

MCAST PROGRAMMES - PUBLIC INFORMATION TEMPLATE (FULL TIME)

Institute	Institute of Engineering and Transport
Department	Land Transport Department

Programme Title	Undergraduate Diploma in Auto Electronics and Electrical Technology								
Course Code To be filled in by Admissions Dept.	MV5-001-22			If the programme includes a WBL element, How is it accredited?			Not Applic include Wf	Not Applicable, does not include WBL	
MQF/ EQF Level	Level 5	Type (refer to Appendix 1 for Parameters)		Qualifi	cation	Awar	ding Body	MCAST – Malta College of Arts, Science and Technology	
Accreditation Stat	tus	Accre Self-A	dited via	MCAST g Statu	Ր's Self Acc s as per 1s	creditation t schedu	on Process (I ule of Legal N	MCAST holds Notice 296/2012)	
Mode of Delivery	Face to Face		Duration emic Year Semester	DN(Acad rs or s)	1 Year	N A	lode of Attendance	Full-time	
Total Number of Credits	60 credits	Total (25 Tota	Learning F	g Hour៖ Hours for e	s ach ECTS)	1500 h	ours		
Target Audience	Ages 16 - 65	Target Group Learners who have completed compulsory educational institution educational institution anticipates joining this education				l compulsory			
Programme Fees	 Fees apply for other International Applicants for fee information and any related updates it is best to communicate with MG2i International through applyinternational@mcast.edu.mt One may consider checking about possible eligibility or otherwise for any exemption from fees by contacting the relevant section within MEYR (Floriana) – or visit the servizz gov mt website here 								
Date of Next Student Intake	For further int windows for s	formatio ame ki	on regard ndly <u>click</u>	ling upo <mark>k here</mark>	oming stud	lent inta	ke and appli	cations time	
Language of Instruction	The official language of instruction at MCAST is English. All notes and textbooks are in English (except for language courses, which will be in the respective language being instructed). International candidates will be requested to meet English language certification requirements for access to the course.								
Application Method	Applications to full-time courses are received online via the College Management Information System. Applicants can log-in using Maltese Electronic ID (eID) in order to access the MCAST Admissions Portal directly and create one's own student account with the identity being verified electronically via this secure service. Non-EID applicants need to request account creation though an online form after that they confirm that their local Identification Document does not come with an EID entitlement Once the identity is verified and the account is created on behalf of the applicant, one may proceed with the online application according to the same								



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



	 Face to Face components – as per above address instructions
	 Online components – from the student's preferred address.
Course Description (Refer to Programme Specification) Deskrizzjoni tal- Kors (Refer to Programme Specification)	The course is intended for qualified automotive technicians seeking to broaden their knowledge on Electric Vehicles and Hybrids. Students start from the fundamentals and concepts of electrical and electronic systems. Subsequently they are then gradually introduced to the advanced theory of Auto electrical and electronic control systems and microprocessor control systems. The course delves into the theory of Electrical Vehicles and Hybrids, including electrical machines, power electronics, and the different energy sources available on the market. The course also provides hands-on experience using diagnostic approaches that help students troubleshoot potential integration problems. Learners are also instructed to work with various electronics equipment and become familiar with various computer-controlled systems, diagnostic software test equipment and tooling. Dan il-kors huwa mmirat għal teknixins tal-karozzi li qed ifittxu li jkabbru l-għarfien tagħhom dwar il-Vetturi li jaħdmu bl-Elettriku u dawk Ibridi. Il-programm ta' studju jibda bil-prinċipji fundamentali u l-kunċetti tas-sistemi tal-elettriku u dawk elettroniċi. Sussegwentement imbagħad l-istudenti jiģu introdotti gradwalment għat-teorija avvanzata tas-sistemi ta' kontroll elettriċi u elettroniċi fil-Vetturi, kif ukoll għas-sistemi ta' kontroll ibbażati fuq il-mikroproċessuri. Il-kors jittratta t-teorija li tirrigwarda l- Vetturi li jaħdmu bl-Elettriku u dawk Ibridi, inkluż il-magni li jaħdmu bl-elettriku, elettronika ta' vultaġġ għoli, u s-sorsi ta' enerĝija differenti li jinstabu fis-suq. L- istudenti jitħarrġu wkoll fis-sejbien ta' soluzzjonijiet għal problemi ta' integrazzjoni li
	jistgħu jinqalgħu f'Vetturi li jaħdmu bl-Elettriku u dawk Ibridi. L-istudenti jitgħallmu
	mill-kompiuter, softwer dianiostiku užat gňall-ittestiar, u gňodod oňra.
Career Opportunities:	Hybrid and Electrical Vehicle Service Technician
	Internal Progression Route Any MCAST MQF Level 4 (120 credits) Advanced Diploma in an Engineering or
Entry	Science Area or IICT and Scientific Field
Requirements	OR
(Refer to Prospectus / Course Page on MCAST	
website)	2 A-Level passes and 2 I-Level passes
	Applicants must present an official document, showing a positive clearance following a Colour Vision Assessment / Test.
Other Notes related to this Programme and	When submitting online application for this course, a scan of the original and official Colour Vision Test result needs to be upleoded together with all other documentation
which are to be	required.
taken note of	
	At the end of the programme the learner is able to: 1. Service and maintain Electric and Hybrid Vehicles
Programme	2. Be familiar with the fundamentals and concepts of Electrical and Electronics
Learning	Systems. 3 Be aware of the H&S requirements, and the use of tooling when working on an EV
(Refer to Programme	or Hybrid.
Specification)	 4. Differentiate between various EV control systems and various Energy Sources. 5. Possess excellent knowledge on Microprocessor systems, power sources and
	Electrical machines.
Teaching,	The programmes offered are vocational in nature and entail both theoretical lectures
Assessment	workshops, salons, simulators as the module requirements dictate.
Procedures	
	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 <u>https://www.mcast.edu.mt/college-documents/</u>
	The Programme Regulations pertaining to this Programme's MQF/EQF level available at: link <u>https://www.mcast.edu.mt/college-documents/</u> , apply.
	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.
Grading System	For a student to be deemed to have successfully passed a unit, a minimum of 50% (grade D) must be achieved.
	All full time units are individually graded as follows: A* (90-100) A (80-89)



	B (70-79) C (60-69) D (50-59) Unsatisfactory work is graded as 'U'.
	Work-based learning units (where applicable) are graded on a Pass/Fail basis only.
	Some units which follow industry standards and regulations may also be graded on a Pass/Fail basis as per programme regulations referred below.
	Detailed information regarding the grading system may be found in the Programme Regulations pertaining to this programme's MQF/EQF Level available at: <u>https://www.mcast.edu.mt/college-documents/</u> (Refer to DOC 003, 004 and 005)
Exit Point (where and as applicable)	Where a student will not make it to the Final Certification achievable from this Programme of Studies (as per Programme Regulations), one might wish to look into Exit Point possibilities as may be applicable to this programme for studies. Further information, is available at <u>https://www.mcast.edu.mt/college-documents/,</u> kindly refer to <i>DOC 077</i> <i>Procedure for the processing of Claims for Certificates at Interim Exit</i> <i>Points.</i>
Contact details for Further Learning Opportunities	The MCAST Career Guidance Team, offers the service of qualified and experienced Career Advisers who will be very willing to discuss with potential applicants the course which best achieves one's career ambitions, as well as exploring one's education route, or similar. MCAST Career Guidance Tel: 2398 7135/6 Email: career.guidance@mcast.edu.mt
Regulatory Body/ Authority Contact (where applicable - in the cas leading to Regulated Professi	Competent Details e of a programme on)

Programme	Unit Code	Unit Title	ECTS	Year	Semester
Structure	ETE&E-506- 2100	Fundamentals and Concepts of Electrical and Electronic Systems	6	1	-
	ETH&S-503- 2100	Health and Safety in Electrical Vehicle and Hybrid Maintenance	3	1	-
	ETAUT-506- 2100	Auto Electrical Systems	6	1	-
	ETENG-506- 1901	Mathematics for Engineers	6	1	-
	ETAUT-503- 2101	Use of Tooling for Electrical Vehicle and Hybrid Maintenance	3	1	-
	ETAUT-506- 2102	Microprocessor Systems and Auto Electronic Control Systems	6	1	-



ETAUT-506- 2103	Electrical Vehicles and Hybrids	6	1	-
ETAUT-506- 2104	Electrical Machines	6	1	-
ETAUT-506- 2105	Power Electronics	6	1	-
ETAUT-506- 2106	Energy Sources	6	1	-
ETAUT-506- 2107	Control Systems for Hybrid and Electrical Vehicles	6	1	-

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



MINIMUM CREDITS FOR QUALIFICATIONS AT DIFFERENT LEVELS

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

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

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



APPENDIX 2

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

EXAMPLES OF QUALIFICATION TYPES AT A SPECIFIC MQF LEVEL

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

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