MCAST

MCAST PROGRAMMES - PUBLIC INFORMATION TEMPLATE (FULL TIME)

Institute	Institute of Engineering and Transport
Department	Electrical and Electronic Department

Programme Title	Master of Science in Mechatronics				
Course Code *To be filled in by Admissions Dept.*	EE7-O01-21p		**If the programme includes a WBL element, How is it accredited?**	Not Applicable, does not include WBL	
MQF/ EQF Level	Level 7	**Type** *(refer to Appendix 1 for Parameters)*	Qualification	**Awarding Body**	MCAST – Malta College of Arts, Science and Technology
Accreditation Status	Accredited via MCAST's Self Accreditation Process (MCAST holds Self-Accrediting Status as per 1st schedule of Legal Notice 296/2012)				
Mode of Delivery	Face to Face	**Duration** *(Academic Years or Semesters)*	3 Semesters	**Mode of Attendance**	Full-time
Total Number of Credits	90 credits	**Total Learning Hours** *(25 Total Learning Hours for each ECTS)*	2250 hours		
Target Audience	Ages 23 - 65	**Target Group** *(the type of learners that the educational institution anticipates joining this programme)*	-		
Programme Fees	There are no fees applicable to Maltese and other EU Nationals (as will be evidenced by their Identity Document) Fees apply for other International Applicants… for fee information and any related updates it is best to communicate with MG2i International through applyinternational@mcast.edu.mt One may consider checking about possible eligibility or otherwise for any exemption from fees by contacting the relevant section within MEYR (Floriana) – or visit the servizz.gov.mt website here				
Date of Next Student Intake	For further information regarding upcoming student intake and applications time windows for same kindly click here				
Language of Instruction	The official language of instruction at MCAST is English. All notes and textbooks are in English (except for language courses, which will be in the respective language being instructed). International candidates will be requested to meet English language certification requirements for access to the course.				
Application Method	Applications to full-time courses are received online via the College Management Information System. Applicants can log-in using Maltese Electronic ID (eID) in order to access the MCAST Admissions Portal directly and create one's own student account with the identity being verified electronically via this secure service. Non-EID applicants need to request account creation though an online form after that they confirm that their local Identification Document does not come with an EID entitlement. . Once the identity is verified and the account is created on behalf of the				

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

	○ Face to Face components – as per above address instructions ○ Online components – from the student's preferred address.
Course Description *(Refer to Programme Specification)*	The Master of Science in Mechatronics programme provides students with a broad range of knowledge and skills in the field of automation and control of production processes and equipment, as well as in the field of mechatronic devices and systems control. It focuses on the study of network technologies (e.g. Ethernet, Industrial Protocol, Profinet, Modbus, Profibus, Devicenet, Control Net), and the development of SCADA (Supervisory Control and Data Acquisition) system construction. The practical use of real-time systems is also an important part of the programme. Students will learn how to apply the theoretical principles of industrial robotics and mechatronics, mechatronic and robotic actuators, and modern technologies of microcontroller applications to practical situations. This course is not related to the Engineering Warrant. FEES: Fees apply - Further information through MG2i (MCAST Gateway to Industry)
Deskrizzjoni tal-Kors *(Refer to Programme Specification)*	Il-programm tal-Master of Science in Mechatronics jipprovdi lill-istudenti firxa wiesgħa ta' għarfien u ħiliet fil-qasam tal-awtomatizzazzjoni u l-kontroll ta' proċessi tal produzzjoni u t-tagħmir, kif ukoll fil-qasam tal-apparat mekatroniku u s-sistemi tal kontroll. Dan il-programm jiffoka fuq l-istudju tat-teknoloġiji tan-netwerk (eż. Ethernet, Industrial Protocol, Profinet, Modbus, Profibus, Devicenet, Control Net), u l-iżvilupp tal kostruzzjoni tas-sistema SCADA (Il-Kontroll Superviżorju u l-Akkwist tad-Data). L-użu prattiku ta' sistemi ta' ħin reali huwa wkoll parti importanti tal-programm. L-istudenti se jitgħallmu kif japplikaw il-prinċipji teoretiċi tar-robotika u l-mekatronika industrijali, tal-attwaturi tal-mekatronika u tar-robotika, u t-teknoloġiji moderni ta' applikazzjonijiet ta' mikrokontrolluri għall-soluzzjonijiet prattiċi. Dan il-kors ma jagħtix id-dritt lill-kandidati għall-warrant ta' inġinier. MIŻATI: Japplikaw ħlasijiet - Aktar informazzjoni permezz ta' MG2i (MCAST Gateway to Industry)
Career Opportunities:	-
Entry Requirements *(Refer to Prospectus / Course Page on MCAST website)*	Applicants must hold a recognised MQF/EQF Level 6 qualification, with at least 180 credits, in an Engineering or Scientific area. Applicants found eligible as per above, will also be asked to successfully complete a Master's Programnme Suitability Interview In the absence of above entry requirements, applicants aged 27 years and over, can submit an application under the Maturity Clause…. but must present a recognised MQF/EQF Level 5 qualification (at least 120 credits), or its equivalent, in an Engineering or Scientific area, together with clear evidence of a minimum of five (5) years (full time) direct and relevant experience. Applicants under Maturity Clause, will be asked to sit for a combined Maturity and Master's Suitability Interview
Other Notes related to this Programme, and which are to be taken note of	This Master's Programme MAY be available as Full-Time delivery, if this same programme will be taking off for an International Cohort. Fees apply as will be guided by MG2i (MCAST Gateway to Industry). Information about this Master's Programme being offered on a Part-Time delivery mode, can be found on the MG2i Website promoting such programmes - https://mg2imalta.com/.
Programme Learning Outcomes *(Refer to Programme Specification)*	At the end of the programme the students are able to; 1. Appraise the purpose, functioning and need for mechatronic systems in modern industry and everyday life as true interdisciplinary systems. 2. Assess various mechanisms, sensors, actuators and controllers as components of a mechatronic system. 3. Model and design mechatronic systems based on customer requirements, specifications, and best practice examples.

	4. Develop a stand-alone mechatronic system based on user-case specifications. 5. Integrate a mechatronic system as an intelligent upgrade of an already functioning system in industry. 6. Plan development projects independently and in teams.
Teaching, Learning and Assessment Procedures	The programmes offered are vocational in nature and entail both theoretical lectures delivered in classes as well as practical elements that are delivered in laboratories, workshops, salons, simulators as the module requirements dictate. Each module or unit entails a number of in person and/or online contact learning hours that are delivered by the lecturer or tutor directly (See also section 'Total Learning Hours). Access to all resources is provided to all registered students. These include study resources in paper or electronic format through the Library and Resource Centre as well as tools, software, equipment and machinery that are provided by the respective institutes depending on the requirements of the course or module. Students may however be required to provide consumable material for use during practical sessions and projects unless these are explicitly provided by the College. All Units of study are assessed throughout the academic year through continuous assessment using a variety of assessment tools. Coursework tasks are exclusively based on the Learning Outcomes and Grading Criteria as prescribed in the course specification. The Learning Outcomes and Grading Criteria are communicated to the Student via the coursework documentation. The method of assessment shall reflect the Level, credit points (ECTS) and the schedule of time-tabled/non-timetabled hours of learning of each study unit. A variety of assessment instruments, not solely Time Constrained Assignments/Exams, are used to gather and interpret evidence of Student competence toward pre-established grading criteria that are aligned to the learning outcomes of each unit of the programme of study. Grading criteria are assessed through a number of tasks, each task being assigned a number of marks. The number of grading criteria is included in the respective Programme Specification. The distribution of marks and assessment mode depends on the nature and objectives of the unit in question. Coursework shall normally be completed during the semester in which the Unit is delivered. Time-constrained assignments may be held between 8 am and 8 pm during the delivery period of a Unit, or at the end of the semester in which the Unit is completed. The dates are notified and published on the Institute notice boards or through other means of communication. Certain circumstances (such as but not limited to the COVID-19 pandemic) may lead Institutes and Centres to hold teaching and assessment remotely (online) as per MCAST QA Policy and Standard for Online Teaching, Learning and Assessment (Doc 020) available via link https://www.mcast.edu.mt/college-documents/ The Programme Regulations pertaining to this Programme's MQF/EQF level available at: link https://www.mcast.edu.mt/college-documents/, apply.
Grading System	All MCAST programmes adopt a Learner-centred approach through the focus on Learning Outcomes. The assessment of MCAST programmes is criterion-referenced

	and thus assessors are required to assess learners' evidence against a pre-determined set of Learning Outcomes and Assessment Criteria. For a student to be deemed to have successfully passed a unit, a minimum of 50% (grade D) must be achieved. All full time units are individually graded as follows: A* (90-100) A (80-89) B (70-79) C (60-69) D (50-59) Unsatisfactory work is graded as 'U'. Work-based learning units (where applicable) are graded on a Pass/Fail basis only. Some units which follow industry standards and regulations may also be graded on a Pass/Fail basis as per programme regulations referred below. Detailed information regarding the grading system may be found in the Programme Regulations pertaining to this programme's MQF/EQF Level available at: https://www.mcast.edu.mt/college-documents/ (Refer to DOC 003, 004 and 005)
Exit Point (where and as applicable)	Where a student will not make it to the Final Certification achievable from this Programme of Studies (as per Programme Regulations), one might wish to look into Exit Point possibilities as may be applicable to this programme for studies. Further information, is available at https://www.mcast.edu.mt/college-documents/, kindly refer to *DOC 077 Procedure for the processing of Claims for Certificates at Interim Exit Points.*
Contact details for Further Learning Opportunities	The MCAST Career Guidance Team, offers the service of qualified and experienced Career Advisers who will be very willing to discuss with potential applicants the course which best achieves one's career ambitions, as well as exploring one's education route, or similar. **MCAST Career Guidance** Tel: 2398 7135/6 Email: career.guidance@mcast.edu.mt
Regulatory Body/ Competent Authority Contact Details *(where applicable - in the case of a programme leading to Regulated Profession)*	Not Applicable

Programme Structure	Unit Code	Unit Title	ECTS	Year	Semester
	ETMEC-706-1801	Mechanisms and Machine Design	6	1	-
	ETMEC-706-1802	Mechatronic System Design	6	1	-
	ETMEC-706-1803	Control Systems Technology	6	1	-

	ETMEC-706-1804	Signals and Systems	6	1	-
	ETMEC-706-1805	Industrial Robot Design and Control	6	1	-
	ETMEC-706-1806	Practical Control and Applications in Mechatronic Systems	6	1	-
	ETMEC-706-1807	Software Design and Analysis	6	1	-
	ETMEC-706-1808	Computational Modelling and Simulation of Dynamic Systems	6	1	-
	ETMEC-706-1809	Industrial Robot Programming and Applications	6	1	-
	ETMEC-706-1810	3D Technologies in Mechatronic System Design	6	1	-
	CDDIS-730-1801	Dissertation	30	1	-

Allocation of Total Learning Hours (per Unit)

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

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

Note: The 'Self-Learning and Assessment Hours[3]' amount to the difference between the 'Indicative Contact Hours'[1] and the 'Total Student Workload'[2]

APPENDIX 1

MINIMUM CREDITS FOR QUALIFICATIONS AT DIFFERENT LEVELS

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

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

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

APPENDIX 2

EXAMPLES OF QUALIFICATION TYPES AT A SPECIFIC MQF LEVEL

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

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

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