MCAST

MCAST PROGRAMMES - PUBLIC INFORMATION TEMPLATE (FULL TIME)

Institute	Institute of Applied Sciences
Department	-

Programme Title	Bachelor of Science (Honours) in Environmental Health				
Course Code *To be filled in by Admissions Dept.*	AS6-W05-23		**If the programme includes a WBL element, How is it accredited?**	Internship	
MQF/ EQF Level	Level 6	**Type** *(refer to Appendix 1 for Parameters)*	Qualification	**Awarding Body**	MCAST – Malta College of Arts, Science and Technology
Accreditation Status	Accredited via MCAST's Self Accreditation Process (MCAST holds Self-Accrediting Status as per 1st schedule of Legal Notice 296/2012)				
Mode of Delivery	Face to Face	**Duration** *(Academic Years or Semesters)*	3 Years	**Mode of Attendance**	Full-Time
Total Number of Credits	180 credits	**Total Learning Hours** *(25 Total Learning Hours for each ECTS)*	4500 hours		
Target Audience	Ages 16 - 65	**Target Group** *(the type of learners that the educational institution anticipates joining this programme)*	-		
Programme Fees	There are no fees applicable to Maltese and other EU Nationals (as will be evidenced by their Identity Document) Fees apply for other International Applicants… for fee information and any related updates it is best to communicate with MG2i International through applyinternational@mcast.edu.mt One may consider checking about possible eligibility or otherwise for any exemption from fees by contacting the relevant section within MEYR (Floriana) – or visit the servizz.gov.mt website here				
Date of Next Student Intake	For further information regarding upcoming student intake and applications time windows for same kindly click here				
Language of Instruction	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.				
Application Method	Applications to full-time courses are received online via the College Management Information System. Applicants can log-in using Maltese Electronic ID (eID) in order to access the MCAST Admissions Portal directly and create one's own student account with the identity being verified electronically via this secure service. Non-EID applicants need to request account creation though an online form after that they confirm that their local Identification Document does not come with an EID entitlement. . Once the identity is verified and the account is created on behalf of the applicant, one may proceed with the online application according to the same instructions applicable to all other applicants.				

	For more information about how to apply online for a course at MCAST, please visit: https://mcast.edu.mt/how-to-apply-online-2/
Information for Non-EU Citizens	Non-EU candidates require a study visa in order to travel to Malta and join the course applied for (on a Full Time delivery mode). For further information re study-visa please access https://www.identitymalta.com/unit/central-visa-unit/. Further information International / TCN applicants should take note of before requesting to being considered for a programme of studies at MCAST, can be obtained through the respective FAQ found on https://mcast.edu.mt/important-information/
IMPORTANT note to Non-EU Nationals / TCNs	In instances where a TCN is applying for an MCAST programme of studies which includes Apprenticeship / Placement / Internship, it is the applicant's responsibility to check with the relevant Maltese Authority whether one would be eligible to have the necessary permits to be able to carry out the accredited Apprenticeship / Placement / Internship, success from which is expected in order to be able to successfully complete the selected programme of studies. Further information can also be obtained through the respective FAQ found on: https://mcast.edu.mt/important-information/
Address where the Programme will be Delivered	*MCAST has four campuses as follows:* **MCAST Main Campus** Triq Kordin, Paola, Malta *All courses except for courses delivered by the Institute for the Creative Arts, the Centre of Agriculture, Aquatics and Animal Sciences and the Gozo Campus are offered at the Main Campus address (above).* *Courses delivered by the Institute for the Creative Arts, the Centre of Agriculture, Aquatics and Animal Sciences, or the Gozo Campus, are offered in one of the following addresses as applicable:* **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 *In the case of courses delivered via Online Learning, students will be following the programme from their preferred location/address.* *Programmes delivered via Blended Learning, and which therefore contain both an online and a face to face component shall be delivered as follows:* ○ Face to Face components – as per above address instructions

	○ Online components – from the student's preferred address.
Course Description *(Refer to Programme Specification)*	Prospective learners following this programme will be dealing with the various, often inter-related, facets of environmental health that include: public health; environmental health and safety; food and water safety; health aspects relating to domestic, leisure and workplace environments, and the impact of these various factors on the individual and on society at large. Learners will gain the knowledge, skills and competences on how to assess, analyse, devise and implement efficient solutions to environmental health issues, with a view that successful candidates may be employed in advisory, enforcement or educational positions. They will also learn about current local policies and legal frameworks that oversee the governance of these environmental health factors. Successful candidates will be eligible to apply for Registration with the Council for the Professions Complementary to Medicine of Malta.
Deskrizzjoni tal-Kors *(Refer to Programme Specification)*	L-istudenti prospettivi li jsegwu dan il-programm se jkunu jħabbtu wiċċhom mad-diversi aspetti, ħafna drabi relatati ma' xulxin, tas-saħħa ambjentali li jinkludu: is-saħħa pubblika; is-saħħa u s-sikurezza ambjentali; is-sikurezza tal-ikel u tal-ilma; l-aspetti ta' saħħa relatati ma' ambjenti domestiċi, ta' divertiment u tal-post tax-xogħol, u l-impatt ta' dawn id-diversi fatturi fuq l-individwu u fuq is-soċjetà inġenerali. L-istudenti jiksbu l-għarfien, il-ħiliet u l-kompetenzi dwar kif jivvalutaw, janalizzaw, ifasslu u jimplimentaw soluzzjonijiet effiċjenti għal kwistjonijiet ta' saħħa ambjentali, bil-għan li dawk li jtemmu l-kors b'suċċess isibu xogħol f'pożizzjonijiet ta' konsulenza jew ta' infurzar, jew anke fil-qasam edukattiv. Huma jitgħallmu wkoll dwar il-politika lokali u l-oqfsa legali kurrenti li jirregolaw dawn il-fatturi ta' saħħa ambjentali. L-istudenti li jtemmu l-kors b'suċċess ikunu eliġibbli biex jirreġistraw mal-Kunsill għall-Professjonijiet Kumplimentari għall-Mediċina ta' Malta.
Career Opportunities:	Environmental Health Officer
Entry Requirements *(Refer to Prospectus / Course Page on MCAST website)*	Internal Progression Route…. MCAST Advanced Diploma in Health Sciences or MCAST Advanced Diploma for Dental Surgery Assistants or MCAST Advanced Diploma in Environmental Sustainability or MCAST Advanced Diploma in Food Technology or MCAST Advanced Diploma in Applied Science OR 2 A-Level passes and 2 I-Level passes <u>Compulsory</u> A-Level: Biology
Other Notes related to this Programme, and which are to be taken note of	-
Programme Learning Outcomes *(Refer to Programme Specification)*	At the end of the programme the learner will be able to: 1. Understand the underlying scientific principles of public health upon which to make sound judgement. 2. Work with others and develop the ability to communicate at all levels within a multidisciplinary team. 3. Understand the general legal framework within the EU, and its application to the

	practice of environmental health. 4. Demonstrate problem-solving skills by analysing and synthesizing information and knowledge relating to public health.
Teaching, Learning and Assessment Procedures	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 pertaining to this Programme's MQF/EQF level available at: link https://www.mcast.edu.mt/college-documents/, apply.
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. All full time 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 (where applicable) are graded on a Pass/Fail basis only. Some units which follow industry standards and regulations may also be graded on a Pass/Fail basis as per programme regulations referred below. Detailed information regarding the grading system may be found in the Programme Regulations pertaining to this programme's MQF/EQF Level available at: https://www.mcast.edu.mt/college-documents/ (Refer to DOC 003, 004 and 005)
Exit Point (where and as applicable)	Where a student will not make it to the Final Certification achievable from this Programme of Studies (as per Programme Regulations), one might wish to look into Exit Point possibilities as may be applicable to this programme for studies. Further information, is available at https://www.mcast.edu.mt/college-documents/, kindly refer to *DOC 077 Procedure for the processing of Claims for Certificates at Interim Exit Points.*
Contact details for Further Learning Opportunities	The MCAST Career Guidance Team, offers the service of qualified and experienced Career Advisers who will be very willing to discuss with potential applicants the course which best achieves one's career ambitions, as well as exploring one's education route, or similar. **MCAST Career Guidance** Tel: 2398 7135/6 Email: career.guidance@mcast.edu.mt
Regulatory Body/ Competent Authority Contact Details *(where applicable - in the case of a programme leading to Regulated Profession)*	Council for Professions Complementary to Medicine St. Luke's Hospital, Ex-OPD (Level 1), St. Luke's Square, Gwardamangia PTA 1010

Programme Structure	Unit Code	Unit Title	ECTS	Year	Semester
	ASPHY-506-1901	Physiology for Health Practice	6	1	A
	ASFDD-506-1901	Food Chemistry and Nutrition	6	1	A
	ASANM-506-1501	Implementation of SOPs and principles of HACCP	6	1	A

	ASWBL-503-2007	Work Based Experience 1	3	1	A
	ASPRJ-506-2008	Research Methods within a Research Project 1	6	1	A
	CDKSK-503-2328	English for Academic Purposes	3	1	A
	ASPHY-506-1900	Anatomy for Health Practice	6	1	B
	ASBIO-506-1502	Animal Biology and Physiology	6	1	B
	ASFDD-506-1902	Food Safety and Microbiology	6	1	B
	ASANM-506-1505	Processing of animal products	6	1	B
	CDKSK-503-2330	Critical Thinking I	3	1	B
	ASFDD-503-2001	Food Analysis 1	3	1	B
	ASFDD-503-2002	Food Analysis 2	3	2	A
	ASCHM-506-1512	Environmental Chemical Analysis	6	2	A
	ASENV-506-1602	Environmental Systems	6	2	A
	ASENV-506-1607	Sustainable Development	6	2	A
	ASENV-506-1608	Waste Management	6	2	A
	CDKSK-503-2331	Critical Thinking II	3	2	A
	ASWBL-503-2008	Work Based Experience 2	3	2	B
	ASPRJ-506-2009	Research Methods within a Research Project 2	6	2	B
	ASENV-506-1604	Comprehensive Environmental Impact Techniques	6	2	B
	ASHRT-506-1512	Pesticides and Safe Pesticide Application	6	2	B
	CDKSK-604-2336	Entrepreneurship	4	2	B
	CDKSK-602-2335	Community Social Responsibility	2	2	B
	CDKSK-503-2329	English for Dissertation Writing	3	2	B
	ASANM-606-1511	Animal Health-diseases, epidemiology and management	6	3	A
	ASHTS-606-1902	Quality Assurance and Quality Control	6	3	A
	ASHTS-606-1903	Environmental Health Practice and Legislation	6	3	A
	ASH&S-606-1900	Health and Safety for Environmental Health	6	3	A
	ASHTS-606-1900	Decontamination Techniques	6	3	B

	ASHSC-606-1521	Ethical Issues and Decision Making	6	3	B
	ASHTS-606-1901	Public Health	6	3	B
	ASHTS-606-1904	Sociological, Psychological and Socio Economic Principles	6	3	B
	ASDIS-612-1601	Dissertation	12	3	YEAR

Allocation of Total Learning Hours (per Unit)	The total learning hours required for each unit or module are determined as follows:			
	Credits (ECTS)	**Indicative contact hours[1]**	**Self-Learning and Assessment Hours[3]**	**Total Student workload (hrs)[2]**
	1	5 – 10 hrs	20 - 15 hrs*	25 hrs
	2	10 – 20 hrs	40 - 30 hrs*	50 hrs
	3	15 – 30 hrs	60 - 45 hrs*	75 hrs
	4	20 – 40 hrs	80 - 60 hrs*	100 hrs
	6	30 – 60 hrs	120 - 90 hrs*	150 Hrs
	9	45 – 90 hrs	180 - 135 hrs*	225 hrs
	12	60 – 120 hrs	240 - 180 hrs*	300 hrs
	Note: The 'Self-Learning and Assessment Hours[3]' amount to the difference between the 'Indicative Contact Hours'[1] and the 'Total Student Workload'[2]			

APPENDIX 1

MINIMUM CREDITS FOR QUALIFICATIONS AT DIFFERENT LEVELS

MQF Level	Minimum ECTS Required for a Qualification*
8	
7	30
6	180
5	30
4	30
3	60
2	60
1	40

* Programmes assigned fewer ECTS than indicated will be classified as Awards.

Reference: Fig.1: p48, Malta Further and Higher Education Authority (MFHEA) (October 2024). Referencing Report, 5th Revised Edition.

APPENDIX 2

EXAMPLES OF QUALIFICATION TYPES AT A SPECIFIC MQF LEVEL

MQF Level	Examples of qualification types at a specific MQF level (The list in this column is not exhaustive)	Number of ECTS *
8	Doctoral Programmes:	
	PhD	N/A
	Professional Doctorate	180
7	Master's Degree	90
	Postgraduate Diploma	60
	Postgraduate Certificate	30
6	Bachelor's Degree	180
	Bachelor's Honours	240
5	Undergraduate Higher Diploma	90
	Undergraduate Diploma	60
	Undergraduate Certificate	30
	VET Level 5	60
4	Advanced Diploma	120
	Pre-Tertiary Certificate	30 - 60
	MATSEC Matriculation Certificate (Advanced and Intermediate)	N/A
	VET Level 4	120
3	Certificate	60
	MATSEC Secondary Education Certificate	N/A
	VET Level 3	60
2	Foundation Certificate	60
	MATSEC Secondary Education Certificate	N/A
	VET Level 2	60
1	Introductory Certificate	40
	VET Level 1	40

* Programmes assigned fewer ECTS than indicated will be classified as Awards.

Reference: Fig.2: p48, Malta Further and Higher Education Authority (MFHEA) (October 2024). Referencing Report, 5th Revised Edition.

ASPHY-506-1900: Anatomy for Health Practice

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

Unit Description

This course aims to provide a basic knowledge in applied human anatomy to act as a base for learning in other units. An introduction will be provided into the basic anatomy/histology of body systems and to human embryology important for work in environmental health.

The outcome of this course is an understanding of the structure and relationship between body parts, and some malfunctions and diseases affecting these systems. The complexities of the cells, tissues, major organs and systems of the human body will be covered in areas related to neural & hormonal homeostatic control mechanisms, as well as the musculoskeletal, circulatory, respiratory, digestive, urinary, reproductive, and endocrine organ systems.

Comprehensive and up-to-date information will be provided allowing for advanced human biology knowledge, giving students the opportunity to apply this understanding to related fields as well as for aiding for further practical application and management in some pathology of the subject matter.

Learning Outcomes

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

1. *Describe the foundation of cell anatomy.*
2. *Explain the anatomy of basic units and systems.*
3. *Describe the role of the plasma membrane and generation of a Potential Difference across cell membranes.*
4. *Understand the processes involved in early embryology.*
5. *Describe some applied anatomical conditions and their management.*

ASPHY-506-1901: Physiology for Health Practice

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

Unit Description

This unit aims to provide a basic knowledge in human physiology allowing one to grasp a basic understanding of the subject matter and to use it as a base for learning other medical subjects.

An introduction will be provided into the physiological functioning of basic units and systems, and on some applied physiology/pathology of these systems.

The outcome of this course is understanding the function of human body parts and the body as a whole, and some diseases affecting these systems. The complexities of the cells, tissues, major organs and systems of the human body will be covered in areas related to neural & hormonal homeostatic control mechanisms, as well as the musculoskeletal, circulatory, respiratory, digestive, urinary, immune, reproductive, and endocrine organ systems.

Comprehensive and up-to-date information will be provided allowing for advanced human biology knowledge, giving students the opportunity to apply this understanding to other related fields as well as for aiding in diagnostic assessment and treatment.

Learning Outcomes

On completion of this unit the student will be able to

1. *Describe the foundation of cell physiology and function.*
2. *Explain the physiological functioning of basic units and systems.*
3. *Explain the role of transport and neural communication systems in regulating organ functions.*
4. *Describe the concept of homeostasis.*
5. *Describe the physiologicaland disease and processin particular body systems.*

ASBIO-506-1502: Animal Biology and Physiology

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

Unit Description

The aim of this unit is to deepen the student's understanding of the complexities of the animal body and how the biological systems integrate to respond to the external environment. It is only by fully appreciating the intricate associations between all of the biological systems within an animal's body that one can begin to fine tune management and husbandry procedures such that animal health and welfare can be maintained at an optimum regardless of the expectations being placed upon that animal. Study of anatomy and physiology prepares the way for students to formulate their own opinions on husbandry practices that they encounter within the work place as it provides the scientific context within which to orientate their judgments. The unit builds on knowledge and understanding obtained through study at level 4, and in many cases incorporates the study of evolutionary change in response to ecological factors. It begins by examining the physiology of the locomotory system, and the numerous adaptations to the support and movement systems that exist in the diversity of the animal kingdom.

The unit then turns to the cardiovascular system and their adaptations, and draws on chemical principles studied previously and elsewhere within the programme to explain oxygen and carbon dioxide exchange mechanisms. Reproduction is often the focal point of the performance expectations of many animals and a full appreciation of this phase of life is critical to successful husbandry and management. Underpinning all of the biological systems is the network of control pathways, which is explored through the homeostasis outcome. Finally, the processes used by an animal to acquire raw materials and eliminate waste are explored. Throughout the unit, strategies used by animals to morphologically and physiologically adapt to a particular environment are discussed.

Learning Outcomes

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

1. *Describe the variety of solutions that have evolved to provide support and locomotion in animal bodies.*
2. *Discuss the cardio vascular system and its adaptations in a range of animal species.*
3. *Describe the reproductive processes in a range of animal species.*
4. *Discuss homeostatic processes and mechanisms to obtain and excrete materials from the body.*

ASFDD-506-1901: Food Chemistry and Nutrition

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

Unit Description

This unit is mainly theory based and one of its main objectives is to introduce the learners to the chemistry of the main food components; carbohydrates, lipids and proteins. Initially, learners will be introduced to basic organic chemistry concepts to be able to recognize different classes of biomolecules based on their functional groups and structures; and be able to understand reactions such as reactions which occur during food processing and improper storage conditions of food. The learner will be encouraged to link how the structure of the different food components affect chemical changes during food processing and functions.

The other main objective of this unit is to introduce basic nutritional concepts that are essential to health recommendations and food legislation. These include important food components, specific nutritional needs of people who have diet-related conditions, the importance of avoiding cross-contamination, and nutritional measures. The learner will also participate in discussions about current nutritional issues such as food additives, the role of regulatory authorities, genetically modified organisms and food labelling.

This unit is significant for learners who wish to pursue their studies in environmental health as it will enable them to develop their knowledge and understanding about topics related to food chemistry and nutrition with respect to good health.

Learning Outcomes

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

1. *Evaluate how the structure of carbohydrates affects the chemical changes and functions.*
2. *Evaluate how the structure of proteins and enzymes affects the chemical changes and functions.*
3. *Evaluate how the structure of lipids affects the chemical changes and functions.*
4. *Outline the basic nutritional concepts which are pivotal to health recommendations and food legislation.*

ASFDD-506-1902: Food Safety and Microbiology

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

Unit Description

Micro-organisms can transform food in a beneficial way through food fermentation, however micro-organisms are also associated with food spoilage and foodborne illnesses. It is of utmost importance that any food and beverage that is consumed is safe. This poses a significant public health challenge, especially to prevent foodborne diseases.

Micro-organisms are frequently utilised for the production of various food and beverages. Nowadays, these micro-organisms are grown on a large scale to produce commercial products. Microbial growth, growth cycles and factors that affect growth will be studied. Growth of these micro-organisms can be optimised by changing environmental conditions to influence the end product. Understanding how different types of food and the environment it is subjected to can influence the micro-organisms present, will allow predictions to be made on storage conditions, shelf-life of the product and food safety. The role of genetic engineering within the food industry will also be assessed.

Learners will develop a deep understanding of micro-organisms associated with food spoilage and foodborne diseases. The modes of transmission, clinical symptoms associated with the disease and common food reservoirs will be discussed.

Methods used to control microbial contamination will also be assessed, as well as ways to treat water systems to prevent the spread of diseases through water. Learners will develop an appreciation of the need for health and safety industry standards together with compliance with legislation with particular reference to food safety, and health and safety when manufacturing food and beverage products.

Microbiological analysis of food, water and environmental swabs are required to identify any microbial contaminants present. Learners will know how to interpret microbiological test results and the acceptable limits from different samples. Practical cases will be discussed and a plan on how to investigate a foodborne disease outbreak will be developed. Methods to control the outbreak as well as legal requirements will also be assessed.

Learning Outcomes

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

1. *Understand the importance of micro-organisms in the food and beverage industry and the factors affecting their growth.*
2. *Describe the features of foodborne pathogens and foodborne diseases.*
3. *Understand methods available to decrease pathogens in food and beverage products.*
4. *Interpret results of foodborne disease outbreaks and related measures to control the microbial contamination.*

ASANM-506-1501: Implementation of SOPs and principles of HACCP

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 of the role of standard operating procedures (SOPs), and hazard analysis critical control point (HACCP) plans within a food safety and quality management system. HACCP is the management tool that ensures that the documented management system focuses on product safety as well as quality issues. A food safety and quality management system in the agricultural supply chain will contain a range of pre-requisite programmes (PRPs) of which SOPs form one element. The PRPs can include personal and premises hygiene programmes and waste control procedures; equipment control and site maintenance procedures; supplier approval and incoming material inspection procedures; traceability procedures, calibration programmes, pest control programmes and training programmes. The importance of record keeping will also be emphasised.

The unit will cover the purpose, development, implementation and verification of SOPs in a food supply chain environment and also how food safety plans are developed, documented, validated, implemented and verified in the agricultural supply chain. The course will focus on the Codex Alimentarius method of developing HACCP Plans and includes the methodology of food safety risk assessment. Emphasis is placed on quality assurance and the role of quality control throughout the agricultural supply chain, including both product and process controls.

Learning Outcomes

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

1. *Demonstrate the principles of HACCP and how to develop, implement and monitor a simple food safety plan.*
2. *Develop standard operating procedures in the agricultural setting and produce relevant procedures that support the effective operation of the business.*
3. *Define how agricultural businesses, through the adoption of appropriate management systems, can effectively address food quality and mitigate food safety risk.*

ASANM-506-1505: Processing of Animal Products

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

Unit Description

For centuries before processing of animal products has been taking place where people have using meat and dairy products from the animals and adding value to them.

This unit provides an understanding of animal products (meat, dairy, egg and fish), legislation and problems with processing and quality parameters. It will look at how food has evolved from a simple fresh product to a more complicated added value products and how safety and quality of the developed product is key to its success. The unit is relevant to learners wishing to further their knowledge of the different food processing methods, principles and shelf-life control and stabilisation.

Drying, pickling, curing, salting, sugaring, canning and fermenting are all techniques that have been essential activities throughout history aiming at killing or inhibiting the growth of microorganisms prolonging the shelf-life of the product.

This unit will explore how each of those techniques work, the benefits, the limitations from food safety and quality perspective. It will also provide a practical guideline step by step on how learner can produce it themselves. Learner will also be introduced to the different bee products and their amazing benefits discovered by scientists.

Finally, learners should have the underpinning knowledge and understanding to make food using all the main traditional preservation method.

Learning Outcomes

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

1. *Demonstrate an understanding of global supply and demand for animal products.*
2. *Review the methods used to evaluate the quality of animal products and assess the processing, adding value and marketing of animal products.*
3. *Describe the meat and dairy processing procedures that convert the raw animal product into a saleable food item.*

ASWBL-503-2007: Work Based Experience 1

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

Unit Description

This skills-based unit will allow learners to demonstrate that they have the necessary skills to be able to work in a chosen science industry. Learners will be able to identify a suitable placement for themselves, make effective contact with potential employers and produce proposals for meaningful work that benefits both the learner and the employer. They will familiarise themselves with the work practices and tasks expected of them during the placement and negotiate their role in the organisation for the duration of their placement.

Learners will also be able to fully understand the implications of working within time, budgetary and legislative constraints. Amongst the skills developed are: effective time management (planning and organising on a daily basis and on a longer term project), and working independently and within teams. As regards legislative constraints, learners will have the opportunity to familiarize themselves with the regulatory mechanisms and industry standards in place in order to work effectively and safely with the organisation. By the end of the unit, learners would have developed a reflective practice and understanding of how to improve their efficiency in the workplace.

Learning Outcomes

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

1. *Identify a suitable and sustainable job.*
2. *Prepare all the requirements before applying for the job.*
3. *Identify the specific requirements of the placement.*
4. *Undertake work experience as identified.*

ASWBL-503-2008: Work Based Experience 2

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

Unit Description

This skills-based unit will allow learners to demonstrate that they have the necessary skills to be able to work in a chosen science industry. Learners will be able to identify a suitable placement for themselves, make effective contact with potential employers and produce proposals for meaningful work that benefits both the learner and the employer. They will familiarise themselves with the work practices and tasks expected of them during the placement and negotiate their role in the organisation for the duration of their placement.

Learners will also be able to fully understand the implications of working within time, budgetary and legislative constraints. Amongst the skills developed are: effective time management (planning and organising on a daily basis and on a longer term project), and working independently and within teams. As regards legislative constraints, learners will have the opportunity to familiarize themselves with the regulatory mechanisms and industry standards in place in order to work effectively and safely with the organisation. By the end of the unit, learners would have developed a reflective practice and understanding of how to improve their efficiency in the workplace.

On a different note, this unit will also provide the learner the ability to use instruments and apparatus in an environment relevant to their chosen field of scientific work.

Learning Outcomes

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

1. *Reflect and evaluate on the workplace experiences that might lead to future employment.*
2. *Identify targets and goals for future employment.*
3. *Use communication and presentation skills to provide briefs, reports and presentations in line with current professional standards.*
4. *Identify personal abilities and employability attributes to plan a career pathway.*

ASPRJ-506-2008: Research Methods within a Research Project 1

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

Unit Description

This unit will cover aspects of research methods used in research. The aim is to introduce learners to research and develop their understanding and skills in both quantitative and qualitative research methods. Learners will be introduced to the research process and apply different methodologies, data collecting tools and conceptual frameworks. The end-point of the module is the submission of a Statement of Intent (Proposal) for a research project in-line with College Regulations. This unit in meant to be followed by Research Methods 2.

In this study-unit, learners will cover different types of research design including experimental, descriptive and observational designed. Qualitative data collection designs to be introduced include archival studies, interviews and case studies. The methodological applications of these methods, including the design of appropriate research questions, will also be covered.

The syllabus also covers the challenges of various data collection techniques as well as the measurement issues of questionnaire development, reliability and validity of data, issues of sampling and of sampling size.

Following completion of this unit, learners should be familiar with all parts of the research process including funding application, ethics and publication. Tools will be provided for the learner to individually formulate a research question and to write a sound research proposal.

Learning Outcomes

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

1. *Describe the main stages of the research process.*
2. *Select the appropriate research design for a research question.*
3. *Compile a suitable ethical protocol.*
4. *Complete a research proposal for a specific research project*

ASPRJ-506-2009: Research Methods within a Research Project 2

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

Unit Description

This unit will cover further aspects of research methods used in research. The aim is to help the learners collect data, analyse it, and draw meaningful conclusions from it. The end-point of the module is the submission and presentation of a Level 5 research project in-line with College Regulations. The learners will be encouraged to complete a project as a pilot to a larger research endeavour such as a thesis. This unit in meant to be preceded by Research Methods 1.

The quantitative part of the unit will address research questions in terms of statistical concepts. Methods such as descriptive statistics, estimation and confidence intervals and inferential statistical tests such as chi-square, t-tests and ANOVAs for both parametric and non-parametric data will be covered. Skills in using statistical software such as SPSS will also be developed.

In this study-unit, learners will learn to organize and format a research report in line with College Regulations. This might include the preparation and presentation of a research poster. Techniques for presenting research during a viva or other similar scenarios will also be taught. Skills in compiling and writing a Literature Review will be covered. Preparation and proper formatting of Tables and Figures will also be taught.

Following completion of this unit, learners will have experienced the research process, and will be able to express their experiences and findings in a suitable format.

Learning Outcomes

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

1. *Use qualitative and/or quantitative methodologies.*
2. *Apply research methods, including a correct sampling method, taking into consideration issues such as reliability, validity, and bias.*
3. *Use the appropriate Software for processing and analysing results.*
4. *Compile a research report based on own research endeavours.*

ASFDD-503-2001: Food Analysis 1

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

Unit Description

This unit is the first part of two units in Food Analysis. This first unit will provide learners with the analytical tools required for any investigation relating to food technology be it by the food industry, government agencies and independent research laboratories which often require determination of food composition and its characteristics.

This course will cover the application of quantitative and qualitative physical, chemical and instrumental methods used for analysis of various food constituents including compositional analysis of foods, chemical characterization of food and food constituents, spectroscopic and chromatographic analysis used for the detection, identification and quantification of food macro- and micro- components; examination of the physical properties of foods and sensory evaluation.

Learners will also familiarize themselves with the regulatory and legislative requirements related to food safety. Learners will develop the necessary laboratory skills to work in a laboratory following GLP principles and use different apparatus and equipment to analyze food and carry out investigations in a specialized laboratory.

Learning Outcomes

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

1. *Identify key legislation related to food production.*
2. *Explain how procedures are followed and communicated in the workplace.*
3. *Understand the principles associated with microscopy, spectroscopy and chromatography.*
4. *Identify additional relevant analytical techniques.*

ASFDD-503-2002: Food Analysis 2

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

Unit Description

This unit is the second part of 2 units in Food Analysis (and must be delivered following the conclusion of Part 1. This unit will provide Learners with analytical tools required for any investigation relating to food technology be it by the food industry, government agencies and independent research laboratories which often require determination of food composition and its characteristics.

This unit will cover the application of quantitative and qualitative physical, chemical and instrumental methods used for analysis of proteins, carbohydrates and lipids including compositional analysis and chemical characterization. Learners will also familiarize themselves with analysis used for the detection, identification and quantification of additional specific food parameters.

This unit will guide learners to identify the appropriate method(s) of analysis based on the investigative purpose, which can be nutrition labelling, quality control, product development or scientific research. Moreover, learners would be able to interpret results and analyse their data scientifically.

Learning Outcomes

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

1. *Discuss the application of different analytical techniques for analysis of protein of food and beverage composition*
2. *Discuss the application of different analytical techniques for analysis of carbohydrates of food and beverage composition.*
3. *Discuss the application of different analytical techniques for analysis of lipids of food and beverage composition.*
4. *Discuss the application of different analytical techniques in food and beverage composition for analysis of various food components and properties.*
5. *Carry out lab procedures to select an appropriate analytical technique to analyse food components reliably.*

ASCHM-506-1512: Environmental Chemical Analysis

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

Unit Description

This is a skills and knowledge based unit that will allow learners to demonstrate that they have a proper understanding of environmental chemical analysis, starting from underpinning principles of pollutant chemicals in the environment, to sampling and testing techniques, and environmental modelling regimes. Students will familiarise themselves with the distribution of various chemical species in the environment, with particular reference to their sources and the various types of biological and chemical transformations which they undergo once released into the environment. This information will allow the learners to better grasp the techniques and methods of how environmental chemical analysis is employed for tackling various chemical pollutants.

The unit is meant to serve as a proper introduction to pollution from an environmental chemistry perspective. While some of the concepts may have been covered in other units, this module strictly takes a chemical route to environmental pollution. On completion of the Unit, learners will be able to differentiate between pollution effects of different chemical species, with a proper understanding of their sources and various transformations once present in the environment. In addition, learners will also be introduced to methods by which chemical analysis is undertaken directly at the sampling site and in the laboratory. An introduction to the use of environmental models is also included in this unit, so that learners can grasp the notions of using models to predict potential environmental issues prior to them occurring.

Learners will be able to complete laboratory experiment write-ups and examinations for this unit after following the content described below. Lectures will be complemented by experimental work in the laboratory which will allow learners to visualise concepts which have been covered during lectures.

Learning Outcomes

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

1. *Describe chemical principles in an environmental context.*
2. *Demonstrate how chemical analysis is used in environmental monitoring.*
3. *Perform quantitative environmental analysis.*
4. *Examine the applications of environmental modelling.*

ASENV-506-1602: Environmental Systems

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

Unit Description

This is a skills based unit and will allow learners to demonstrate they have the necessary skills to be able to understand environment systems and how these work. Learners will be able to understand how the different components of environmental systems work together in order to have the current state of the planet. They will also be able to understand that any changes which could occur to these components have far reaching effects on all the system, hence the importance of fully understanding the mechanics behind these systems.

The unit is relevant to learners wishing to further develop their knowledge of their surrounding environment thus helping them better understand the relationships between the living and non-living parts of that environment. On completion of the Unit learners will understand how to forecast scenarios following changes in environmental ecosystems.

Learners will carry out field work and data collection I order to predict different scenarios in the local and international context.

Learning Outcomes

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

1. *Recognise environmental systems.*
2. *Identify the characteristics of the lithosphere.*
3. *Recognise the characteristics of water within hydrological systems.*
4. *Evaluate the relationship between global climate and environmental systems.*
5. *Explain the relationship between the ecosphere and environmental systems*
6. *Describe the effect of man on ecosystems.*

ASENV-506-1607: Sustainable Development

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

Unit Description

This is a skills based unit and will allow learners to demonstrate they have the necessary skills to be able to identify and utilise the concepts used in Sustainable Development at different levels, that is on a global, regional and local level. Leaners will be in a position to identify the required information and datasets in order to identify whether a country is promoting sustainable development or not. In the latter case they would be able to identify any shortcomings.

The unit is relevant to learners wishing to further develop their knowledge of sustainable development as a tool to help provide solutions at different levels. On completion of the Unit learners will understand how sustainable development started off as a global concept and how such a concept is applied at different levels. They will also be in a position to understand the problems associated in achieving such a form of development and the potential benefits which could be derived from it. Learners will be in a position to understand how sustainable development is being tackled at different levels, that is in a global, European, Mediterranean and local context.

Learning Outcomes

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

1. *Identify the principles of sustainable development.*
2. *Explain the role of environmental management in sustainable development.*
3. *Explain the role of international law and agreements in sustainable development.*
4. *Explain the role of International Institutions in sustainable development.*
5. *Demonstrate sustainable development in the regional and local context.*
6. *Identify whether we have reached the point of no return or whether we can still achieve sustainable development goals.*

ASENV-506-1608: Waste Management

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

Unit Description

As European society has grown wealthier it has created more and more waste. Each year in the European Union alone approx. 3 billion tonnes of waste are generated.

Waste can be managed with benefit to the economy and to the environment, or mismanaged with potentially serious consequences to the community that produces it and beyond. It is therefore no surprise that, with approx. 30 binding many legislative instruments, the waste sector is one of the most controlled sectors in the European Union. Moreover, the process of legislating waste sector is a dynamic one, with old legislation being reviewed and new legislation being adopted on a regular basis. This is challenging for the waste sector itself and to businesses that generate waste. It is imperative, for the sake of competitiveness, that businesses keep up to date, and that tomorrow's workforce be fully informed of the obligations and opportunities that are related to the waste sector.

This is a knowledge-based Unit and is designed to provide adequate knowledge to the students when these find themselves in a business environment. The Unit provides the students with knowledge on the legislation that controls waste as well as how businesses can avoid waste and turn unavoidable waste into a resource. The Unit is also aimed at students who intend to further develop their knowledge on the subject.

Learning Outcomes

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

1. *Identify the factors related to the generation of waste.*
2. *Recognise the nature of waste and its classification.*
3. *Recognise the effects of waste on human health and the environment.*
4. *Outline the legislative instruments related to the management of waste.*
5. *Review the Waste Hierarchy and selected techniques for the sustainable and safe management of waste in a business environment.*

ASHRT-506-1512: Pesticides and 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.*

ASHTS-606-1900: Decontamination Techniques

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

Unit Description

Consumers' demands for good quality and safe food and beverage products has led to an increasing awareness about the importance of hygiene during various stages of food production, and to an increasing interest in novel physical and chemical decontamination technologies in the food and beverage industry.

The first part of this unit will deal with health and safety issues such as hazards, importance of health and safety in different sectors of the food and beverage industry, such as, during processing, manufacturing and packaging, and occupational health and safety. This will be followed by awareness about the sources of food contamination, an overview of hygiene development in this industry, and different hygiene control measures that must be followed rigorously to ensure that the final product is safe for human consumption. One cannot appreciate the importance of decontamination techniques if s/he is not aware about the microorganisms responsible for food poisoning.

As a result, in the second part of this unit, students will gain knowledge about different microorganisms that are relevant for the food and beverage industry, including pathogenic microorganisms that cause food poisoning and food spoilage microorganisms that affect the quality of the product. Case studies on food poisoning and food deterioration by food spoilage microorganisms will also be included in this part. In the third and fourth part of this unit, students will be exposed to various physical and chemical decontamination techniques used in the food and beverage industry to ensure food safety and meet food safety regulatory requirements.

Learning Outcomes

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

1. *Understand the importance of health and safety, and hygiene in the food and beverage industry.*
2. *Understand the role of microorganisms in food spoilage and food poisoning.*
3. *Demonstrate physical decontamination techniques used on an industrial level in the food and beverage industry.*
4. *Demonstrate chemical decontamination techniques used on an industrial level in the food and beverage industry.*

ASHTS-606-1903: Environmental Health Practice and Legislation

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

Unit Description

In this unit, the learner will be dealing with regulations that are utilized in the Environmental Health (EH) sector and form the backbone of the EH profession within the Maltese Government. Participants will have first-hand information on the interpretation of regulations ranging from those related to environmental health, public health, food safety, and also administrative regulations. The topics in this unit will therefore help the learner to understand the legal basis of several functions that EH professionals perform and also help in performing such duties in an improved and legally-correct way. These include but are not limited to official controls in the food sector such as inspections, audits, sampling, market surveillance, tobacco control including tobacco labelling, legionella audits, pool safety, drinking water regulations, import controls on food of non-animal origin, food contact materials, burials and repatriations, ship sanitation, and other public health matters. It will hence give the learner an insight of all roles and specializations the EH profession have and also introduce him/her to legal jargon and to the Maltese legal system so as to be able to understand legal procedures in court and also to be able to draft regulations, if needs be.

Learning Outcomes

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

1. *Understand the terminology used in legislation and in court to be able to provide objective evidence.*
2. *Recognise the regulations that are used by the Environmental Health Officers in the food sector.*
3. *Recognise the regulations that are used by the Environmental Health Officers in the public and environmental health sector.*
4. *Generate solution(s) for a given Environmental Health related problem by applying relevant regulations, standards and guidelines.*

ASHTS-606-1904: Sociological, Psychological and Socio Economic Principles

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

Unit Description

This unit provides basic theory on the four different topics. The first topic is basic psychology and its application in the practice of environmental health, whereby various basic constructs and theories commonly used in psychology will be explored. This topic will also include an introduction Environmental Psychology. This subtopic links psychological to environmental aspects and explore various instances where psychology can be applied to the environmental health practice.

The second topic will explore concepts of disease and ill-health arising from stressors acting on the world, together with the roles and responsibilities of environmental health professionals. In this topic various natural and manmade environmental threats that affect society will be examined and evaluated. Moreover, various stressors which lead to environmental diseases, including pollutants will be defined. This topic will also include discussions on various organisations which deal with environmental issues and highlight principles on which environmental health policies should be built upon.

The third topic covers the principles of macro and micro economics and their importance in society. The syllabus covers basic economic concepts and the fundamentals of microeconomics and macroeconomics principles. The unit will also include the usage of economic tools in environmental health policy-making

The fourth topic is about the principles of sociology and their importance to aspects of environmental health. After an introduction to some basic concepts of sociology, particular emphasis on the subtopic Environmental sociology.

The syllabus will be designed to include current events and latest findings. Wherever possible, learners will be involved in discussions in order to be able to relate the subjects to the EH practice.

Learning Outcomes

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

1. *Apply common sociological behaviours encountered in EH practice.*
2. *Identify environmental factors which lead to ill-health conditions as well as the principles which govern EH.*
3. *Understand the general micro and macroeconomic principles and the use of economic tools in EH.*
4. *Recognise the basic sociological principles and the ideologies related to environmental sociology.*

ASANM-606-1511: Animal Health-Diseases, Epidemiology and Management

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

Unit Description

This unit highlights the importance of adequate animal health and the significance of preventing disease and injury. Diseases and conditions are subdivided into three main areas, infectious, metabolic diseases and mechanical injuries and traumas. The unit aims to provide knowledge and understanding of the general epidemiological facets of diseases as well as explaining the process of common specific diseases/conditions and injuries of the main companion and farm animals.

Learning Outcomes

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

1. *Understand the disease process, different nature of diseases and the role of the immune system in animals.*
2. *Explain the process and management of common metabolic disorders of the main companion and farm animals.*
3. *Explain the process and management of common infectious diseases of the main companion and farm animals.*
4. *Explain the appropriate management and cure of common injuries of the main companion and farm animals.*

ASHSC-606-1521: Ethical Issues and Decision Making

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

Unit Description

The course is designed to provide an overall insight into concepts of ethical issues and decision making. It targets the interface of decision making and ethics, showing the consideration that must be brought to bear for decision to be an ethical one. It merges the knowledge of philosophy of ethics with the management of science of decision making and applies the result to daily decision problems in Health and Social Care. In order to be able to target this interface and to merge the philosophy of ethics withthe science of decision making the course needs to cover both topics separately.

This is why the course will firstly start with an introduction of theory-based knowledgein order to provide students with basic understanding of what ethics is in everydayand professional life.The participants will also get introduced with ethical principles and types of ethicswhich will be explored in order to get understanding of the divine and natural lawethics, utilitarian and deontological ethics. The course will continue in explaining moral rules such as veracity, privacy, fidelity and confidentiality, and moral principles such as respect for autonomy,

nonmaleficience, beneficence and justice. The ethical guidelines and professional codes of different Health and Social Care Professions shall be investigated with a particular focus on the ethical guidelines available for Health and Social Workers. Bioethics, or as it is sometimes called medical ethics will be covered more deeply through the mentioned rules, principles and guidelines, since in addition to the above mentioned this module is aimed to explore complex ethical issues and problems. Some of these include: genetic diagnostic testing, cloning and stem cell research, gene therapy and nanotechnology, patenting with respect to GMO's products, pharmaceuticals and genetic resources, beginning as well as end of life issues, issues of aging, organ transplant and ICT implants.

The students will also have the opportunity to explore the principle of double effect such as uterine cancer and ectopic pregnancy, ordinary/extraordinary treatments, fundamental human rights, absolute versus non-absolute rights, personhood versus being and the status of the human embryo.

Afterwards the first section, participants will get acquainted with different types of decisions we all make every day and will have to consider different models of decision making. The distinction between decision making and problem solving will be tackled and the process of systematic approach to methods of reaching a decision will be introduced. As well the participants will be able to learn the decision making techniques.

Finally, an evaluation of how making choices and decision can have impact on ethical issues shall be appraised. The way in which ethical issues influence decision-making strategies shall also be considered. Legal aspects and legislation related to data protection, anti-discriminatory practice, protection of vulnerable people, professional liability and indemnity shall be covered.

Learning Outcomes

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

1. *Demonstrate a general understanding of ethics and ethical principles.*
2. *Apply practical knowledge in decision making process.*
3. *Examine, investigate and make choices about various ethical problems.*
4. *Critically discuss various ethical issues.*

ASHTS-606-1901: Public Health

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

Unit Description

The study unit 'Public Health' introduces the discipline of public health and the social, political and economic context within which public health operates, helping learners develop a broad understanding of the subject. The historical development and core functions of public health will be explored to foster an understanding of the wider social, environmental and economic determinants of health and the extent through which individual health is determined by diverse agents, host factors and other conditions. Key terms will be defined. This unit will also help learners recognize and understand inequalities in health. It will introduce the learners to sources of health data and outline basic methods for the measurement of population health and public health surveillance. Examples of public health surveillance and research will be used to highlight such methods. While major public health concerns and the health needs of specific population groups in developed and low- and middle-income countries will be presented, a strong focus is on Malta.

As the major focus of Public Health is the prevention of disease and promotion of healthy living, the study unit will familiarise learners with methods for the prevention and control of main public health hazards, including health promotion and health education as a process designed to empower people to increase control over and improve their health. Legislation underpinning the principles of public health will be discussed.

The content will be supported throughout by local statistics, policies and practices.

Learning Outcomes

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

1. *Outline the scope and key functions of public health as well as its core values and concepts.*
2. *Describe determinants of health and ill-health that determine human health and contribute to health disparities.*
3. *Evaluate the key characteristics and organizational structures of a health system.*
4. *Explain public health surveillance.*
5. *Recognise health promotion and protection interventions that address the health-related needs and concerns of the population.*

ASHTS-606-1902: Quality Assurance and Quality Control

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

Unit Description

Laboratories exist for a number of reasons ranging from supporting manufacturing processes and providing contractual services through to areas such as high performance forensic and research analytical services. The credibility of test results from an Analytical Laboratory is fundamental to its reputation and sustainability. This unit provides Learners with the opportunity to understand the related concepts and issues. The critical roles of Quality Control (QC), Quality Assurance (QA) and Quality Management System (QMS) accreditation are covered.

For those who may be unfamiliar with the difference between the principles of Quality Control and Quality Assurance the terms will be defined at the outset. Where possible, field trips to a variety of different specialized Laboratories settings may be used to help bring the subject to life, stimulate student discussion and embed the learning.

In essence, the unit covers the validity of analytical results, the power and use of internal and external Quality Control processes, the power and use of Quality Assurance processes and the value of Laboratory accreditation to specific related industry standards.

Learning Outcomes

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

1. *Explain the validity of analytical results in a quality framework.*
2. *Use Quality Control methods in Laboratory analysis.*
3. *Use Quality Assurance methods in a Laboratory setting.*
4. *Explain the benefits of Laboratory accreditation.*

ASH&S-606-1900: Health and Safety for Environmental Health

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

Unit Description

This unit will cover theoretical knowledge on the following topics related to Environmental Health, namely: the concept of hazard and risk and the principles surrounding their assessment and management, management principles and quality systems in the practice of environmental health, sanitary engineering, personal health and safety, the relationship between housing and health, the principles of indoor air quality management and the safety of drinking water and recreational water systems.

The purpose of this unit is also to link and apply the knowledge to Environmental Health practice, and this will be done by evaluating case studies and involving learners in discussions. The topics will also include an evaluation of the relevant legislation and their applicability in practice is crucial for the Environmental Health practice.

Topics will address current events, latest findings on the subjects and, where applicable, timeline of events and how knowledge and evidence evolved/is evolving.

Learning Outcomes

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

1. *Apply legislations and regulations in practice.*
2. *Evaluate the main health issues which affect housing and urban environments and how these can be controlled.*
3. *Recognise health and safety issues and the use of PPE and other equipment related to environmental health practice.*
4. *Understand the basic concepts governing hazard identification and risk assessment in environmental health.*
5. *Identify the benefit of having quality systems in place and in adhering to management principles.*

ASENV-506-1604: Comprehensive Environmental Impact Techniques

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

Unit Description

This is a skills based unit and will allow learners to demonstrate they have the necessary skills to understand what it entails to carry out an Environmental Impact Assessment (EIA). They will also be able to understand the different skills involved in carrying out the different baseline studies done in order to do an EIA. They will also be able to understand the role played by the different stakeholders involved in the process. Finally, they will be given the basic skills in report writing.

The Unit is relevant to learners wishing to further develop their knowledge of impact assessments and relevant documentation and procedures associated with such reports. On completion of the Unit learners will understand how an EIA is carried out and who participates in such a process. This Unit will provide the Learner with the ability to use different skills designed to analyse and interpret data obtained during the process.

Learners will carry out an assessment based on a hypothetical scenario and using available data to prepare an assessment. This will therefore require learners to be confident in analysing data, predicting impacts and suggesting mitigation measures and presenting reports.

Learning Outcomes

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

1. *Explain why and when an Environmental Impact Assessment (EIA) is required*
2. *Explain the interaction between all stakeholders.*
3. *Explain the documentation involved in the process.*
4. *Explain the sources and methodologies used to collate data for an EIA.*
5. *Explain the role of the public in the EIA process.*
6. *Explain how to prepare a baseline report.*

CDKSK-503-2328: English for Academic Purposes

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.

Moving beyond key linguistic skills, the purpose of this unit is to provide an EAP (English for Academic Purposes) foundation for degree programmes, focusing specifically on improving learners' awareness and familiarity with the skills necessary for successful academic reading and writing in English at Levels 5 and 6.

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 academic databases to use specialised sources within their field of study, and effectively integrate this information through paraphrase and citation 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. *Revise writing for academic formality and appropriacy.*
3. *Reproduce sourced content by means of indirect quoting methods.*
4. *Apply proper referencing conventions when citing content.*

CDKSK-503-2329: English for Dissertation Writing

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, and speaking skills as determined by the rigours of pre-dissertation research.

English for Dissertation Writing 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 by the second and final years of the degree programme. This usually involves the identification of a research topic within one's discipline, clarifying its scope, carrying out a literature search to identify local and international research, reviewing the respective theoretical frameworks, models, or approaches, and considering their eventual application. In this respect, it also complements vocational units such as Research Design or Research Methods but with focus retained on academic reading, writing, and speaking.

English for Dissertation Writing is therefore primarily intended to guide students towards their eventual submission of a dissertation proposal as well as familiarise them with dissertation writing and the viva interview more generally.

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

1. *Evaluate academic sources of information when working on own research proposal.*
2. *Produce texts of an academic nature using appropriate language and style.*
3. *Present ideas for own research by outlining the applied problem and proposed approach.*
4. *Respond effectively to key questions in relation to research in own field.*

CDKSK-503-2330: Critical Thinking I

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

Unit Description

Critical Thinking is the intellectual discipline of actively and skilfully conceptualising, applying, analysing, synthesising, and evaluating information gathered from, or generated by, observation, experience, reflection, reasoning, or communication as a guide to belief and action.

This unit equips learners with sought after skills essential to the vocational and academic life. Its main focus is on frameworks of reflective practice and ideology which are exemplified through the building of a critical readership by means of close-reading techniques and reflective writing. By integrating theories of reflective writing and the nature of evidence from sources of information, this unit equips learners with the means to read, interpret, reflect and write critically and reflectively.

The application of close-reading techniques and ideology is also addressed in this unit. Close reading is the careful, critical analysis of a text that focuses on significant details or patterns in order to develop a deep, precise understanding of the text. Ideology is also addressed, with particular focus on areas of practical research that lie at the confluence of social, political, and technological concerns.

The final aim behind Critical Thinking I is to facilitate a deep, transformative, and unique learning experience.

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

1. *Identify the different reflective frameworks that can be used to enable critical reflection and thinking.*
2. *Apply the appropriate methodology to write in an analytic and reflective manner.*
3. *Apply close-reading techniques to secondary research.*
4. *Explain the importance of ideology in critical thinking.*

CDKSK-503-2331: Critical Thinking II

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

Unit Description

Critical Thinking is the intellectual discipline of actively and skilfully conceptualising, applying, analysing, synthesising, and evaluating information gathered from, or generated by, observation, experience, reflection, reasoning, or communication as a guide to belief and action.

This unit equips learners with sought after skills essential to the vocational and academic life. Its main focus is on demonstrating how concepts of validity, reliability and credibility of information are highly necessary when formulating objective, analytical arguments and reaching sound conclusions. Furthermore, individuals who can critically interpret information and evaluate its origin, inherent biases, fallacies and strengths are known to be more perceptive, responsive to illogical argument, and can formulate arguments more effectively.

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

1. *Determine the main features and components of explicit arguments.*
2. *Demonstrate effectively basic logical reasoning in a given task.*
3. *Identify common flaws in argumentation.*
4. *Construct objective, analytical arguments, and conclusions for the chosen issue.*

CDKSK-604-2336: 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; 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 with diverse team members will provide the learners not only with the possibility to look at entrepreneurial ideas from different perspectives, but also to come up with more creative, original and feasible solutions to arising challenges.

The practical and real-life element of the unit will allow learners to engage and interact with different stakeholders from industry and public institutions. This 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. *Generate ideas emerging from identified opportunities.*
2. *Use different techniques to evaluate and assess an idea.*
3. *Apply business related techniques to implement an idea.*
4. *Promote an idea through effective communication skills.*

CDKSK-602-2335: Community Social Responsibility

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

Unit Description

Community Social Responsibility is a unit designed to explore the concepts and practices of social responsibility within the context of community development and engagement. This unit aims to equip learners with the necessary knowledge, skills, and competences to actively contribute to the betterment of society. Learners will engage in self-reflection, analyze their roles within a community, and develop strategies to make a positive impact on the common good.
Learning Outcomes: By the end of this unit, learners will be able to:

1. Be familiar with the various stages of individual development and enrichment: Learners will explore the different stages of personal growth and development, examining factors such as values, beliefs, and motivations. Through self-reflection and critical analysis, learners will gain a deeper understanding of themselves, their strengths, and areas for improvement.
2. Apply the skills gathered during individual development to relationships with others: Building upon their personal development, learners will learn how to apply the acquired skills, such as effective communication, empathy, and collaboration, in their relationships with others. They will explore strategies to enhance interpersonal skills, build trust, and foster positive connections within diverse communities.
3. Analyze one's own role within a community contributing towards a common good: Learners will critically reflect on their roles and responsibilities within a community, considering factors such as privilege, power dynamics, and social inequalities. They will examine the impact of their actions and explore ways to address community needs, promote inclusivity, and advocate for social justice.
4. Contribute actively to make a difference in society: This unit will provide learners with opportunities to actively engage in community initiatives and service projects. Through experiential learning and practical application, learners will develop the skills necessary to identify social issues, design and implement effective solutions, and evaluate the impact of their actions on society.

Throughout the unit, learners will engage in discussions, case studies, group projects, and exposure to community-based activities. They will be encouraged to think critically, collaborate with peers, and draw upon theoretical frameworks and real-world examples to deepen their understanding of community social responsibility. By the end

of the unit, learners will have gained the knowledge, skills, and motivation to actively contribute to the betterment of their communities and create positive social change.

Learning Outcomes

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

1. *Recognise the various stages of individual development and enrichment.*
2. *Apply the skills gathered during individual development to the relationships with others.*
3. *Analyse one's own role within a community contributing towards a common good.*
4. *Contribute actively to make a difference in society.*