

## MCAST PROGRAMMES - PUBLIC INFORMATION TEMPLATE (FULL TIME)

<b>Institute</b>	Institute of Applied Sciences
<b>Department</b>	-

<b>Programme Title</b>	Advanced Diploma for Pharmacy Technician				
<b>Course Code</b> <i>To be filled in by Admissions Dept.</i>	AS4-W05-23		<b>If the programme includes a WBL element, How is it accredited?</b>		Placement
<b>MQF/ EQF Level</b>	Level 4	<b>Type</b> <i>(refer to Appendix 1 for Parameters)</i>	Qualification	<b>Awarding Body</b>	MCAST – Malta College of Arts, Science and Technology
<b>Accreditation Status</b>		Accredited via MCAST’s Self Accreditation Process (MCAST holds Self-Accrediting Status as per 1st schedule of Legal Notice 296/2012)			
<b>Mode of Delivery</b>	Face to Face	<b>Duration</b> <i>(Academic Years or Semesters)</i>	2 Years	<b>Mode of Attendance</b>	Full-Time
<b>Total Number of Credits</b>	120 credits	<b>Total Learning Hours</b> <i>(25 Total Learning Hours for each ECTS)</i>		3000 hours	
<b>Target Audience</b>	Ages 16 - 65	<b>Target Group</b> <i>(the type of learners that the educational institution anticipates joining this programme)</i>		Students exiting compulsory education	
<b>Programme Fees</b>	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 <a href="mailto:applyinternational@mcast.edu.mt">applyinternational@mcast.edu.mt</a>  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 <a href="#">here</a>				
<b>Date of Next Student Intake</b>	For further information regarding upcoming student intake and applications time windows for same kindly <a href="#">click here</a>				
<b>Language of Instruction</b>	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.				
<b>Application Method</b>	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				

	<p>applicant, one may proceed with the online application according to the same instructions applicable to all other applicants.</p> <p>For more information about how to apply online for a course at MCAST, please visit: <a href="https://mcast.edu.mt/how-to-apply-online-2/">https://mcast.edu.mt/how-to-apply-online-2/</a></p>
<b>Information for Non-EU Citizens</b>	<p>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 <a href="https://www.identitymalta.com/unit/central-visa-unit/">https://www.identitymalta.com/unit/central-visa-unit/</a>.</p> <p>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 <a href="https://mcast.edu.mt/important-information/">https://mcast.edu.mt/important-information/</a></p>
<b>IMPORTANT note to Non-EU Nationals / TCNs</b>	<p>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:</p> <p><a href="https://mcast.edu.mt/important-information/">https://mcast.edu.mt/important-information/</a></p>
<b>Address where the Programme will be Delivered</b>	<p><i>MCAST has four campuses as follows:</i></p> <p><b>MCAST Main Campus</b> Triq Kordin, Paola, Malta</p> <p><i>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).</i></p> <p><i>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:</i></p> <p><b>Institute for the Creative Arts</b> Mosta Campus Misraħ Għonoq Tarġa Gap, Mosta</p> <p><b>Institute of Applied Sciences</b> Centre of Agriculture, Aquatics and Animal Sciences, Luqa Road, Qormi</p> <p><b>Gozo Campus</b> J.F. De Chambray Street MCAST, Għajnsielem Gozo</p> <p><i>In the case of courses delivered via Online Learning, students will be following the programme from their preferred location/address.</i></p> <p><i>Programmes delivered via Blended Learning, and which therefore contain both an online and a face to face component shall be delivered as follows:</i></p>

	<ul style="list-style-type: none"> <li>○ Face to Face components – as per above address instructions</li> <li>○ Online components – from the student's preferred address.</li> </ul>
<b>Course Description</b> <i>(Refer to Programme Specification)</i>	<p>This programme of study is designed to provide learners with the skills, knowledge and competences necessary for a career as pharmacy technicians. Learners will be exposed to scientific and pharmaceutical principles and will be given a sound knowledge of health-related material, resulting in a holistic approach to effectively and competently embark on a career as a pharmacy technician. This programme of study is designed to provide learners with all the technical skills, knowledge of procedures, legislation and responsibilities required for such a career and includes work-related training and practice. Successful candidates will be eligible to apply for Registration with the Pharmacy Council of Malta.</p>
<b>Deskrizzjoni tal-Kors</b> <i>(Refer to Programme Specification)</i>	<p>Dan il-programm ta' studju huwa mfassal biex jipprovdi lill-istudenti l-ħiliet, l-għarfien u l-kompetenzi meħtieġa għal karriera bħala tekniċi farmaċewtiċi. L-istudenti jitgħallmu prinċipji xjentifiċi u farmaċewtiċi u jingħataw għarfien sod ta' suġġetti relatati mas-saħħa, bil-għan li jkunu ppreparati sewwa biex jaħdmu bħala tekniċi farmaċewtiċi u jwettqu xogħolhom b'mod effettiv u kompetenti. Dan il-programm ta' studju huwa mfassal biex jipprovdi lill-istudenti l-ħiliet tekniċi, l-għarfien tal-proċeduri, il-leġiżlazzjoni u r-responsabbiltajiet kollha meħtieġa għal din il-karriera u jinkludi taħriġ u prattika relatati max-xogħol. L-istudenti li jtemmu l-kors b'suċċess ikunu eliġibbli biex japplikaw għar-reġistrazzjoni mal-Kunsill tal-Ispizjara ta' Malta.</p>
<b>Career Opportunities:</b>	<p>Pharmacy Technician</p>
<b>Entry Requirements</b> <i>(Refer to Prospectus / Course Page on MCAST website)</i>	<p><b>Internal Progression Route:</b>  MCAST Diploma in Applied Science  or  MCAST Diploma in Social Care (with additional module in Chemistry as delivered and assessed by IAS)*  or  Any MCAST MQF Level 3 Diploma, whilst being in possession of the compulsory subjects as indicated hereunder</p> <p>OR</p> <p>4 SEC / SSC&amp;P or equivalent with a Pass Grade / Level 3</p> <p>*As from Admissions into Academic year 2026/27, this MQF Level 3 course (and similar previous courses with a previous title) will no longer form part of the possible internal entry route into this Level 4 Advanced Diploma.</p>
<b>Other Notes related to this Programme, and which are to be taken note of</b>	<p>*MCAST Students intending to follow this programme of studies, should have informed IAS of their interest in being considered for this course, in order to be able to follow and successfully achieve the Chemistry module referred to in Entry Requirement</p> <p>Applicants will be subject to an occupational health screening to establish their suitability for the Placement which is a mandatory part of this programme. Once course would have started, failure to present a successful health screening (as per an established and set Protocol) , will result in not being in a position to start the work placements. This will eventually preclude the student from a successful completion of course. Prior to embarking on Work Placement, student must also provide evidence of a clean police conduct certificate.</p>

<b>Programme Learning Outcomes</b> <i>(Refer to Programme Specification)</i>	<p>At the end of the programme the learner will be able to:</p> <ol style="list-style-type: none"> <li>1. Assist in the provision of services within the pharmacy environment.</li> <li>2. Recall the national regulations and policies regarding use, distribution, storage and supply of medicines to patients and pharmacy customers.</li> <li>3. Explain the uses and limitations of medicines, including their management in practice.</li> <li>4. Use standard pharmacy resources to provide a service to pharmacy customers.</li> </ol>
<b>Teaching, Learning and Assessment Procedures</b>	<p>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.</p> <p>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').</p> <p>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.</p> <p>Students may however be required to provide consumable material for use during practical sessions and projects unless these are explicitly provided by the College.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>The distribution of marks and assessment mode depends on the nature and objectives of the unit in question.</p> <p>Coursework shall normally be completed during the semester in which the Unit is delivered.</p> <p>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.</p> <p>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 <a href="https://www.mcast.edu.mt/college-documents/">https://www.mcast.edu.mt/college-documents/</a></p>

	The Programme Regulations pertaining to this Programme's MQF/EQF level available at: link <a href="https://www.mcast.edu.mt/college-documents/">https://www.mcast.edu.mt/college-documents/</a> , apply.				
<b>Grading System</b>	<p>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.</p> <p>For a student to be deemed to have successfully passed a unit, a minimum of 50% (grade D) must be achieved.</p> <p>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'.</p> <p>Work-based learning units (where applicable) are graded on a Pass/Fail basis only.</p> <p>Some units which follow industry standards and regulations may also be graded on a Pass/Fail basis as per programme regulations referred below.</p> <p>Detailed information regarding the grading system may be found in the Programme Regulations pertaining to this programme's MQF/EQF Level available at: <a href="https://www.mcast.edu.mt/college-documents/">https://www.mcast.edu.mt/college-documents/</a> (Refer to DOC 003, 004 and 005)</p>				
<b>Exit Point (where and as applicable)</b>	<p>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 <a href="https://www.mcast.edu.mt/college-documents/">https://www.mcast.edu.mt/college-documents/</a>, kindly refer to <i>DOC 077 Procedure for the processing of Claims for Certificates at Interim Exit Points</i>.</p>				
<b>Contact details for Further Learning Opportunities</b>	<p>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.</p> <p><b>MCAST Career Guidance</b>  Tel: 2398 7135/6  Email: <a href="mailto:career.guidance@mcast.edu.mt">career.guidance@mcast.edu.mt</a></p>				
<b>Regulatory Body/ Competent Authority Contact Details</b> <i>(where applicable - in the case of a programme leading to Regulated Profession)</i>	Pharmacy Council of Malta The Registrar, Pharmacy Council, St. Luke's Hospital – OPD (Level 1), St. Luke's Square, Pieta' PTA 1010				

	Unit Code	Unit Title	ECTS	Year	Semester
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<b>Programme Structure</b>	ASPHM-406-2102	Actions and Uses of Medicines A	6	1	Year
	ASPHM-406-2103	Pharmaceutics	6	1	Year
	ASPHM-406-1506	Principles and Standards for good Pharmaceutical Practice	6	1	Year
	ASPHM-406-2101	Biological Science & Human Physiology	6	1	Year
	ASPHM-406-1509	Microbiology and its application	6	1	Year
	ASPHM-406-1510	Chemistry for Pharmacy	6	1	Year
	ASPHM-406-2000	Work experience in the primary care setting 1	6	1	Year
	ASPHM-406-2002	Work experience in the secondary care setting 1	6	1	Year
	CDKSK-406-2319	English	6	1	Year
	CDKSK-406-2320	Mathematics	6	1	Year
	ASPHM-406-2104	Actions and Uses of Medicines B	6	2	Year
	ASPHM-406-2105	Actions and Uses of Medicines C	6	2	Year
	ASPHM-406-2106	Actions and Uses of Medicines D	6	2	Year
	ASPHM-406-1507	Pharmacy Law and Ethics	6	2	Year
	ASPHM-406-1511	Pharmaceutical Activities in the industry	6	2	Year
	ASPHM-406-2107	Pharmacy Practice	6	2	Year
	ASPHM-406-2001	Work experience in the primary care setting 2	6	2	Year
	ASPHM-406-2003	Work experience in the secondary care setting 2	6	2	Year
	CDKSK-404-2325	Entrepreneurship Essentials	4	2	A
	CDKSK-402-2324	Community Social Responsibility	2	2	A
	CDKSK-406-2327	Individual and Social Responsibility	6	2	Year

<b>Allocation of Total Learning Hours (per Unit)</b>	The total learning hours required for each unit or module are determined as follows:			
	<b>Credits (ECTS)</b>	<b>Indicative contact hours<sup>1</sup></b>	<b>Self-Learning and Assessment Hours<sup>3</sup></b>	<b>Total Student workload (hrs)<sup>2</sup></b>
	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
<i>Note: The 'Self-Learning and Assessment Hours'<sup>3</sup> amount to the difference between the 'Indicative Contact Hours'<sup>1</sup> and the 'Total Student Workload'<sup>2</sup></i>				



## 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, 5<sup>th</sup> 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, 5<sup>th</sup> Revised Edition.

## **ASPHM-406-1506: Principles and Standards for good Pharmaceutical Practices**

Unit level (MQF/EQF): 4

Credits: 6

Delivery Mode: Face to Face

Total Learning Hours: 150

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### **Unit Description**

Students acquire knowledge and competence of principles of good practice, legislation and standards as applicable to different areas of pharmaceutical practice in different health care settings within primary care, hospital establishments and within the industry.

Students will apply principles of good practice for different aspects of practice such as quality assurance and quality control; quality management systems; premises, equipment and utilities; installation and validation. Students will receive knowledge to be able to work within a practice which operates in line with a pharmaceutical quality management system and to contribute in the upkeep and writing up of parts of the quality management system.

Students will gain understanding to enable them to map out procedures and contribute to the writing up of standard operating procedures for different processes. Students will gain understanding and be able to use different types of documents within a practice.

Students will be able to understand how to set and achieve targets, key performance indicators for different processes and will monitor the different processes to ensure whether the required standards and targets are being achieved. Students will apply recommendations for improvement in different practice settings, and understand and apply the principle of continuous improvement.

Students will gain experience in the participation in the conduct of an audit in practice settings, both as part of an audit team as well as auditees, participate in the drawing up an audit report and set recommendations for improvement.

Students will be able to utilize and apply their knowledge and skill when they start working as pharmacy technicians to their different areas of practice where they will work. Student will be able to source information, guidelines and legislation and to practice in line with new developments in practice.

## Learning Outcomes

On completion of this unit the student will be able to

1. *Acquire knowledge of different pharmaceutical practices, general principles, guidelines, legislation and standards for good pharmaceutical practices*
2. *Acquire knowledge of pharmaceutical quality system principles relevant to activities within pharmaceutical practices*
3. *Premises, equipment and utilities used for different pharmaceutical practices*
4. *Know, understand and apply principles and knowledge for the manufacturing of medicinal products at industrial level*
5. *Monitor and evaluate that standards of good practice are being met and maintained.*

## **ASPHM-406-1507: Pharmacy Law and Ethics**

Unit level (MQF/EQF): 4

Credits: 6

Delivery Mode: Face to Face

Total Learning Hours: 150

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### **Unit Description**

Students will learn about different forms of regulation (legislation, guidelines and standards) as applicable to the profession and practice of pharmacy technicians. Students will learn about the EU framework for legislation and how EU legislation is transposed into national legislation. There will be a description of different areas of national legislation as applicable to pharmacy technicians.

Students will develop an understanding of professional practice and ethics. They will be nurtured to appreciate that the practice of pharmacy technicians is that of a registered professional and that in addition to the application of technical knowledge and standards they need to apply principles of ethical and professional practice and that the practice is regulated through the code of the Pharmacy Council.

Students will also be able to consider principles relevant to patients (such as patients' rights), other healthcare professionals and other stakeholders (such as principles of better regulation) in their communication and relevant practice.

Students will learn about the regulation covering medicinal products and their quality, safety and efficacy. Students will learn about regulation concerning the prescription, dispensing, supply and use of medicines and specific legislative requirements related to medicinal products such as controlled medicines, unlicensed medicines and off-label use. Students will be knowledgeable of regulation of products other than medicinal products.

Students will be knowledgeable of different regulation regarding different areas of pharmaceutical practice in different practice settings.

Students should be capable of applying regulation and principles of professional and ethical practice to daily work activity as well as to take up the challenge of new developments.

## Learning Outcomes

On completion of this unit the student will be able to

1. *Describe different forms of regulation as applicable to the profession and practice of pharmacy technicians and enable and motivate the students to keep updated*
2. *Understand and apply general principles of professional and ethical practice relevant to pharmacy technicians*
3. *Apply knowledge of regulation related to different medicinal and non-medicinal products*
4. *Understand regulations and standards of practice applicable to the advertising, supply, prescribing, dispensing, administration and use medicines*
5. *Know and understand healthcare systems and the impact of social determinants of health and apply this information in different aspects of practice*

## **ASPHM-406-1509: Microbiology and its Application**

Unit level (MQF/EQF): 4

Credits: 6

Delivery Mode: Face to Face

Total Learning Hours: 150

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### **Unit Description**

This unit provides a framework for students to understand important aspects of microbiology with relevance to all aspects relevant to the role of a pharmacy technician.

The students will be exposed to the fundamentals of microbiology including a clear understanding of viruses, viroids and prions; as well as prokaryotes and eukaryotes with a focus on bacteria, fungi and protozoa. Students will be exposed to various diseases caused by these microorganisms and will also learn about various types of zoonoses.

Student will be exposed to various aspects of pharmacology of bacterial and mycobacterial infections including DNA replication, transcription and translation and cell wall synthesis. They will also learn about aspects of fungal infections as well as parasitic infections including conditions caused by protozoa as well as helminths. Students will also learn about viral infections including physiology of viral replication and viral life cycle.

Students will understand mechanisms of drug resistance of various microorganisms.

The students will also be exposed to good practices for pharmaceutical microbiological laboratories to various techniques of enumeration of microorganisms and to relevance of microbiology in environmental monitoring and verification of aseptic technique.

The students will also understand the role of the microbiology laboratory in the diagnosis and therapeutics of infectious disease.

## Learning Outcomes

On completion of this unit the student will be able to

1. *Understand the fundamentals of microbiology including pharmacology of bacterial infections, fungal infections, parasitic infections and viral infections*
2. *Understand the development of resistance in microorganisms and concepts of infection control*
3. *Understand good practices for pharmaceutical microbiological laboratories and identify the relevance of microbiology in environmental monitoring and verification of aseptic techniques.*
4. *Apply principles of microbiology to the diagnosis of disease and therapeutics.*



## **ASPHM-406-1510: Chemistry for Pharmacy**

Unit level (MQF/EQF): 4  
Credits: 6  
Delivery Mode: Face to Face  
Total Learning Hours: 150

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### **Unit Description**

This unit provides a framework for students to understand important aspects of chemistry relevant to the pharmaceutical field.

Chemistry is a crucial subject to understand various aspects of pharmacy and pharmacy practice including synthesis of medications, determination of purity and formulation of medications as well as action and uses of medications including pharmacodynamics and pharmacokinetics.

Chemistry in pharmacy does in fact provide the necessary basis for the understanding of most of other units in the course.

Students will be exposed to the International System of Units and to basics of chemistry including the periodic table and ionic and covalent bonding. Students will also be exposed to stoichiometry.

Students will be subsequently exposed to organic chemistry [including functional groups] and pharmaceutical chemistry.

Most medications are small organic molecules that behave in solution as weak acids or bases. An understanding of acid-base theory will help the student understand and appreciate most medications. Students will come to appreciate the reasons why medications behave as acids or bases and the effects that ionization has on the properties of medicines.

The students will also come to appreciate importance of chemical reactions in drug metabolism.

The students will also understand concepts related to volumetric analysis of medications including titrations as well as other methods of assaying medications as practiced in research and industry.

Students will also understand the three-dimensional shapes of molecules. This is fundamental for students to understand other aspects of chemistry such as biochemistry and design of medicine. Students will wholly understand basics of isomerism and its

relevance in pharmacy. Students will be exposed to biochemistry and main biochemical issues relevant to pharmaceutical practice.

Students will be exposed to laboratory techniques related to pharmacy. They will be introduced to pharmacopoeial tests carried out in the pharmaceutical industry and perform Uniformity of Weight Ph. Eur. test in the laboratory. Students will also prepare standard solutions from solids, standard solutions by serial dilution and carrying out volumetric analysis of standard solutions.

## Learning Outcomes

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

- 1. Develop a firm basis of pharmaceutical chemistry anchored in practice including exposure to the periodic table, ionic and covalent bonding and stoichiometry.*
- 2. Develop a firm understanding of chemical reactions, chemical equilibria, acid-base theory, chemistry in the metabolism of medications as well as volumetric analysis of medications.*
- 3. Develop a firm basis of stereochemistry and of organic chemistry as well as to biochemistry relevant to pharmaceutical science.*
- 4. Perform laboratory techniques related to pharmacy.*

## **ASPHM-406-1511: Pharmaceutical Activities in the Industry**

Unit level (MQF/EQF): 4

Credits: 6

Delivery Mode: Face to Face

Total Learning Hours: 150

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### **Unit Description**

The student will gain knowledge and work experience of the practice and activities within different areas of the pharmaceutical industry.

Simulations of different activities, work practice in real life situations and visits to real work practices will be used to give the students an experience in different areas of practice in the industry.

Students will work in simulated and real life services and will have practice in drawing up the steps involved in procedures for different activities and practices. Role play and simulated cases will be used to give students the experience of dealing with case scenarios such as complaints, change control, dealing with non-conformities, recalls and corrective and preventive actions within the work environment in the industry.

Students will use knowledge and skills acquired from other and apply them to cases and experiences encountered during the work experiences and / or simulated practices for this unit.

Role play will be used to enable students to practice behavioral aspects within a work environment including communication with other employees and with other stakeholders such as clients.

Students are to fill a logbook during the work experience and visits and to use cases from their Logbook for the industry and from the simulated cases and to present aspects applicable to the different Units of this course and present and discuss them in class.

Students will be assessed on their activities in the simulated practices, on the compiled log book and on the presentation of cases from their Logbook.

## Learning Outcomes

On completion of this unit the student will be able to

1. *Understand a wide variety of pharmaceutical activities in the Maltese pharmaceutical industry*
2. *Triangulate/correlate knowledge, skill and experience from different areas for the execution of different activities in the industry*
3. *Perform an active role in multidisciplinary and multi-stakeholder teams in the industry setting*
4. *Interface between pharmaceutical industry and other settings*
5. *Demonstrate experience of work in the industry setting*

## **ASPHM-406-2000: Work Experience in the Primary Care Setting 1**

Unit level (MQF/EQF): 4  
Credits: 6  
Delivery Mode: Face to Face  
Total Learning Hours: 150

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### **Unit Description**

The learner will gain knowledge about different pharmaceutical services in the primary care setting, mainly focusing on pharmacies in primary care which may include other services such as domiciliary services, services in residential homes etc. Current services in Malta will be explained and discussed and examples from current services, particularly substantiated from experience during the learners' work placement, and simulations of services and activities will be used.

Learners will work in simulated services. They will have practice in drawing up the steps involved in different activities and processes and contribute to the writing of standard operating procedures for different procedures and activities in a pharmacy. Learners will have experience in dispensing of different types of prescriptions, under supervision.

Role play will be used to enable learners to practice communication and other behavioural aspects including communication with patients and carers, communication with other employees in pharmacies and other primary health settings and the role of the pharmacy technician as part of the multidisciplinary team.

Learners will use knowledge and skills acquired from all units and apply them during cases/ experiences encountered during the work placement, and/or simulated practices.

Learners are to use cases from their workbook as a learning experience alongside their tutor and collaborate with fellow learners in peer learning throughout this unit. Such cases should be used during simulations and discussions as part of the lecturing methodology for learners to problem solve and learn from real life experiences.

Learners will be assessed on their activities in real and simulated practices and on the research, development, and analysis of cases which will be presented in class.

Learners will be expected to be conversant in giving First Aid at the workplace, therefore should undergo an accredited course of basic First Aid and achieve certification in such competence.

This unit gives the learner an introduction to primary care pharmacy services through a work experience in various primary care settings. This unit shall be considered as an introductory part to primary care pharmacy and should be carried out in the first year of studies. Continuation of a primary care pharmacy work experience shall take place in the second year of studies, through a unit named; Work Experience in the Primary Care Setting 2. Only upon successful completion of the two units (Work Experience in the Primary Care Setting 1 in the first year of studies and Part 2 in the second year of studies) in addition to the completion of mandatory placement hours can the learners be considered to have acquired enough skills, knowledge and experience to apply for a pharmacy technician status with the Pharmacy Council Malta.

## **Learning Outcomes**

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

- 1. Understand the various activities taking place in a primary care setting.*
- 2. Order and maintain pharmaceutical stock.*
- 3. Dispense non-medicinal items.*
- 4. Perform First Aid procedures.*

## **ASPHM-406-2001: Work Experience in the Primary Care Setting 2**

Unit level (MQF/EQF): 4  
Credits: 6  
Delivery Mode: Face to Face  
Total Learning Hours: 150

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### **Unit Description**

This unit has been designed to build on the existing knowledge and skills gained through ‘Work Experience in the Primary Care Setting 1’. The learner will be supported whilst completing a practice placement within a primary health care pharmacy. The unit sets out to support the learner through the learning outcomes, competences, and assessments to continue to develop relevant behaviours expected within a primary care pharmacy setting.

The unit will provide the learner with skills in the professional aspects of their career. It will enable learners to develop effective communication skills which need to operate alongside their customer service knowledge. Learners will be given the underpinning knowledge to support their understanding of the nature of teamwork and how to work effectively within a pharmacy team.

Learners completing this unit will develop the knowledge required to communicate effectively with colleagues, clients, and healthcare professionals in a variety of different contexts. Learners will find out how to use different questions and techniques to obtain relevant information required for the safe supply of medicines, the provision of appropriate information and advice, and onward referral to an appropriate authority.

Learners will be required to use their knowledge of the uses and side effects of commonly used medicines including over the counter (OTC) products, and know how to advise clients to take their medicines in a way that ensures compliance, concordance and safe use.

The unit highlights the importance of working at all times within the limits of one’s own role, following Standardized procedures. The unit also identifies the developing role of the pharmacy technician, how pharmacy contributes to medicines management, and how this fits in with local and national policy.



Learning from the unit will also be reinforced with a workbook, which will enable the learner to record their developing knowledge and skills and equip learners with the knowledge and skills that will enable them to dispense and supply medicines in the correct way. The role of the pharmacy technician is expanding, so learners must be able to demonstrate good communication skills in this regard. Learners will also be introduced to the laws and the underlying principles behind the dispensing and supply of medicines. The unit also highlights the need for pharmacy technicians to demonstrate that they are aware of the limitations of their own role and when they need to refer to a pharmacist, senior pharmacy technician or prescriber.

This unit also covers learning and development skills, helping learners to understand how they and others learn, and how they can pass on knowledge to others. It will also prepare them for qualification and registration and help them to understand the requirements of being a registered pharmacy professional.

Only upon successful completion of the two units (Work Experience in the Primary Care Setting 1 in the first year of studies and Part 2 in the second year of studies) in addition to the completion of mandatory placement hours in both units can the learners be considered to have acquired enough skills, knowledge and experience to apply for a pharmacy technician status with the Pharmacy Council Malta.

## **Learning Outcomes**

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

- 1. Communicate effectively with customers in a pharmacy.*
- 2. Provide relevant information and advice on medicines and products.*
- 3. Understand the process involved in the dispensing of prescriptions.*
- 4. Support own learning through continuing professional development.*

## **ASPHM-406-2002: Work Experience in the Secondary Care Setting 1**

Unit level (MQF/EQF): 4  
Credits: 6  
Delivery Mode: Face to Face  
Total Learning Hours: 150

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### **Unit Description**

The learner will gain knowledge about different pharmaceutical services in a secondary care hospital setting, mainly focusing on pharmacies in hospital care but also on other services such as preparation of medicines in the hospital setting. Learners will gain understanding of aseptic technique as required to be used for the compounding of injectable medicinal products and will be tested for competence in this technique.

Current services in Malta will be explained and discussed and examples from current services, particularly substantiated from experience during the learners' work placement in the secondary care setting and simulations of services and activities will be used. Learners will practice in life and simulated services within the hospital environment.

Learners will practice the steps involved in standard operating procedures for processes for different activities in a hospital setting.

Role play will be used to enable learners to practice communication and other behavioral aspects including communication with patients and carers, communication with other employees in pharmacies and other hospital settings and the role of the pharmacy technician as part of the multidisciplinary team.

Learners will use knowledge and skills acquired from all units and combine them with cases/ experiences encountered during work Placement and / or simulated practices.

Learners are to use cases from their workbook and assignment and from the simulated cases and present aspects applicable to the different units of this course during this unit and discuss them in class. The discussions will be based on the schedule for the workbook for the work placement.

Learners will be mainly assessed on their activities at the work placement, in simulated practices and on the presentation of cases from their placement workbook.

This unit gives the learners an introduction to hospital pharmacy through a work experience in various secondary care settings. This unit shall be considered as an

introductory part to hospital pharmacy and should be carried out in the first year of studies. Continuation of a hospital pharmacy work experience unit shall take place in the second year of studies, through a unit named; Work Experience in the Secondary Care Setting 2.

Only upon successful completion of the two units: *Work experience in the Secondary Care Setting 1* completed in the first year of studies and *Work Experience in the Secondary Care Setting 2* in the second year of studies and in addition to the completion of mandatory placement hours can the learners be considered to have acquired enough skills, knowledge and experience to apply for a pharmacy technician status with the Pharmacy Council Malta.

## **Learning Outcomes**

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

1. Recognise the various activities taking place in a secondary care setting.
2. Understand the organization of the various sections of a pharmacy in a secondary care setting.
3. Practice effective communication and interaction with colleagues and other hospital staff.
4. Perform as part of an effective team.

## **ASPHM-406-2003: Work Experience in the Secondary Care Setting 2**

Unit level (MQF/EQF): 4  
Credits: 6  
Delivery Mode: Face to Face  
Total Learning Hours: 150

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### **Unit Description**

The learner will gain knowledge about different pharmaceutical services in a secondary care hospital setting, mainly focusing on pharmacies in hospital care but also on other services such as preparation of medicines in the hospital setting etc. Learners will gain an understanding of aseptic technique as required to be used for the compounding of injectable medicinal products and will be tested for competence in this technique.

Current services in Malta will be explained and discussed and examples from current services, particularly substantiated from experience during the learners' work placement in the secondary care setting and simulations of services and activities will be used. Learners will practice in life and simulated services within the hospital environment.

Learners will practice drawing up the steps involved in standard operating procedures for processes for different activities in a hospital setting.

Role play will be used to enable learners to practice communication and other behavioral aspects including communication with patients and carers, communication with other employees in pharmacies and other hospital settings and the role of the pharmacy technician as part of the multidisciplinary team.

Learners will use knowledge and skills acquired from all units and combine them with cases/ experiences encountered during work placement and / or simulated practices. Learners are to use cases from their workbook and assignment and from the simulated cases and present aspects applicable to the different units of this course during this unit and discuss them in class. The discussions will be based on the schedule for the workbook for the work placement.

Learners will be mainly assessed on their activities at the work placement, in simulated practices and on the presentation of cases from their placement workbook.

This unit is a continuation to the next level in hospital pharmacy practice for pharmacy technicians following the unit *Work Experience in the Secondary Care Setting 1* - (part 1, delivered in the first year of studies). This unit should be delivered in the second year of studies, only learners who have successfully completed the unit *Work Experience in the Secondary Care Setting 1*, will be considered as eligible learners.

Only upon successful completion of both units; (1) *Work Experience in the Secondary Care Setting 1* (in the first year of studies) and (2) *Work Experience in the Secondary Care Setting 2* (during the second year of studies) and in addition to the completion of mandatory placement hours can learners be considered to have acquired enough skills, knowledge, and experience to apply for a pharmacy technician status with the Pharmacy Council Malta.

## **Learning Outcomes**

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

1. *Understand the process involved during dispensing.*
2. *Store and maintain pharmaceutical stock.*
3. *Practice making medicines in a pharmacy.*
4. *Monitor clinical cases.*

## **ASPHM-406-2101: Biological Science and Human Physiology**

Unit level (MQF/EQF): 4

Credits: 6

Delivery Mode: Face to Face

Total Learning Hours: 150

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### **Unit Description**

This unit provides a framework for learners to understand the biological systems and human physiology which is necessary to understand the action and uses of medicines (Unit 4-8).

Learners will understand the organisation of the human body by studying the structure of cells with an emphasis on parts of the cell where medicines action can occur including major types of receptors. They will also learn the basic concepts of genetics including genetic diseases.

Learners will be exposed to various cell types as well as to various tissues. There will also be a focus on various systems individually. It is important that learners appreciate the interaction between all various systems and that important concepts of homeostasis are elucidated. Description of anatomy and physiology of all systems will be anchored into practice with particular reference to the system in question and diseases of that particular system.

Learners will be exposed to the anatomy and physiology of the respiratory system and the cardiovascular system including the heart, the blood vessels, and the role of the blood including components of the blood. Learners will be exposed to the immune system as well as to the lymphatic system.

Learners will be exposed to the anatomy and physiology of the digestive system and genito-urinary system.

Learners will be exposed to the anatomy and physiology of the endocrine system including hormones as well as the anatomy and physiology of the nervous system including cells of the nervous system, the synapse and neurotransmitters; divisions within the nervous system including the central nervous system and the peripheral nervous system. The functions of the sensory organs will also be studied.

Learners will be exposed to the anatomy and physiology of the musculoskeletal system including major bones, muscles, cartilage, tendons and joints.

## Learning Outcomes

On completion of this unit the student will be able to

1. *Understand the structure and function of cells, tissues and organ systems as well as basic concepts of genetics.*
2. *Recognise the anatomy and physiology of the respiratory system, cardiovascular system as well as the structure and function of the lymphatic system and the immune system.*
3. *Analyse the anatomy and physiology of the gastrointestinal system and the genito-urinary system.*
4. *Evaluate the anatomy and physiology of the endocrine system, the nervous system and sensory organs as well as the musculoskeletal system.*



## **ASPHM-406-2102: Actions and Uses of Medicines A**

Unit level (MQF/EQF): 4

Credits: 6

Delivery Mode: Face to Face

Total Learning Hours: 150

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### **Unit Description**

This unit provides a framework for learners to understand the most important processes involved in pharmacokinetics and will familiarise themselves with the clinical relevance of pharmacokinetic parameters. They will also be able to describe the relationships between dose, concentration, response and toxic effects of medicines.

Learners will become aware of how medicines act (pharmacodynamics) at a molecular level and also understand key aspects of action of medicines including therapeutic equivalence, therapeutic index, potency and efficacy.

This unit will also focus on essential features and different types of adverse drug reactions and will help learners understand which patients have an increased susceptibility to ADRs and what factors to take into account when assessing causality. They will also learn ways of minimising them.

Learners will be able to define and distinguish different types and mechanisms of interactions as well as appreciate the importance of interactions involving Cytochrome P450. They will also learn to predict interaction and learn also ways of reducing the risks of interactions.

The learners will familiarise themselves with the clinical assessment and parameters that are monitored in the management of the main cardiovascular disorders with a particular emphasis on ischaemic heart disease (including hyperlipidaemia), hypertension, congestive heart failure, arrhythmias and thrombosis. For each cardiovascular disorder learners will be able to appreciate significance of each condition, medications used, and principles of therapy and management goals as well as develop the necessary skills and confidence to be able to assess effectiveness of medication used and monitor patient progress.

Learners will familiarise themselves with the treatment of various conditions affecting gastrointestinal system. They will understand what may contribute to diarrhoea and constipation, understanding their management and also identify signs which may warrant referral. Learners will also appreciate different causes of nausea and vomiting and medical options available in a variety of different scenarios. The learner will also develop skills to manage patients presenting with upper gastrointestinal disorders, will

understand the role of *Helicobacter pylori* and will become cognisant of properties of antacids and ulcer-healing medications. The learner will also be familiarised with inflammatory bowel disease and chronic bowel disorders and with relevant medication, monitoring and evaluation.

In the last part of this unit the learner will also focus on the treatment of respiratory disorders with an emphasis on medications utilised in the treatment of asthma and chronic obstructive pulmonary disease.

Learners will understand all the above utilising a case-based interactive approach.

Towards the end of the unit, they will conduct a final personal self-assessment to identify the strengths they have enhanced during the unit and areas for development in the future.

## **Learning Outcomes**

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

- 1. Recognise the basic principles of pharmacokinetics and pharmacodynamics.*
- 2. Identify different types of adverse drug reactions and drug interactions in practice.*
- 3. Explain the pharmacology of medications used to treat cardiovascular diseases.*
- 4. Evaluate the medications used to treat patients with gastrointestinal diseases.*
- 5. Illustrate the actions and uses of medications used to treat respiratory disorders including asthma and chronic obstructive airway disease.*

## **ASPHM-406-2103: Pharmaceuticals**

Unit level (MQF/EQF): 4

Credits: 6

Delivery Mode: Face to Face

Total Learning Hours: 150

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### **Unit Description**

Pharmaceutics includes various aspects. This unit will focus on biopharmaceutics, principles of pharmaceutics, pharmaceutical formulation and pharmaceutical technology.

Learners will learn principles of pharmaceutics and will apply them to the vast variety of dosage forms that pharmacy technicians encounter in professional practice. The learner will gain knowledge of the formulation of different dosage forms, the properties of different types of excipients used for different dosage forms and the applicability, advantages and disadvantages of different dosage forms.

Learners will learn how to prepare different product types and will be able to compound extemporaneous preparations required in different pharmacy settings. The learners will be able to apply their knowledge of different ingredients for pharmaceutical preparations and the methods to be adopted for the preparation of different formulations. Learners will be able to do calculations of the ingredients required for preparations and choose the appropriate containers. Learners will be able to apply this knowledge to compound pharmaceutical preparations in the pharmacies within the primary care and also hospital pharmacies.

Learners will understand the importance of the aseptic technique when handling sterile pharmaceutical preparations. Learners will learn about handling, reconstituting and diluting parenteral preparations including chemotherapy, Centralised Intravenous Additives (CIVAS), radiopharmaceuticals, total parenteral nutrition (TPN). Learners will be able to apply this knowledge and skill when working in preparation units.

Learners will be able to apply this knowledge in practice, for the preparation and labelling of different preparations and to give advice to patients and information to be included on the labels and to be given during dispensing.

Learners will gain knowledge of the manufacturing of different dosage forms of medicinal products at an industrial level. Learners will be able to apply this knowledge when working in an industrial setting. It is important for learners to understand that all those employed within the pharmaceutical field must have the knowledge and skills to undertake these activities safely for the safety of both themselves and of the patient.

This is important as factors such poor skills and inaccuracy can lead to poor medicinal products that could result in harm to the patient.

## Learning Outcomes

On completion of this unit the student will be able to

1. *Recognise the principles of pharmaceutical formulation and pharmaceutical technology.*
2. *Solve pharmaceutical calculations for correct dispensing and preparation of pharmaceutical preparations.*
3. *Prepare extemporaneous preparations as required in a pharmacy in line with established standards.*
4. *Identify the principles of sterile compounding.*

## **ASPHM-406-2104: Actions and Uses of Medicines B**

Unit level (MQF/EQF): 4

Credits: 6

Delivery Mode: Face to Face

Total Learning Hours: 150

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### **Unit Description**

This unit provides a framework for learners to understand various disorders and areas of therapeutics.

The first part of the unit will deal with diseases of the central nervous system and their management and treatment. Learners will also be exposed to anxiolytics and hypnotics and the treatment of anxiety disorders and sleep disorders. The learners will also learn to understand most important psychiatric conditions and various treatment options available for depression and mood disorders, psychoses, bipolar disorders and schizophrenia. Learners will be exposed to the management of epilepsy and exposure to the most important antiepileptic medications. The treatment of dementia and Alzheimer's disease and use of anticholinesterase inhibitors will be examined.

Learners will also be introduced to medications used for the relief of pain as well as to anaesthetic medications. In this context they will be also exposed to palliative care and to different types of analgesics used to treat different types of pain. Different types and classes of anaesthetics will be reviewed.

The next section to be dealt in detail is nutrition and blood, with learners being exposed to blood, various blood products, anaemia and its treatment. This section will also expand on various essential ions and vitamins as well as specialised nutrition required in particular disease states.

Malignant disease and immunosuppression will be the focus of this part of the unit. Learners will appreciate different medications utilised for the treatment of various forms of malignancies. Learners will also be exposed to utility and most important issues relating to various types of immune suppressants.

### **Learning Outcomes**

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

- 1. Assess how medicines are used to treat disorders of the central nervous system.*
- 2. Explain the uses of various medications used in anaesthesia and in the treatment of pain.*
- 3. Identify medications relating to blood and nutrition.*
- 4. Guide patients on medications used for cancer treatment and immune suppressants.*

## **ASPHM-406-2107: Pharmacy Practice**

Unit level (MQF/EQF): 4

Credits: 6

Delivery Mode: Face to Face

Total Learning Hours: 150

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### **Unit Description**

Learners will achieve knowledge of the legislation and standards relevant to pharmacy practices and to pharmacies and equipment within pharmacies. Learners will receive a comprehensive knowledge of different areas of pharmacy practice and different activities particularly as relevant to dispensing practice, supply of medicines, use of medicines and administration of medicines.

The unit will enable the application of knowledge from different areas which cut across other units such as bio-pharmaceutics and pharmaceutical technology, principles of good practice, knowledge of physiology and different disease states and pharmacology to the practice of dispensing and provision of advice to patients.

A major component of this unit is the information about symptoms of minor illnesses, application of information from diagnostics tests and the use of this information to give recommendations to patients.

The unit will consider supply and use of medicinal products, non-medicinal products as well as health education, health promotion and disease prevention as a holistic approach to healthcare.

The unit will support the practice which will be addressed more specifically in practice and during work experience. The assessment of this unit is mainly aimed at ensuring that the knowledge gained in this basic subject as relevant to the practice of pharmacy technicians is utilised and applied in different areas of practice.

### **Learning Outcomes**

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

- 1. Apply legislation and standards related to pharmacy practice.*
- 2. Assist in the provision of appliances, dressings and other nonmedicinal products.*
- 3. Apply behavioural and sociological concepts relevant to pharmacy during practice.*
- 4. Provide advice on minor ailments.*

## **ASPHM-406-2105: Actions and Uses of Medicines C**

Unit level (MQF/EQF): 4

Credits: 6

Delivery Mode: Face to Face

Total Learning Hours: 150

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### **Unit Description**

This unit provides a framework for learners to understand various endocrinological conditions in particular diabetes. The learner will understand its implications as well as its long-term complications plus prophylaxis and treatment options available for this condition which is particularly prevalent in Malta. Learners will also appreciate presentation of hypothyroid and hyperthyroid states and also understand the management of patients with thyroid disorders.

Learners will also have an opportunity to understand the actions and uses of corticosteroids as well as sex hormones including oestrogens and hormone replacement therapy. The learners will also appreciate characteristics of the menopause and appreciate risk and benefits as well as patient monitoring essential in hormone replacement therapy.

This unit will also deal with other medications important in endocrinology including progestogens and gonadorelin analogues; androgens and anabolic steroids (including the misuse of such substances amongst other in sports] as well as antiandrogens and selective oestrogen receptor modulators and aromatase inhibitors. This unit will also elucidate the role of the naturally occurring peptide hormones somatostatin and its analogues.

Various menstrual cycle disorders [including premenstrual syndrome, dysmenorrhoea, menorrhagia, endometriosis and polycystic ovary syndrome] will be reviewed and learners will understand the management of each condition. This unit will describe some important medications used in obstetrics including prostaglandins and oxytocin and different types of contraception. In this unit learners will appreciate the characteristics of important genitourinary disorders and appreciate characteristics and principles of therapy of benign prostatic hyperplasia and urinary frequency and incontinence.

This unit will also deal with the presentation and management of rheumatoid arthritis including safety issues and patient monitoring related to various medications used in its management (including disease-modifying antirheumatic medications and biological agents). The learner will also understand the rationale and medications utilised in the management of osteoarthritis, osteoporosis, Paget's disease and gout.



Learners will also have the opportunity to explore and understand immunological products and vaccines including immunoglobulins, interferon and vaccines.

## Learning Outcomes

On completion of this unit the student will be able to

1. *Analyse the actions and uses of medications used in the management of diabetes and thyroid disorders.*
2. *Indicate the medications used for treating various endocrinological conditions.*
3. *Practice the management of various gynaecological and genitourinary disorders as well as medications used in obstetrics.*
4. *Identify medications used for a wide variety of rheumatological, musculoskeletal and joint diseases.*
5. *Recognise issues regarding immunological products and vaccines.*

## **ASPHM-406-2106: Actions and Uses of Medicines D**

Unit level (MQF/EQF): 4

Credits: 6

Delivery Mode: Face to Face

Total Learning Hours: 150

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### **Unit Description**

This unit provides a framework for learners to understand various disorders and areas of therapeutics.

The first part of the unit will deal with diseases of the central nervous system and their management and treatment. Learners will also be exposed to anxiolytics and hypnotics and the treatment of anxiety disorders and sleep disorders. The learners will also learn to understand most important psychiatric conditions and various treatment options available for depression and mood disorders, psychoses, bipolar disorders and schizophrenia. Learners will be exposed to the management of epilepsy and exposure to the most important antiepileptic medications. The treatment of dementia and Alzheimer's disease and use of anticholinesterase inhibitors will be examined.

Learners will also be introduced to medications used for the relief of pain as well as to anaesthetic medications. In this context they will be also exposed to palliative care and to different types of analgesics used to treat different types of pain. Different types and classes of anaesthetics will be reviewed.

The next section to be dealt in detail is nutrition and blood, with learners being exposed to blood, various blood products, anaemia and its treatment. This section will also expand on various essential ions and vitamins as well as specialised nutrition required in particular disease states.

Malignant disease and immunosuppression will be the focus of this part of the unit. Learners will appreciate different medications utilised for the treatment of various forms of malignancies. Learners will also be exposed to utility and most important issues relating to various types of immune suppressants.

## Learning Outcomes

On completion of this unit the student will be able to

1. *Assess how medicines are used to treat disorders of the central nervous system.*
2. *Explain the uses of various medications used in anaesthesia and in the treatment of pain.*
3. *Identify medications relating to blood and nutrition.*
4. *Guide patients on medications used for cancer treatment and immune suppressants.*

## CDKSK-406-2319: English

Unit Level (MQF/EQF): 4

Credits: 6

Delivery Mode: Fully Face-to-Face Learning

Total Learning Hours: 150

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### Unit Description

This unit typically refers to English language skills needed for specific careers or vocational training programmes. The main objective of this unit is to prepare learners to understand and respond to spoken English on a variety of topics, including abstract or unfamiliar topics, to read and comprehend a variety of texts, including more extended and more complex texts, and to write in a more precise and structured way. Particular focus is given to summarising and paraphrasing.

At this level, learners should have a good understanding of English grammar, vocabulary and usage. They should be able to communicate effectively in written and spoken English, express opinions, and understand complex texts and conversations as required by various but often specific technical contexts within their selected field of study. Learners should also start acquainting themselves with researching reliable and authoritative sources of information. Moreover, they should also be able to cite this information and follow the conventions of the referencing style stipulated by their respective institute.

### Learning Outcomes

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

1. *Read and understand written English effectively to improve knowledge of the subject area.*
2. *Understand extended speech and follow an argument provided the topic is related to one's own subject area.*
3. *Speak with a degree of fluency and spontaneity on topics related to one's own subject area.*
4. *Produce a research-based report or essay with appropriate choice of linguistic style and structure.*

## **CDKSK-406-2320: Mathematics**

Unit Level (MQF/EQF): 4

Credits: 6

Delivery Mode: Fully Face-to-Face Learning

Total Learning Hours: 150

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### **Unit Description**

This unit provides a framework for students to develop mathematical thinking skills further to the level 3 unit specification to solve problems related to real-life situations. Students also develop skills, attributes and knowledge that contribute to their personal growth and effectiveness within their training and work environment and within the community.

The unit is designed to adapt for the needs of a particular field of study (business & finance or engineering & transport and others). To reach this goal the unit was divided into eight learning outcomes from which four learning outcomes are chosen and taught, which are related to statistics, algebra and graphical representation, geometry, areas and volumes, game theory and finance. Through these different areas students will be able to develop the effective skills for information processing, reasoning, evaluation creative thinking and enquiry, all fundamental skills for the problem-solving process. This will prepare students in applying and evaluating a range of strategies to solve real-life problems. Through this unit the learner will also learn to present and communicate results and conclusions effectively.

On successful completion of the unit the learner will be equipped with mathematical thinking skills which make them aware of and understand their thought process, to reassess and identify areas for development. Students learn to evaluate, reflect on their strategies, understand, and verify results to solve problems. These skills will equip students with managerial skills, to further their studies and for work employability.

## Learning Outcomes

Learning Outcomes are electives out of which 4 are to be chosen

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

1. *Use algebraic techniques to simplify expressions and solve equations.*
2. *Identify how to simplify more complex expressions and solve harder equations.*
3. *Demonstrate visual and logical techniques in evaluating graphical representations and communication skills in presenting the results effectively.*
4. *Demonstrate skill in calculating angles, sides, areas, and volumes for any given situation.*
5. *Apply information processing skills to solve problems in a relevant statistical context.*
6. *Apply thinking skills and demonstrate evaluation skills to solve problems in a relevant game theory context.*
7. *Demonstrate evaluation and communication skills in solving and presenting problems applied to costing methods and techniques.*

## CDKSK-406-2327: Individual and Social Responsibility

Unit Level (MQF/EQF): 4

Credits: 6

Delivery Mode: Fully Face-to-Face Learning

Total Learning Hours: 150

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### Unit Description

Since the beginning of time, humanity always had to face challenging questions and situations, related to the responsibilities, each individual and society at large, had to carry along their existence. In this unit, learners will understand how to discover their roots of behaviour whether resulting from their genetic inheritance or their environment through self-reflection by understanding the nature vs nurture debate. Conserve the physiological, philosophical and psychological underpinnings of such phenomenon and the impact on their life.

Students will have the opportunity to acquire knowledge on the sustainable developmental goals and how they need to be implemented in their everyday life thus reflecting on the rest of society. Through the art of conversation students will be given the opportunity to debate such sustainable developmental goals thus putting forward their ideas while receiving feedback on theirs. This will enable students to construct sound arguments and teach them how to analyse different concepts from their own.

Learners will be given the prospect on work ethics and employability skills from an employee's and employers perspective. Students will be given the foundation on employment rights and obligations together with the required skills and personal qualities required by employers. A simulated interview will consolidate the theory with practice for the students' benefit.

### Learning Outcomes

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

1. *Discuss the impact of Nature and Nurture on human behaviour.*
2. *Explain how important the Sustainable Development Goals (SDG's) are in modern society.*
3. *Debate the relevance and implication of the most pressing issues arising in our current society.*
4. *Identify the importance of work ethics and employability skills.*

## **CDKSK-402-2324: Community Social Responsibility**

Unit Level (MQF/EQF): 4

Credits: 2

Delivery Mode: Fully Face-to-Face Learning

Total Learning Hours: 50

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### **Unit Description**

This unit focuses on Community Social Responsibility and provides an opportunity for learners to better understand themselves and others to establish life goals. Community social responsibility enables learners to understand their strengths, areas for improvement, opportunities offered to them during their lifespan and threats which can hinder their achievements. This unit will prepare students for life, employment and how to become active citizens in society.

Lectures will differ from traditional delivery of other units where learners will be empowered to take ownership of their learning process. This means that this unit will be delivered through a combination of discussions, presentations, debates and application of theory through voluntary work. The sessions will focus on students becoming more self-aware of their strengths and limitations and what can be done to improve themselves. Skills needed on working and interacting with other people in the community and the right work ethics when doing the voluntary work. These sessions will help them prepare themselves for life after college and also instil civic duty to become active citizens.

### **Learning Outcomes**

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

5. *Discover oneself through personal reflection and planning personal goals.*
6. *Interact and cooperate with other people effectively.*
7. *Develop active participation and promote community work.*



## CDKSK-404-2325: Entrepreneurship Essentials

Unit Level (MQF/EQF): 4

Credits: 4

Delivery Mode: Fully Face-to-Face Learning

Total Learning Hours: 100

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### Unit Description

One of the main policy goals for the EU and Member States over the past years has been the development of the entrepreneurial capacity of European individuals and organizations, since there is a growing understanding that entrepreneurial abilities and information, can be learned, which in turn spurs the development of an entrepreneurial mindset and culture that is advantageous to both people and society at large.

Entrepreneurship is a transversal skill that may be used to launch businesses as well as foster personal growth, actively participate in society, and (re)enter the job market as an employee or self-employed individual (cultural, social, or commercial). Hence, it encompasses a variety of entrepreneurial endeavours, such as intrapreneurship, social entrepreneurship, green entrepreneurship, and digital entrepreneurship. It relates to value creation, and it is applicable to both individuals and groups (teams or organizations), as outlined in the definition below:

‘Entrepreneurship is when you act upon opportunities and ideas and transform them into value for others. The value that is created can be financial, cultural, or social’ (FFE-YE, 2012)

Therefore, the main objective of this unit is to familiarize the learners with the above-mentioned concept of entrepreneurship, with a view on enhancing entrepreneurial skills by building a strong foundation in this area of studies. Through this unit, learners will be guided on various ideation and creativity techniques, which will enable them to recognize opportunities and/ or generate ideas that address needs which are not currently being met, whilst being driven by sustainability when making these decisions. For example, through the use of the global sustainable developmental goals (SDGs) the learners are encouraged to understand the importance of sustainable development and inspire them to create businesses that contribute to this cause.

Throughout the unit, learners will be encouraged to think critically, creatively, and ethically about entrepreneurship, and to consider the impact of their ventures on society and the environment, by utilising a variety of tools such as the Business Model Canvas(BMC) as a framework, and they will also have the opportunity to develop various other transversal skills such as communication and teamwork skills.

Upon completion of this unit, learners will have developed an appreciation for the role of entrepreneurship in society and acquired an entrepreneurial mindset that will enable them to identify and pursue opportunities for innovation and growth in their personal and professional lives.

## **Learning Outcomes**

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

- 1. Identify an entrepreneurial opportunity.*
- 2. Apply creative thinking tool(s) and technique(s) to generate idea(s).*
- 3. Develop an entrepreneurial idea through a strategic plan.*
- 4. Use effective communication skills to persuade various stakeholders.*