MCAST

MQF Level 7

CS7-010-21

Master of Science in Exercise and Sports Science

Course Specification

Course Description

The Master of Science in Exercise and Sport Science presents a multidisciplinary focus to help learners understand the relationship between health and human performance. As an academic program, the Master of Science will introduce translational research and provide essential foundations from the bases of physiology, biomechanics, motor behaviour, and psychology. Using the social ecological approach to addressing the needs for health and human performance for the workforce in Malta, the program recognizes societal needs, introduces evidence-based strategies for intervention, and evaluates the impact of these services on health outcomes and productivity.

Programme Learning Outcomes

At the end of the programme the students are able to;

1. *Conduct a needs analysis to identify areas for improvement which benefit the individual, groups, and organizations seeking to promote improved human performance.*
2. *Understand advanced concepts of exercise physiology and exercise /sport psychology as it pertains to applied science.*
3. *Read and interpret research which supports best practices in exercise and sports science.*
4. *Design, write and orally present a plan for an exercise /wellness intervention.*
5. *Evaluate the effectiveness of an intervention using sound assessment principles.*
6. *Analyse individual and group sport training and physical activity programs to ensure that recognized standards of practice for exercise testing, exercise prescription and exercise leadership are followed.*

Entry Requirements

Relevant degree

MQF Level 5 qualification and adequate professional experience are also considered.

Key Information

Awarding Body – MCAST

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

Type of Programme: Qualification

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

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

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

Total number of Hours: 2250

Mode of attendance: Part Time

Duration: 3 Years

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

This course will be offered at

MCAST has four campuses as follows:

MCAST Main Campus
Triq Kordin, Paola, Malta

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

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

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

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

Teaching, Learning and Assessment

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

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

Access to all resources is provided to all registered students. These include study resources in paper or electronic format through the Library and Resource Centre as well

as tools, software, equipment and machinery that are provided by the respective institutes depending on the requirements of the course or module.

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

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

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

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

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

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

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

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

The Programme Regulations referenced below apply. (DOC016 available at: link https://www.mcast.edu.mt/college-documents/

Total Learning Hours

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

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

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

Grading system

All MCAST programmes adopt a learner centred approach through the focus on Learning Outcomes. The assessment of MCAST programmes is criterion-referenced and thus assessors are required to assess learners' evidence against a pre-determined set of Learning Outcomes and assessment criteria.

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

All units are individually graded as follows:
A* (90-100)
A (80-89)
B (70-79)
C (60-69)

D (50-59)
Unsatisfactory work is graded as 'U'.

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

Detailed information regarding the grading system may be found in the following document: DOC 016 available at: link https://www.mcast.edu.mt/college-documents/

Intake Dates

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

Course Fees

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

Method of Application

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

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

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

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

Academic qualification leading to a Regulated Profession

Council for Professions Complementary to Medicine
St. Luke's Hospital,
Ex-OPD (Level 1), St. Luke's Square,
Gwardamangia PTA 1010

Contact details for requesting further information about future learning opportunities:

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

Current Approved Programme Structure

Unit Code	Unit Title	ECTS
CSSPT-706-1801	Fundamentals of Exercise and Sports Science	6
CSSPT-706-1802	Applied Psychology in Fitness, Exercise and Health	6
CSSPT-706-1803	Exercise Physiology: Applications for Health and Human Performance	6
CSSPT-706-1804	Research Methods in Exercise and Sports Science	6
CSSPT-706-1805	Principles of Wellness Coaching	6
CSSPT-706-1806	Exercise Prescription and Therapy for Non-Communicable Diseases	6
CSSPT-706-1807	Advanced Assessment and Interpretation for Human Performance	6
CSSPT-706-1808	Advanced Sport Performance Training Techniques	6
CSSPT-706-1809	Planning for Community-Level Interventions	6
CSSPT-706-1810	Multidisciplinary Work in Exercise and Sports Science	6
CDDIS-730-1801	Dissertation	30
	Total ECTS	90

CSSPT-706-1801: Fundamentals of Exercise and Sports Science

Unit Level (MQF/EQF): 7

Credits: 6

Delivery Mode: Fully Face-to-Face Learning

Total Learning Hours: 150

Unit Description

This unit is designed to provide an overview of current topics and issues in the field of Exercise and Sports Science. Learners will engage in discriminating inquiry with their peers to explore selected topics and to report on these topics in both written and oral reports. Emphasis will be placed on thorough understanding of current topics and adequate communication skills for all pre-service professionals.

Learning Outcomes

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

1. *Differentiate between the various sub-disciplines under the umbrella of Exercise and Sports Science;*
2. *Identify contemporary issues within the field of Exercise and Sports Science through in-depth research;*
3. *Justify evidence-based and opinion-based sources for methods to improve health and human performance;*
4. *Produce a comprehensive analysis of contemporary issues in Exercise and Sports Science;*
5. *Summarize and deliver a professional oral presentation of an analysis of a contemporary issue in Exercise and Sports Science.*

CSSPT-706-1802: Applied Psychology in Fitness, Exercise and Health

Unit Level (MQF/EQF): 7

Credits: 6

Delivery Mode: Fully Face-to-Face Learning

Total Learning Hours: 150

Unit Description

This study unit is designed to acquaint the learners with psychological factors that enhance or decrease the probability of adoption of positive health behaviours in relation to exercise and sports. In this unit learners will have the opportunity to explore in depth psychological determinants of healthy behaviours. The focus of this unit will be to establish the foundation to understanding why some individuals are successful with planned changes in behaviours and why others are not.

The psychosocial models identified will be explored to provide a framework for planning interventions designed to increase compliance to physical activity and other healthy behaviours for participants in a variety of settings.

Learning Outcomes

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

1. *Appraise the differences between the various sub-categories of exercise psychology;*
2. *Discuss the benefits of physical activity in the prevention and management of symptoms of various mental illnesses;*
3. *Recognize contemporary health behaviour theories or models that can be used to enhance the effectiveness of lifestyle intervention initiatives;*
4. *Appraise in a critical manner factors that have the highest impact on promoting exercise compliance and preventing exercise program dropout in different populations;*
5. *Apply contemporary models of behaviour change to plan interventions to given situations to promote positive lifestyle changes.*

CSSPT-706-1803: Exercise Physiology: Applications for Health and Human Performance

Unit Level (MQF/EQF): 7

Credits: 6

Delivery Mode: Fully Face-to-Face Learning

Total Learning Hours: 150

Unit Description

This study unit provide learners with comprehensive knowledge of the benefits of exercise across the lifespan and between genders. This study unit draws knowledge from the Exercise Physiology discipline and introduces applied science research findings, which have demonstrated the effectiveness of exercise in the promotion of health and the enhancement of human performance. Learners will be focusing on life-span adaptations, which can be applied to testing effectiveness of physical training for youth, older adults, and the elderly. In addition, differences between genders will be addressed in both performance and health-related issues as they pertain to training outcomes.

Finally, the influence of environment such as heat, cold, altitude) on training outcomes will be addressed.

Learning Outcomes

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

1. *Determine adaptations that would be expected as a result of chronic exercise training on cardiovascular, pulmonary, metabolic, endocrine, and neuromuscular function;*
2. *Appraise the influence that stress temperature and environmental pressure has during training on the health and human performance of the individual;*
3. *Compare the adaptations from chronic exercise of youth and adolescents to that of healthy adults;*
4. *Compare the adaptations from chronic exercise of older adults to that of healthy adults;*
5. *Evaluate gender differences in human performance and training related issues;*
6. *Apply modifications to exercise training so as to benefit individuals of different ages and genders.*

CSSPT-706-1804: Research Methods in Exercise and Sports Science

Unit Level (MQF/EQF): 7

Credits: 6

Delivery Mode: Blended Learning

Total Learning Hours: 150

Unit Description

The study unit introduces learners to different research methodologies conducted in the various disciplines of Exercise and Sport science. The learners will interpret findings from scientific journals and be able to evaluate the impact of this research on the standard practice in Exercise and Sports Science. In addition, ethical considerations regarding the use of human subjects and the management of data will be covered so as to allow learners to begin the process of scientific inquiry. The learner will use these skills in planning for their dissertation.

Learning Outcomes

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

1. *Describe various research methodologies that can be used for a prospective research question*
2. *Design a research proposal based upon a research question;*
3. *Evaluate research findings in a concise format from a given article that relates to exercise and sports science;*
4. *Present concluding statements from a prospective study based upon interpretation of the findings.*

CSSPT-706-1805: Principles of Wellness Coaching

Unit Level (MQF/EQF): 7

Credits: 6

Delivery Mode: Blended Learning

Total Learning Hours: 150

Unit Description

The field of Wellness Coaching is gaining popularity in various settings including allied healthcare. There is tremendous potential for Exercise and Sports Science professionals to employ wellness-coaching strategies to promote healthful behaviours among participants in the settings where they may be employed.

The unit will allow learners to explore specific "coaching" techniques to foster more effective individual interactions with clients who can benefit from adopting healthy behaviours.

Learning Outcomes

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

1. *Explain multiple contemporary wellness models that can be applied within various settings;*
2. *Distinguish between various coaching models and determine the most appropriate for particular settings and situations;*
3. *Design a coaching agreement document that reflects industry guidelines;*
4. *Implement motivational interviewing techniques whilst working in a peer coaching scenario;*
5. *Apply principles of selected change models to address behaviour change goals presented in a case study;*
6. *Recognize opportunities for implementation of wellness coaching in allied health and other settings;*
7. *Identify opportunities to obtain advanced credentials and certifications as a wellness coach.*

CSSPT-706-1806: Exercise Prescription and Therapy for Non-Communicable Diseases

Unit Level (MQF/EQF): 7

Credits: 6

Delivery Mode: Blended Learning

Total Learning Hours: 150

Unit Description

In this study unit, learners will engage in a thorough examination of the most prevalent non-communicable diseases, which account for nearly two thirds of deaths across the world. Learners can expect to study the pathophysiology of cardiovascular diseases, cancer, diabetes mellitus and pulmonary diseases. This foundation will allow learners to understand how fitness assessment, exercise prescription and exercise leadership techniques can be modified to address the needs of individuals living with these diseases.

Learning Outcomes

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

1. *Summarize pathophysiological changes taking place within the major non-communicable diseases;*
2. *Differentiate between the needs of individuals with various chronic conditions and comorbidities in relation to exercise testing, prescription and leadership;*
3. *Develop an exercise testing, prescription and leadership approach, using established industry-standards for individuals with non-communicable diseases;*
4. *Appraise resources used that will allow the exercise and sports science specialist to understand the effects of common medications on exercise tolerance of individuals with non-communicable diseases;*
5. *Justify opportunities for exercise and sports science specialists who would like to specialize in work environments that cater individuals with non-communicable disease.*

CSSPT-706-1807: Advanced Assessment and Interpretation for Human Performance

Unit Level (MQF/EQF): 7

Credits: 6

Delivery Mode: Fully Face-to-Face Learning

Total Learning Hours: 150

Unit Description

The study unit provides a multidisciplinary approach to assessing the client using a variety of laboratory and field measures, which aids in the planning process for the development of human performance. Both movement analyses and physiological parameters will be evaluated to determine the demands of those engaging in physical performance. These measures will allow for physical profiling as well as provide a reference for establishing goals for inspiring athletes.

This study unit builds upon basic skills in Sport Biomechanics and Physiology of Sport.

Learning Outcomes

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

1. *Interpret a 'needs analysis' for performance in specific sports disciplines;*
2. *Evaluate an individual's movement patterns using 2D digital field measures during work performance;*
3. *Create a physical profile using the most suitable laboratory measures;*
4. *Interpret measurement data whilst evaluating the variance between individuals;*
5. *Plan training protocols and routines relevant for both coaches and sports scientists in different exercise and sport settings.*

CSSPT-706-1808: Advanced Sport Performance Training Techniques

Unit Level (MQF/EQF): 7

Credits: 6

Delivery Mode: Fully Face-to-Face Learning

Total Learning Hours: 150

Unit Description

The study unit evaluates the contemporary sports training techniques and reviews research to support these practices. For sports trainers, the ability to "bridge-the-gap" between sport science and training methods is essential. Many new techniques are adopted without science-based evaluation using theoretical constructs. Building problem-solving skills to critique existing sport training techniques will allow the learner to evaluate the potential for testing these theories.

This unit creates discussion and provides competency in planning research projects to evaluate contemporary sport training techniques.

Learning Outcomes

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

1. *Judge and criticize current sport training techniques;*
2. *Compare training methods based upon level of competition and attributes of the athletes;*
3. *Recognize expected training outcomes based upon the athlete's profile;*
4. *Appraise critically contemporary sport training techniques using published research;*
5. *Synthesize the effectiveness of contemporary sport training techniques.*

CSSPT-706-1809: Planning for Community-Level Interventions

Unit Level (MQF/EQF): 7

Credits: 6

Delivery Mode: Blended Learning

Total Learning Hours: 150

Unit Description

This study unit uses the social ecological approach to plan for interventions that are designed to have an impact on healthy behaviour at the community level. In addition, as part of the planning process, evaluation of existing environments and their impact on behaviour are addressed. This study unit builds competency in writing and presenting intervention strategies using sound practices.

Learning Outcomes

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

1. *Conduct a needs assessment of the work, leisure, or sport training environment of a community or organisation to plan an intervention;*
2. *Determine areas of highest priority for community or organisation level intervention using objective measures;*
3. *Identify existing resources which are accessible to the organization (s) or community;*
4. *Produce a proposal which includes a cost and benefit analysis of the intervention;*
5. *Present own intervention plan to the appropriate stakeholders.*

CSSPT-706-1810: Multidisciplinary Work in Exercise and Sports Science

Unit Level (MQF/EQF): 7

Credits: 6

Delivery Mode: Blended Learning

Total Learning Hours: 150

Unit Description

In this study unit, learners will be expected to seek opportunities to interact with appropriate stakeholders where Exercise and Sports Science professionals are employed. Application of information presented in other courses to real-world tasks in the workforce will enable learners to put theory into practice.

Additionally, learners will be expected to work collaboratively with their peers to address contemporary problems faced by Exercise and Sports Science professionals, using a case-study approach. This unit will focus also on the exploration of industry trends and career options.

Learning Outcomes

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

1. *Determine how projected industry trends can affect a programme;*
2. *Evaluate professional activities encountered during internship or field work, using reflective practice;*
3. *Appraise appropriate sources where reliable information regarding industry trends can be found;*
4. *Identify career trends and opportunities for Exercise and Sports Science professionals;*
5. *Examine with peers the issues identified during field experience or internship work that can be enhanced.*