MCAST

MCAST PROGRAMMES - PUBLIC INFORMATION TEMPLATE (FULL TIME)

Institute	Institute of Engineering and Transport
Department	Building Services Department

Programme Title	Diploma in Heating, Ventilation and Air-Conditioning				
Course Code *To be filled in by Admissions Dept.*	BL3-A03-25		**If the programme includes a WBL element, How is it accredited?**	Apprenticeship	
MQF/ EQF Level	Level 3	**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)*	1 Year	**Mode of Attendance**	Full-time
Total Number of Credits	60 credits	**Total Learning Hours** *(25 Total Learning Hours for each ECTS)*	1500 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)*	This course provides learners with the essential knowledge related to heating, ventilation and air-conditioning (HVAC). It will enable learners to work as assistant technicians engaged in servicing and carrying out maintenance on refrigeration compressors, condensers, evaporators and other accessories. Practical training is carried out in workshops equipped to industry standards. Learners are expected to participate individually and in teams to operate refrigeration and air conditioning equipment. This course also provides learners with the opportunity to further develop their knowledge of key skills subjects such as Mathematics, Science, English, Maltese, Information Technology .
Deskrizzjoni tal-Kors *(Refer to Programme Specification)*	Dan il-kors jipprovdi lill-istudenti għarfien essenzjali relatat mattiswin, il-ventilazzjoni u l-kondizzjonament tal-arja (HVAC). Dan jippermetti lill-istudenti jaħdmu bħala assistenti teknixins fl-isservisjar u t-twettiq ta' manutenzjoni fuq kompressuri tar-refriġerazzjoni, kondensaturi, evaporaturi u aċċessorji oħra. It-taħriġ prattiku jsir f'workshops attrezzati skont l-istandards tal-industrija. L-istudenti huma mistennija li jipparteċipaw b'mod individwali u f'timijiet biex iħaddmu tagħmir tar-refriġerazzjoni u tal-kondizzjonament tal-arja. Dan il-kors jipprovdi wkoll lill-istudenti l-opportunità li jkomplu jsaħħu l-għarfien tagħhom fir-rigward tas-suġġetti tal-ħiliet ewlenin, bħall-Matematika, ix-Xjenza, l-Ingliż, il-Malti, it-Teknoloġija tal-Informazzjoni.
Career Opportunities:	HVAC Installer
Entry Requirements *(Refer to Prospectus / Course Page on MCAST website)*	Internal Progression Route… Any MCAST MQF Level 2 Foundation Certificate OR 2 SEC / SSC&P or equivalent with a Pass Grade / Level 3 Applicants must present an official document, showing a positive clearance following a Colour Vision Assessment / Test, as approved by REWS as the Regulatory Authority in this area.
Other Notes related to this Programme, and which are to be taken note of	When submitting online application for this course, a scan of the original and official Colour Vision Test result needs to be uplaoded together with all other documentation required.
Programme Learning Outcomes *(Refer to Programme Specification)*	At the end of the programme the students is able to 1. Carry out a risk assessment of the surrounding working environment before and after executing an assigned task. 2. Set out and form pipe runs for small commercial installations. 3. Set out equipment and accessories to fit for particular situations. 4. Follow working procedure to ensure quality during installations, servicing and maintenance.
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)*	Not Applicable

Programme Structure	Unit Code	Unit Title	ECTS	Year	Semester
	ETHVA-305-2301	HVACR Technology	5	1	Year
	ETHVA-305-2302	HVACR Electric	5	1	Year
	ETHVA-305-2303	Domestic Hot Water, Central Heating and Ventilation Installation Practice	5	1	Year
	ETHVA-305-2304	Domestic Air Conditioning and Refrigeration Installation Practice	5	1	Year
	ETHVA-305-2305	Building Drawings and Setting Out	5	1	Year
	ETHVA-305-2306	Occupational Safety in the Construction Industry	5	1	Year
	ETAPP-306-2305	Vocational Competences in Heating, Ventilation and Air Conditioning	6	1	Year
	CDKSK-304-2313	English	4	1	Year
	CDKSK-304-2314	Mathematics	4	1	Year
	CDKSK-304-2315	Il-Malti	4	1	Year
	CDKSK-304-	Community Social	4	1	Year

	2501	Responsibility			
	CDKSK-304-2317	Science and Technology	4	1	Year
	CDKSK-304-2316	Information Technology	4	1	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.

ETHVA-305-2301: HVACR Technology

Unit level (MQF/EQF): 3
Credits: 5
Delivery Mode: Fully Face-to-Face Learning
Total Learning hours: 125

Unit Description

This programme is designed to provide knowledge in the field of heating, ventilation, air conditioning and refrigeration.

Learners will learn about the functional principles of different heating systems, including solar heating systems for various uses. They will learn about the heating devices, pumps, components and accessories, including semi or fully automated devices.

They will identify all elements of a refrigeration system and understand the working principles of refrigeration, refrigerant types and the components of refrigeration systems.

They will gain knowledge of all elements and materials of an air conditioning system as well as an understanding of the procedure and equipment necessary for the installation and testing of air conditioning units.

At the same time learners will adopt the theoretical aspect of the air conditioning principles and air parameters that are changed and controlled in HVACR systems.

Learners will gain knowledge about practical refrigeration and air conditioning principles and their practical use in the environmental control of buildings. They will learn about elements of refrigeration, air condition systems, pipes fittings, accessories, insulation, refrigeration gases and heat pumps.

Basic knowledge of ventilation systems in domestic buildings, advantages and disadvantages of different systems, ducts, ventilators and other elements of a system will be adopted during this unit. They will also learn about the types of ventilators, ducting, automation, and regulation.

Learning Outcomes

Upon successful completion of this unit, learners will be able to:

1. *Identify the components required to assemble a refrigeration system;*
2. *Select the equipment, materials and procedures required to install a domestic air-conditioning system;*
3. *Analyse the methods of connecting and setting basic system controls and determining physical parameters associated with HVACR;*
4. *Describe the types and components of ventilation systems.*

ETHVA-305-2302: HVACR Electric

Unit level (MQF/EQF): 3
Credits: 5
Delivery Mode: Fully Face-to-Face Learning
Total Learning hours: 125

Unit Description

This programme is designed to provide knowledge in the field of electrical installations that is required to complement and support HVACR systems.

Learners will learn about all electrical principles that will include all definitions, formulae, laws and regulations that are related to domestic HVACR systems.

Learners will adopt the theoretical knowledge of electrical installations and an understanding of basic computations for working safely on circuits. They will use Ohm's law and other equations for series circuits, parallel circuits, resistivity, and power.

Learners will learn about the different types of electrical circuits and different types of instruments. Practical concepts will be carried out such as measuring electrical voltage, current and resistance of various components including temperature sensors.

The program also includes technology sessions such as power distribution, cable selection, protection devices, earthing and the importance of health and safety practices

Learners will learn the basic principles of magnetic field in relationship with motors, solenoid valves and transformers. During this course, learners will gain knowledge about electrical terminations and simple circuits.

Learning Outcomes

Upon successful completion of this unit, learners will be able to:

1. *Solve theoretical problems related to DC and simple single-phase AC circuits;*
2. *Know the safety precautions one should undertake when dealing with electrical installations;*
3. *Practice different wiring techniques and testing procedures used in the distribution of electrical supply to domestic HVACR equipment.*

ETHVA-305-2303: Domestic Hot Water, Central Heating and Ventilation Installation Practice

Unit level (MQF/EQF): 3
Credits: 5
Delivery Mode: Fully Face-to-Face Learning
Total Learning hours: 125

Unit Description

Learners will gain basic skills in construction, which are no directly related to HVACR and will have the opportunity to select and use tools for specific applications. The basic skills in construction that are not directly connected to installation vocation include dealing with necessary openings, cuttings and other adjusting in construction elements like walls and slabs in order to make the installation in building.

This unit will also give learners practical knowledge and skills to install the elements of domestic hot water, central heating and ventilation systems.

The knowledge in heating systems includes covering sources, heat transfer and different types of heaters. It introduces the practice of the installation of domestic solar panels systems. Solar panels installation and maintenance will be included in practical exercises.

Learners will learn basic plumbing skills, such as cutting and making pipe joints. They will deal with the creation of simple pipework, measuring, cutting, bending and joining of pipes including an introduction to brazing techniques. They will fix pipework to wall and connect it to accessories, and install pipework insulation.

Learners' practice includes work out of the duct work systems including all component elements and fittings of ventilation in domestic buildings. They will create elements of ventilation ducts using different templates and they will use fittings, joining elements, suspended systems and fasteners.

Learners will carry out practice on the installation of axial and radial ventilators, fan cooling units and other heating emitters together with their basic routine maintenance.

Learning Outcomes

Upon successful completion of this unit, learners will be able to:

1. *Select and use basic hand tools in the construction sector;*
2. *Practice the basic types of joining systems and pipe work accessories;*
3. *Understand the domestic hot water and basic central heating systems and components;*
4. *Produce typical domestic ventilation systems.*

ETHVA-305-2304: Domestic Air Conditioning and Refrigeration Installation Practice

Unit level (MQF/EQF): 3
Credits: 5
Delivery Mode: Fully Face-to-Face Learning
Total Learning hours: 125

Unit Description

This unit provides learners with practical knowledge and skills of installing elements/units of air conditioning systems. Learners will carry out the installation and commissioning of domestic air conditioning units. They will gain the practical competence to install small air conditioning systems with a wall or ceiling mounted unit, pipe runs and external unit. They will adopt the knowledge about gauge manifold, pressure tests, vacuum tests, vacuum pump, and service cylinder of refrigerant, refrigerant balance, service tools, high pressure switch, low pressure switch, combined high/low pressure switch, and thermostat.

Learners will be engaged in servicing and maintenance of refrigeration compressors, condensers, evaporators and other accessories. They will gain practical skills in setting and installing refrigeration systems by following instructions and under supervision. They will deal with components like compressor, condenser, evaporator, expansion device, receiver, filter drier. They will practice connecting components by wiring and interconnecting pipework.

This unit includes working on the pipework systems including all component elements and fittings.

This unit covers the practical use of measuring devices of parameters that are relevant in air conditioning. Learners will understand wet and dry bulb temperatures, air stream velocity and they will learn how to use vane anemometer, and hot wire anemometer.

Learners will learn how to deal with hazards associated with refrigeration and air conditioning.

They will learn about toxicity, combustion, flammability, decomposition and pressure or refrigerants and will understand the importance of safety procedures when handling refrigerant in containers.

Learning Outcomes

Upon successful completion of this unit, learners will be able to:

1. *Set out and install the components of a refrigeration system;*
2. *Install wall mounted and ceiling cassette split system of air conditioning units;*
3. *Measure physical parameters associated with HVAC;*
4. *Work safely and handle appropriately the items directly related to HVACR.*

ETHVA-305-2305: Building Drawings and Setting Out

Unit level (MQF/EQF): 3
Credits: 5
Delivery Mode: Fully Face-to-Face Learning
Total Learning hours: 125

Unit Description

This unit develops learners' knowledge and skills in using manual drawing equipment like a drawing board, rulers, pens etc. They will learn how to draw the geometrical elements like lines, angles, parallel and orthogonal line, angle translation, circle, tangent, triangle, rectangle, polygons, ellipse, hyperbole and parabola.

Learners will adopt basic geometrical constructions, orthographic projections and sections of geometrical solids. They will learn about the three-dimensional presentation of geometrical solids and technical objects. They will practice the development of surfaces and drawing the sections and intersection of solids.

Learners will adopt the technical drawing skills by drawing different mechanical elements: welds, rivets, bolts, nuts, springs, wedges, axles, shafts, pulleys, gears etc. They will use drawing scales, specific views, details, rotated views, and specific symbols and dimensioning. They will have master the use of the drawing equipment and media and adopt technical standards and symbols.

Learners will be familiar with workshop design, specific elements, tolerances and roughness. Symbols specific for different technical fields will be learned in the purpose of making or understanding sketches.

This unit will provide learners with the knowledge and skills to understand building construction drawings in orthographic projections or working sketches, understanding of space dimension, positional settings in the selected area and comparing the built environment with the elements of the structure as shown in the drawings.

In the construction industry different drawings are used for presenting the building, crafts-work, installations, details, sections etc. Learners will have to be familiar with these presentations in order to understand and participate in engineering communication.

The use of standard modern equipment and techniques is emphasised. Learners should also gain a basic understanding of computer-aided drawing. They will learn to adjust computer settings, adopt basic commands, draw the basic geometrical elements and comprehend the modelling principle.

Learners will learn how to prepare themselves and upgrade the knowledge using literature and the Internet.

Learning Outcomes

Upon successful completion of this unit, learners will be able to:

1. *Draw the geometrical structures;*
2. *Recognise and interpret projections, sections and three-dimensional drawings;*
3. *Produce simple drawings of mechanical elements;*
4. *Produce workshop drawings and sketches.*

ETHVA-305-2306: Occupational Safety in the Construction Industry

Unit level (MQF/EQF): 3
Credits: 5
Delivery Mode: Fully Face-to-Face Learning
Total Learning hours: 125

Unit Description

This unit provides learners with the knowledge of risks that can arise in the construction process, how to evaluate and predict the necessary safety precautions to enable them to work safely, efficiently and effectively on the building site.

Learners should understand the importance of safety procedures at work to keep their health and safety and that of their colleagues, as well as third parties in the region in check.

They will demonstrate foresight and protection methods against harmful consequences in various situations, by making the right choice of appropriate personal protective equipment and the appropriate safety procedures.

Learners will gain the necessary skills for their appropriate behaviour related to the existence of danger at workplace in order to reduce health risks prior to going to work, during work and after work.

Learning Outcomes

Upon successful completion of this unit, learners will be able to:

1. *Apply principles of occupational safety and health on the construction site and in the surrounding environment;*
2. *Identify hazards and risks and assess their impact on the workplace;*
3. *Apply occupational safety procedures in a caused situation.*

CDKSK-304-2313: English

Unit Level (MQF/EQF): 3
Credits: 4
Delivery Mode: Fully Face-to-Face Learning
Total Learning Hours: 100

Unit Description

This unit is targeted at learners proceeding from a Level 2 vocational programme as well as those whose entry level is directly at Level 3. It therefore takes into consideration both learners who have successfully passed their L2 English unit as well as those who have sat for, or are resitting, their SEC English Language (Y11).

At Level 3, learners are expected to have an intermediate knowledge of English which allows them to independently communicate on topics and scenarios related to everyday situations, these ranging from home, school, and work to social and public settings. For the purposes of bridging linguistic skills with vocational contexts, general emphasis is laid on work and public settings.

English at Level 3 encourages learners to combine their technical knowledge of their vocational subject with their growing knowledge of general English. They will be introduced to specialised vocabulary and information related to their area of vocational interest, to descriptions of materials and their properties, equipment and its usage. They will be exposed to video content and a range of short texts of a technical and non-technical nature, as well as learn how to conduct basic research to produce short but effective work or discipline-specific documents. A fuller understanding of spoken and written English as well as proper association of ideas are also expected at this level.

Learning Outcomes

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

1. *Retrieve and interpret information obtained from spoken conversation, a presentation, or a media source.*
2. *Communicate information and ideas verbally on a range of topics, ranging from the vocational to the discipline-specific.*
3. *Retrieve and interpret information present in vocational or discipline-specific texts.*
4. *Show how ideas, whether complementary or contrasting, are to be organised and presented.*
5. *Write short work-related texts, observing format, tone, and style.*
6. *Write longer vocation or discipline-specific texts based on researched information.*

CDKSK-304-2314: Mathematics

Unit Level (MQF/EQF): 3
Credits: 4
Delivery Mode: Fully Face-to-Face Learning
Total Learning Hours: 100

Unit Description

This unit aims to help students understand key mathematical concepts and gain the necessary skills, to be able to use mathematics as a problem-solving and a communication tool in their everyday life and the vocational area they are studying. This unit comprises of three main components: a compulsory component, an elective component and a compulsory final project.

The compulsory component includes one compulsory learning outcome whose mathematical content and respective criteria are key in everyday life and across all vocational areas. On the other hand, the elective component is made up of a set of elective learning outcomes which include mathematical content and respective criteria whose relevance varies across different vocational areas. Consequently, every Institute can select the learning outcomes (50 marks) whose content and criteria will help students in the particular vocational area.

Moreover, this unit will give students the opportunity to use mathematics in a project related to the vocational area they are studying. Consequently, students will experience the relevance of the subject at first-hand and hence engage better in their vocational studies.

Considering the importance of technology in today's world, technological tools, such as scientific calculators and computer software, will be used to assist students in their work and enhance their understanding and confidence in the subject.

By the end of this unit, students should demonstrate readiness and competency to independently apply mathematical techniques in solving problems and be able to communicate findings using appropriate vocabulary and rigor.

Core Learning Outcomes

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

1. *Compute numerical calculations involving fractions, decimals, percentages and units of measure.*
2. *Apply Mathematics in a practical way.*

Elective Learning Outcomes

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

1. *Apply basic numerical skills in personal, household and business financial contexts.*
2. *Carry out algebraic manipulations.*
3. *Use algebra and graphs to derive information from straight lines and their equation.*
4. *Work with shapes and angles.*
5. *Summarise and interpret statistical data both graphically and numerically.*

CDKSK-304-2315: Il-Malti

Il-Livell tal-Unità: (MQF/EQF): 3
L-Għadd ta' Kreditu: 4
Mod ta' Tagħlim: Preżenti
Total ta' Sigħat ta' Tagħlim: 100

Deskrizzjoni Ġenerali tal-Unità

Il-Malti huwa l-ilsien nazzjonali tal-pajjiż. Huwa l-ilsien nattiv tal-istudenti li se jkunu qed isegwu din l-unità. Għaldaqstant m'hemmx dubju dwar l-importanza li l-istudenti għandhom ikunu profiċjenti fi lsien pajjiżhom, l-ilsien li ġeneralment iridu jikkomunikaw bih, kemm fil-ħajja tagħhom ta' kuljum u b'mod speċjali fuq il-post tax-xogħol.

Din l-unità hija msejsa fuq l-erba' ħiliet prinċipali tal-lingwa: 1) il-Qari; 2) is-Smigħ; 3) il-Kitba u 4) it-Taħdit. L-għan prinċipali ta' din l-unità huwa li l-istudenti jiġu mħarrġa f'dawn l-erba' ħiliet biex jibnu fuq dak li diġà jafu u jkomplu jtejbuh. Fil-fatt, il-livell ta' din l-unità jkompli jittarraġ fuq il-livell miksub fl-unità tat-tieni livell. F'din l-unità, il-materjal kopert ikun aktar kumpless mill-materjal tal-unità preċedenti partikularment fejn jidħol vokabolarju tekniku marbut mal-qasam vokazzjonali. F'din l-unità l-istudenti huma mistennija wkoll jaħdmu b'aktar awtonomija u responsabbiltà u jkunu mħeġġa jieħdu aktar inizjattiva waħedhom.

Il-kuntest tat-tagħlim u t-tgħallim tal-erba' ħiliet huwa ġeneralment marbut mal-qasam vokazzjonali tal-istudenti. Għaldaqstant, f'din l-unità l-istudenti se jkunu preżentati prinċiparjament b'materjal bil-Malti li jinteressahom mill-qrib u li se jkompli jkabbar l-għarfien ġenerali tagħhom dwar il-qasam vokazzjonali magħżul minnhom. Temi kurrenti oħra dwar il-ħajja ta' kuljum jistgħu wkoll jiġu preżentati u mistħarrġa. It-temi mistħarrġa f'dan il-livell jitolbu aktar impenn minn dawk tat-tieni livell u l-kuntesti tat-temi jistgħu ma jkunux dejjem ta' natura familjari mal-istudenti.

Il-qari, is-smigħ, il-kitba u t-taħdit huma l-qofol tal-komunikazzjoni. Kull persuna Maltija għandha tħossha kunfidenti meta tiġi biex tikkomunika bil-Malti, kemm verbalment u kemm bil-kitba. Biex l-istudenti jtejbu l-Malti miktub tagħhom, f'din l-unità se tkun qed tingħata wkoll importanza lill-ortografija, b'enfasi fuq ir-regoli tal-grammatika. L-għan mhuwiex li l-istudenti jsiru familjari ma' listi ta' termini grammatikali jew li l-istudenti jaħdmu eżerċizzji ripetuti tal-grammatika. L-għan hu li jkunu jafu jħaddmu r-regoli tal-grammatika biex jiktbu b'Malti ortografikament tajjeb. Dan se jkun qed isir dejjem f'kuntest, b'mod partikulari f'kuntest marbut mal-qasam vokazzjonali tal-istudenti. F'din l-unità, se tkun ukoll qed tingħata importanza partikulari lid-deċiżjonijiet meħuda mill-Kunsill Nazzjonali tal-Ilsien Malti fl-2008 (Deċiżjonijiet 1) u fl-2018 (Deċiżjonijiet 2).

Il-Kisbiet mit-Tgħallim

Biex l-istudent jikseb din l-unità irid juri li kapaċi:

1. *Jidentifika t-tifsir primarju u sekondarju ta' testi moqrija aktar kumplessi.*
2. *Jagħraf il-messaġġi diretti u indiretti ta' kuntesti ta' smigħ aktar kumplessi.*
3. *Jipproduċi kitbiet b'temi tekniċi u aktar kumplessi.*
4. *Jikkomunika b'Malti tajjeb dwar suġġetti tekniċi u aktar kumplessi permezz tat-taħdit.*
5. *Japplika r-regoli tal-grammatika tajjeb għal tisħiħ fl-ortografija.*

CDKSK-304-2501: Community Social Responsibility

Unit Level (MQF/EQF): 3
Credits: 4
Delivery Mode: Fully Face-to-Face Learning
Total Learning Hours: 100

Unit Description

This key skill presents an opportunity for MQF level 3 learners to work upon their analysis and evaluation capabilities, whilst working upon various employability skills. Through the compilation of a write-up, the learners will be drafting a personal biography, which highlights some of their achievements and future aspirations. The write-up will also feature the rationale behind the selection of a specific community work experience. Additional information, descriptions and anecdotes related to the community work will be provided via visual and written means.

As each learner goes through this educational journey, opportunities for social interactions and practical groupwork activities will also be presented. Through these opportunities, students will further grasp the essence of teamwork and its relevance towards becoming more competitive and employable.

Following the delivery of a selected number of educational topics, some of which targeting 'The 2030 Agenda for Sustainable Development', the learners are to select a topic of preference and deliver relating information through a public speech. The main essence of the contents of the speech are to be acquired through referenced research. The learners are to increase the success rate of their speech delivery through the proper structuring and compilation of a visual medium compiled via software, such as PowerPoint / Canva.

Additionally, learners will also be presented with multiple opportunities to conduct self-reviews and evaluations during assessment periods. This practice is embedded within all of the assessments, these being the write-up, the teamwork activity, and the presentation. Educators will guide the learners into practicing and understanding the importance of analysing and evaluating information and oneself, as, apart from increasing one's employability skills, this brings forth numerous opportunities for growth.

Learning Outcomes

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

1. *Organise selections of information within a write-up.*
2. *Shows the ability to work in teams.*
3. *Elaborate upon a topic and/or issue in front of an audience.*
4. *Appraise the quality of one's own effort and contributions within assigned tasks.*

CDKSK-304-2317: Science and Technology

Unit Level (MQF/EQF): 3
Credits: 4
Delivery Mode: Fully Face-to-Face Learning
Total Learning Hours: 100

Unit Description

This unit enables learners to explore the role of science in a wider context. **This unit has eight elective learning outcomes, from which four must be selected by the institute.** Depending on the selection of the elective criteria, this unit enables learners to explore the role of science in a wider context. The learning outcomes will focus on the ethical issues in science and health literacy. Learners will understand the meaning of ethics and the importance of ethics in scientific research and development. They will also learn about the importance of health literacy and to understand and use information to make decisions about their health. The learners may also more familiar with the physical and chemical principles related to their individual vocational area. Also, they will understand the connection between climate change and human health. This learning outcome will help the learner understand how our vocational area and everyday life contribute to climate change. Furthermore, the impact of climate change on own personal life will be assessed. Learners may also enhance their investigative skills through a site visit applicable to vocational areas, for example to include option to visit – quarry, scrap yard, waste disposal area, amongst other. During this session, the learners will be empowered to take action to develop a project that addresses, for example, an environmental issue.

Elective Learning Outcomes

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

1. *Investigate ethical issues in science and scientific developments.*
2. *Use information and services to make informed health-related decisions.*
3. *Investigate processing of materials relevant to individual vocational area.*
4. *Apply chemistry principles to vocational area of practice.*
5. *Identify basic chemical reactions.*
6. *Identify the connection between climate change and human health.*
7. *Carry out a fieldwork session related to scientific research and development.*
8. *Identify the link between the physical world and everyday day life situations.*

CDKSK-304-2316: Information Technology

Unit Level (MQF/EQF): 3
Credits: 4
Delivery Mode: Fully Face-to-Face Learning
Total Learning Hours: 100

Unit Description

This unit aims to develop basic computer knowledge and skills needed in real-life situations. In a supportive environment, the learner will be challenged to understand how to use various real-life applications belonging to a productivity suite with the aim of providing to our learners the necessary skills required to use common computer applications necessary during their studies. By the time learners complete this unit they will be increasingly independent users of personal computers and will have a broad understanding of how ICT can help their learning, their work, and their social life. They will have a well-developed ability to decide when and how to use ICT and will be aware of the limitations associated with this use.

Through this unit the learners will achieve a broad knowledge of ICT and will be able to use ICT to carry out several increasingly complex tasks. They will become competent in using word processing, spreadsheet, and presentation software to create, format and finish documents, workbooks and slide shows that contain various elements. This unit also introduces terms related to artificial intelligence and how it is being used in real life situations, information literacy and the use of online communities and online tools to build and maintain an online presence.

Elective Learning Outcomes

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

1. *Use Office Productivity Essentials to create documents and presentations.*
2. *Identify concepts related to Artificial Intelligence.*
3. *Use Online Essentials Tools.*
4. *Identify concepts related to Information Literacy.*
5. *Use a spreadsheet to produce accurate work outputs.*