MCAST

MQF Level 3

EE3-A2-21

Diploma in Engineering (Electronics)
Course Specification

Course Description

This programme is intended for learners who are interested in starting a career in the field of electronics. It enables learners to further their studies at higher levels and subsequently find employment in the field of electronics. The programme consists of twelve modules, out of which six are vocational while the other six address the vocational hands-on training. The vocational modules focus on the functions of electronic components, the electronic circuit design, the operation of electronic systems, the installation and configuration of PC hardware and software, the interpretation of engineering information, and working safely and effectively in the workplace. The key skills modules provide an opportunity for learners to gain adequate skills in Maltese, English, Mathematics, Information Technology and Science and Technology. Furthermore, learners will receive guidance in their personal development.

Programme Learning Outcomes

At the end of the programme the students is able to

1. *Work safely, efficiently and effectively in the engineering workplace.*
2. *Use mathematical principles related to electrical and mechanical science.*
3. *Understand the function and operation of electrical and electronic system components.*
4. *Install, test and configure PC hardware systems, components and software packages.*

Entry Requirements

MCAST Foundation Certificate;

OR

2 SEC/O-Level passes/ SSC&P (Level 3) passes

Other Entry Requirements

All applicants are asked to sit for a Medical Test in view of any Colour Blindness.

Key Information

Awarding Body – MCAST

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

Type of Programme: Qualification

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

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

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

Total number of Hours: 1500 hours

Mode of attendance: Fully Face-to-Face Learning

Duration: 1 Year

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

Target group: Learners who have completed compulsory education.

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

This course will be offered at

MCAST has four campuses as follows:

MCAST Main Campus
Triq Kordin, Paola, Malta

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

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

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

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

Teaching, Learning and Assessment

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

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

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

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

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

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

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

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

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

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

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

The Programme Regulations referenced below apply. (DOC 003 available at: link https://www.mcast.edu.mt/college-documents/)

Total Learning Hours

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

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

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

Grading system

All MCAST programmes adopt a learner centred approach through the focus on Learning Outcomes. The assessment of MCAST programmes is criterion-referenced and thus

assessors are required to assess learners' evidence against a pre-determined set of Learning Outcomes and assessment criteria.

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

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

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

Detailed information regarding the grading system may be found in the following document: DOC 003 available at: link https://www.mcast.edu.mt/college-documents/

Intake Dates

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

Course Fees

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

Method of Application

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

Non-EU candidates need to request account creation though an online form by providing proof of identification and basic data. Once the identity is verified and the account is created the candidate may proceed with the online application according to the same instructions applicable to all other candidates.

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

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

Contact details for requesting further information about future learning opportunities:

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

Current Approved Programme Structure

Unit Code	Unit Title	ECTS	Semester
ETECD-306-1401	Electronics Circuits Design	6	YEAR
ETELX-306-1401	Interpreting and Using Engineering Document	6	YEAR
ETELX-306-1402	Electronic Components and Devices	6	YEAR
ETELX-306-1403	Operating and Basic Troubleshooting of Electronic Systems	6	YEAR
ETH&S-306-1402	Health and Safety in Engineering	6	YEAR
ETPCS-306-1401	Configuration of PC Systems	6	YEAR
CDKSK-304-1921	Mathematics	4	YEAR
CDKSK-304-1922	English	4	YEAR
CDKSK-304-1923	Maltese	4	YEAR
CDKSK-304-2108	Information Technology	4	YEAR
CDKSK-304-2103	Community Social Responsibility	4	YEAR
CDKSK-304-1925	Science	4	YEAR
Total ECTS		60	/

ETECD-306-1401: Electronic Circuits Design

Unit Level (MQF/EQF): 3
Credits: 6
Delivery Mode: Face-to-Face Learning
Total Learning Hours: 150

Unit Description

This unit will provide learners with the skills and theory required for selecting electronic devices and designing simple circuits. Such skills and knowledge are a requirement in the vocational domain of an electronics technician.

The unit builds up the learner's competence in simple circuit schematics and design by providing sufficient understanding of the fundamental principles of selecting electronic devices to meet given specifications. Learners will also develop the ability to design and prototype a simple electronic circuit using a variety of techniques, including desktop prototyping on breadboards.

In addition, learners will gain an understanding of the safe working practices needed when working with electronic components and circuits as well as the hazards and risks that can occur when assembling electronic circuits in a workshop or laboratory. Learners will understand the characteristics of electronic components, passive and active, up to the level of operational amplifiers, their symbolic representation in circuit schematics as well as their usage and rules of selection

The above is followed by various methods used for electronic circuits prototyping using hand designs of printed circuit boards (PCB) and simple software tools used for PCB layout design. The focus on PCB design is in relation to placing basic elements of electronic circuit such as voltage stabilizing circuitry and separating analogue from digital circuitry in order to avoid interference.

Finally, rules of wiring and shielding within the electronic device housing are explained by carefully selected examples of simple electronic devices.

Learning Outcomes

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

1. *Use safe working practices in the electronics laboratory and workshop.*
2. *Know the electronic components and their placement in circuit diagrams.*
3. *Demonstrate prototyping skills of electronic circuits, typically used in vocational engineering.*
4. *Construct circuits of moderate complexity involving use of integrated circuits and through hole components.*

ETELX-306-1401: Interpreting and Using Engineering Documentation

Unit Level (MQF/EQF): 3
Credits: 6
Delivery Mode: Face-to-Face Learning
Total Learning Hours: 150

Unit Description

This unit aims to provide learners with the knowledge and skills required to use engineering information, such as drawings and instructions, necessary to carry out vocational engineering operations, with particular focus on electronics. The ability to access and use information is probably one of the most critical basic vocational skills required in engineering.

This unit will enable learners to understand how to make effective use of information when working with documentation that consist of engineering drawings, reference tables, specifications, charts or any other medium/ means which carries information, being either printed or digital. Learners will be trained to extract information from engineering drawings and related documents in a fast and reliable way. Learners will also learn how to use drawings and related documentation to determine the work that needs to be done, carry out the work according to specifications and validate their own performance.

Learners will be using standard software tools to retrieve, process and store information within the document. Therefore, Engineering drawings accompanied with related documents, such as parts list and, replacement parts list become useful if they are readily accessible from stored data. Besides getting acquainted with the rules of storing and retrieving documentation, learners will also gain skills in organizing personal documentation.

This unit will enable learners to identify facts and generate conclusions needed to compile a report on technical concepts by using textual, graphical and table data in line with the established organizational policies and procedures for obtaining and using documentation. It is expected that learners will be able do this task with minimum supervision. They are also expected to take own responsibility for their own actions and the quality and accuracy of the work that they undertake.

Learning Outcomes

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

1. *Use standard software tools to gather information from technical documents.*
2. *Interpret different technical documents to carry out specific tasks.*
3. *Use engineering information when working on electrical and electronic tasks.*

ETELX-306-1402: Electronic Components and Devices

Unit Level (MQF/EQF): 3
Credits: 6
Delivery Mode: Face-to-Face Learning
Total Learning Hours: 150

Unit Description

Electronics devices have been shaping the modern world for over half a century with ever-growing use. One of the best examples of such a device is the smartphone which incorporates many technologies which are based on electronics such as: personal information management; communication with text, voice and video; internet navigation; games, etc. The two major uses of electronic devices are in handling signals by amplifying and switching, resulting the applications in information processing, signal processing, and communications. Mixed on a circuit board, electronic devices become part of many household and industrial systems and in contemporary days they are even becoming integral, embedded part of mechatronics systems.

This unit will provide learners with a practical introduction to basic electronic devices as well as analogue and digital electronic principles. It will provide knowledge on how diodes and transistors operate, as the two most important elements in an electronic circuit. Learners will also be exposed to the application of these devices in a higher level of integration, such as within an integrated circuit (of which the most important is the operational amplifier).

Another application follows digital functioning of circuits made of transistors as switching elements thus forming Logic gates and flip-flops. These will also be investigated both in practice and theory, through the use of truth tables. Starting from a simple demonstration circuitry on prototyping breadboard learners are going to be exposed to demonstration of computer-based circuit design and simulation software packages that will allow them to understand the first steps of building and testing analogue and digital circuits. Thus the overall aim of this unit will be to build up confidence in the designing and testing of simple electronic circuits. Many of the complex or real-world systems will be explained in block-diagram form emphasizing only the most important elements and electronics devices therein.

Learning Outcomes

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

1. *Describe the type of signals used in technical systems.*
2. *Describe the function of basic electronic components.*
3. *Construct and test different analogue electronic circuits.*
4. *Build and test different digital electronic circuits.*

ETELX-306-1403: Operation and Basic Troubleshooting of Electronic Systems

Unit Level (MQF/EQF): 3
Credits: 6
Delivery Mode: Face-to-Face Learning
Total Learning Hours: 150

Unit Description

The unit covers the function, operation and regular maintenance of a variety of electric systems, electronic circuits and equipment. The need for regular maintenance in order to ensure proper operation and long lifecycle of these systems introduces this crucial topic in vocational engineering training. As maintenance requires knowledge of functionality and internal operation principles of systems in concern, the unit provides learners with this knowledge as well. It is combined with elements of signals theory and functional block diagram presentations of systems functioning.

Learners will also learn how to use all necessary documentation, including user manuals and service documentation, datasheets of components used, followed by using tools and equipment in a safe and reliable way, necessary for carrying out any given maintenance task. A set of common fault detection procedures are used as examples to relate theoretical knowledge and practical aspects of engineering thus gaining functional skills in common fault detection procedures. Staff safety during maintenance is also considered.

At the end, learners will be able to demonstrate that they can perform inspection, fault detection, repair and regular maintenance of common electronic systems and applications such as bench power supply, motor drivers, various control circuits and alarm systems, communication modules and others met in modern electronic systems.

Learning Outcomes

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

1. *Understand practical skills and safety procedures in workshop and laboratory.*
2. *Explain the function of electronic components and devices using application in basic circuitry and simplified models.*
3. *Use common form of technical specifications and manuals in printed or digital format.*
4. *Perform simple maintenance and fault finding tasks on non-complex electronic systems.*

ETH&S-306-1402: Health and Safety in the Engineering Workplace

Unit Level (MQF/EQF): 3
Credits: 6
Delivery Mode: Face-to-Face Learning
Total Learning Hours: 150

Unit Description

The unit introduces effective and safe work to learners, focusing on their wellbeing, on prolonged life of tools and equipment and on economic aspects of work. The primary goal of the unit is to introduce basic working practices in engineering and potential hazards involved. The learner will be introduced to EU regulations adopted for engineering activities and for vocational training. This unit provides learners with knowledge of material and equipment handling, as well as the use of appropriate personal protective equipment (PPE), and their classification: protection of respiratory organs, skin, eye and hearing, protective clothing and ensembles. Learners will become aware of the hazards and risks associated with different engineering tasks, working environments (for example working with high voltages, and static-sensitive devices), use of tools and equipment (both common and special), and working with dangerous materials and substances. The unit covers ways of avoiding hazards and ways to respond correctly and swiftly in case of an incident both in theory and in practice. It is important to emphasize that this represents useful knowledge that could be applied in everyday life. Since completing a job might require team effort, this unit builds team spirit as well by delivering related communication skills. Finally, the unit will introduce some important soft skills in applying knowledge and in continued learning needed for successful professional in engineering.

Learning Outcomes

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

1. *Apply statutory regulations and organizational safety requirements.*
2. *Prepare PPE and working environment according to the task checklist.*
3. *Carry out engineering task according to safety standards.*

ETPCS-306-1401: Configuration of PC Systems

Unit Level (MQF/EQF): 3
Credits: 6
Delivery Mode: Face-to-Face Learning
Total Learning Hours: 150

Unit Description

Through this unit learners are introduced to computer technology usage and maintenance. Besides standard PC desktop computers Learners will also receive knowledge on smartphones and tablets. Learners will also learn on how PC hardware is organized and assembled and will become aware of the basic software needed to install, run application programs and network variety of computer hardware within home or small business environment. Based on this information, learners will be exposed to all major components of the PC system that can be considered as stand-alone modules. These are: PC power supply, motherboards, microprocessors and memory devices. Apart from their function, the current specifications will be covered in particular detail to enable learners to create a configuration that satisfies a given need. Function, connectivity and configuring of common peripherals, like displays, printers and human interfaces, are covered by the unit as well. OS basics and comparison of common OS-s, Windows, Android and iOS are also part of this unit with the practical sessions focusing on learners performing installation and configuration of operating systems. Learners will be also trained in setting up and customising basic office tools such as word processors, Internet browsers and compression software, with the emphasis on functionality and interconnectivity. Learners will be able to quickly detect causes of typical problems in connectivity, operating system (OS) and office tools functioning.

Learning Outcomes

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

1. *Apply basic knowledge of computer systems and components to perform effective maintenance.*
2. *Install and configure computer hardware components.*
3. *Install and configure common operating systems for communication and basic service software packages.*
4. *Configure computer systems as optimal to task specification.*

CDKSK-304-2103: Community Social Responsibility

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

Unit Description

This key skill presents the opportunity for MQF level 3 learners to explore their individual self through the analysis of their core values and behavioural tendencies. This will bestow insight upon the learners, which will assist them in setting and/or recalibrating their future goals. Through the acquisition of different life skills, learners will be empowered to explore their surroundings and become more responsible towards the environment which hosts them. Delving into what constitutes responsibility towards others, the learners will be presented with the opportunity to recognise the significance of developing an adequate personal conduct.

The learners will also be presented with opportunities to develop and/or hone their management and organisational skills, which in return will assist them in becoming more employable and independent. Through the completion of a compulsory community work experience, learners will recognise the benefits of self-management skills towards the acquisition of balance within one's lifestyle. The completion of the compulsory community work project will also present the ideal opportunity for the students to analyse their experience, evaluate their own performance and also generate suggestions and recommendations for future good practices.

Learning Outcomes

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

1. *Examine the relation between personal core values and goal setting.*
2. *Practice organisational skills to establish further independence.*
3. *Identify the practice of proper personal conduct and communication within different communities.*
4. *Evaluate the engagement in a community work experience.*

CDKSK-304-1921: Mathematics

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

Unit Description

This unit aims to develop the mathematical knowledge and skills required to apply mathematics in real-life situations. The student should be given the opportunity to engage in problem solving by: *(i)* exploring different approaches to solve a given problem; *(ii)* using appropriate strategies and language to arrive to a solution; and *(iii)* checking the validity and accuracy of the solution. The interconnectivity between different areas of mathematics should be pointed out to the student, even though some areas might require different techniques and tools (including ICT tools). The use of (scientific) calculators and ICT can be integrated in the delivery of the topics listed hereunder. The student should also be helped to develop and appreciate mathematical reasoning and deductive skills by being exposed to short proofs.

By the end of this unit, the student should demonstrate readiness and competency to independently apply mathematical techniques in solving problems, and be able to communicate findings using appropriate mathematical vocabulary and rigour. These problems will involve:

- (a) numerical calculations,
- (b) algebraic manipulation,
- (c) geometrical properties,
- (d) basic statistical analysis and
- (e) probabilistic techniques.

Learning Outcomes

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

1. *Compute further numerical calculations;*
2. *Construct and manipulate formulae and algebraic expressions;*
3. *Construct linear equations using graphical techniques;*
4. *Apply geometrical properties of lines, shapes and solids to find lengths, angles, areas and volumes;*
5. *Summarise statistical data both graphically and numerically;*
6. *Determine the probability of single events and of the combination of independent events.*

CDKSK-304-1922: English

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

Unit Description

This unit is targeted at learners proceeding from a Level 2 vocational programme (therefore taking into account completion of Level 2 Key Skills English) as well as those whose entry level is directly at Level 3.

In line with the Malta Qualifications Framework for Level Descriptors, English for Diploma Programmes takes into account the learning of English in terms of knowledge, skills and competences. Knowledge seeks to assess recognition of facts, principles and general concepts in a field of work or study, while skills assess the application of that knowledge in the accomplishment of tasks by employing basic methods, materials and information. In turn, competences empower the learner by giving him/her full responsibility for their accomplishment.

At Level 3, learners are expected to have sufficient knowledge of English in order to deal with everyday situations in scenarios ranging from home, work, social and public settings. General emphasis is laid on work and public settings. In their application of this knowledge, learners are required to listen to or read a range of short texts of a technical and non-technical nature, as well as information broadcast through the popular media. General understanding as well as association of ideas and inference of meaning are expected at this level. Learners should be capable of communicating in English by discussing familiar topics or vocational topics previously exposed to.

This unit encourages learners to combine their technical knowledge with their growing knowledge of general English. They will be introduced to specialised vocabulary related to their area of vocational interest: to materials and their properties, equipment and its usage, processes, tools, devices, customer service and item servicing and general workshop/laboratory practice. In addition, learners are expected to be able to write and produce short but effective work-related memoranda, personal letters, letters of application and curriculum vitae. Writing practice will be contextualised according to the various exigencies of the various institutes.

Learning Outcomes

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

1. *Listen to and understand information obtained from a media source;*
2. *Identify and comprehend information presented textually in vocational and technical contexts;*
3. *Identify, comprehend and interpret information presented visually;*
4. *Speak and communicate ideas effectively on a range of topics ranging from the personal to the technical/vocational;*
5. *Write short, work-related correspondence in the form of memoranda, letter of application and curriculum vitae;*
6. *Research and organise information for extended technical/vocational writing.*

CDKSK-304-1923: Malti

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

Deskrizzjoni tal-Unità

L-ilsien huwa essenzjali fl-iżvilupp intellettwali, emozzjonali u soċjali ta' kull individwu. Il- Malti mhux biss jiġbor fih identità lingwistika u kulturali iżda huwa għodda ta' komunikazzjoni u interazzjoni. Permezz ta' l-Ilsien Malti l-individwu jista' jesprimi dak kollu li jħoss u jkun kreattiv fil-messaġġ li jrid iwassal filwaqt li jkun espost għal oqsma oħra ta' tagħlim. Il-Malti huwa lsien ħaj li ssawwar mill-poplu Malti u għadu qiegħed jissawwar biex jibqa' għodda ta' kreattività għal kull min jużah.

L-Għanijiet

Biex l-istudenti jiksbu din l-unità jridu juru li kapaċi:

1. *Jifhmu diskors standard li wieħed juża u jiltaqa' miegħu fil-ħajja ta' kuljum, kif ukoll jifhmu suġġetti marbuta ma' ġrajjiet kurrenti u suġġetti personali u ta' interess professjonali u vokazzjonali;*
2. *Jifhmu testi li jikkonsistu f'diskors użat fil-ħajja ta' kuljum u fid-dinja tax-xogħol filwaqt li jifhmu deskrizzjoni ta' avvenimenti, fehmiet u opinjonijiet permezz tal-qari;*
3. *Jaffrontaw sitwazzjonijiet f'kuntest ta' konverżazzjoni u jitkellmu fuq suġġetti li huma familjari jew ta' interess personali kif ukoll marbuta mad-dinja ta' kuljum u l-qasam tax- xogħol;*
4. *Jifformolaw testi fuq suġġetti li huma familjari għalih u ta' interess personali u vokazzjonali b'mod preċiż u relevanti f'dak li għandu x'jaqsam mal-lingwa Maltija;*
5. *Jħaddmu ħiliet varji għal skop ta' tagħlim, li jmorru lil hinn mil-lingwa.*

CDKSK-304-2108: Information Technology

Unit Level (MQF/EQF): 3
Credits: 4
Delivery Mode: 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 be competent in using word processing, spreadsheet, and presentation software to create, format and finish documents, workbooks and slide shows that contains various elements. Finally, this unit also introduces the use of online communities and online tools to build and maintain an online presence.

Learning Outcomes

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

1. *Use a word processing application to create everyday letters and documents. Use a spreadsheet to produce accurate work outputs.*
2. *Use presentation software.*
3. *Utilise online collaboration tools.*
4. *Use internet presence management tools.*

CDKSK-304-1925: Science

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

Unit Description

In this Level 3 key skill, learners will increase their awareness about the importance of science in our everyday life. The focus will be on natural sciences, mainly the three different areas; the living world, the physical world and the world of technology.

The focus of the living world will be on interactions between living organisms in a given environment, the dependence of animals on plants for their survival via food chains and food webs, and human life. Topics related with human life will include the position of the main body organs, anatomy and physiology of at least two organ systems, and physical health (importance of healthy food, clean water and unpolluted air; importance of balanced diet and regular exercise for physical and emotional well-being; adverse effects of drugs, alcohol and smoking; ways to avoid contamination of bacteria and viruses; role of white blood cells and misuse of antibiotics).

As part of the physical world, the learner will be more familiar with physical properties of materials, classifying objects and materials based on their physical properties, and linking the uses of objects and materials with their physical properties. Furthermore, they will enhance their knowledge on renewable and non-renewable sources of energy, using sources of energy in the immediate environment safely and economically, and energy-saving measures that can be applied at home and at work.

Related with the world of technology, the learners will discuss health and safety issues at home and in the workplace including recognising situations of risk and ways how one can avoid accidents. Also, the learners will familiarise themselves with issues related to costs and efficiency of everyday life processes by carrying out an analysis of a particular process or task in terms of energy and efficiency.

Learners will enhance their investigative skills via a project (which includes a site visit designed specifically for different institutes) in collaboration with BirdLife Malta. During a training session, lecturers will be given teaching resources and suggestions for sites to deliver the field teaching aspect and project themes. Via this learning outcome,

the learner will be empowered to take action to develop a project that addresses an environmental issue. S/he will have to analyse the data, interpret and evaluate findings and then communicate them to their colleagues. The learner should realise that everyone can do something which will make a difference and that action can take place not only at the personal level but also at other levels such as community, national and international levels. Learners should understand ecosystem services and recognise that they can be used in all careers to save time, money, resources etc. but that they need to be respected for this to be possible.

Learning Outcomes

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

1. *Observe and classify objects in the immediate environment;*
2. *Link scientific knowledge with everyday life situations;*
3. *Research local environmental issues and use problem solving skills to investigate sustainable solutions;*
4. *Use scientific knowledge to improve everyday life.*