to contribute actively in a team to prepare the necessary work towards initiating a successful business venture.

In this unit, learners will become familiar not only with the main theories related to entrepreneurship and business start-ups but will have the opportunity to explore, interact and learn from a number of first-hand situations. The challenges of working

[1] 'Doing effective entrepreneurship' is firmly grounded in theory, yet the *chalk and talk* delivery mode is not promoted in this unit. Rather, *actionable theory through practice* is strongly encouraged. *Realistic simulations*, limited not only to in-class activities such as *discussions* of the problems faced in the different phases of a business, especially in the process of commercialisation of innovative products and services, and *on-paper* creative management strategies, are considered essential.

with diverse team members will provide the learners not only with the possibility to look at entrepreneurship ideas from different perspectives, but also to come up with more creative, original and feasible solutions to challenges that will arise.

The practical and realistic element of the unit will allow learners to engage and interact with different stakeholders from industry and public institutions. This real-life interaction will provide the ideal set up to link theory with practice in the real world. Learners are encouraged to get out of their comfort zone and explore their entrepreneurial spirit by combining creativity, innovation and risk taking to help seize an opportunity, improve current situations or solve problems they encounter in the real world.

Learning Outcomes

On completion of this unit the learner will be able to:

1. *Understand the terms "entrepreneurship" and "entrepreneur" and techniques used to generate and evaluate business ideas.*
2. *Examine important considerations while developing a new business idea.*
3. *Apply business planning and control initiatives while developing a new business idea.*
4. *Contribute effectively in a team to develop a concept prototype of a feasible product/service idea.*

CDKSK-602-2105: Community Social Responsibility

Unit level (MQF/EQF): 6
Credits: 2
Delivery Mode: Face to Face
Total Learning Hours: 50

Unit Description

This unit focuses on community and social responsibility skills and provides an opportunity for learners to better understand themselves and others, as well as establish goals in life. This unit is delivered through a combination of small-group sessions (it is suggested that the number of learners do not exceed 15 learners per class), reflections and community work. Community and social responsibility skills enable learners to understand their strengths and areas that need improvement while preparing them for life, employment and to become active citizens in society.

Moving away from traditional delivery of other units, learners will be empowered to take ownership of their learning process. Hence, this unit will be delivered through a combination of workshops, small-group sessions with mentors and various opportunities to reflect.

The first set of sessions will focus on the self, the ability to work independently and important values in life. The second set of sessions will focus on working with others, dealing with diversity and conflicts. Furthermore, at the end of the sessions, learners will be introduced to the importance of active citizenship in life.

Learning Outcomes
Upon completing the unit, learners should be able to:

1. *Identify personal goals through self-reflection.*
2. *Evaluate how collaboration with others can be more effective.*
3. *Explain the importance of giving and receiving feedback.*
4. *Contribute actively to make a difference in society.*