GRADUATE DIPLOMA IN SPORTS MEDICINE (GDSM) PROGRAMME SYLLABUS WITH OBJECTIVES

NO	MODULE	COURSE COMPONENT	DESCRIPTION	LEARNING OBJECTIVES
1	**MD6001 - Principles of Sports and Exercise Medicine**	1. Cardiorespiratory response to exercise 2. The effects of exercise on the musculoskeletal system 3. Biomechanics of walking, running, swimming, throwing and racquet sports 4. Principles of Injury prevention and rehabilitation	Covers the physiological and biomechanical aspects of physical activity and exercise. The principles of injury rehabilitation and prevention will also be included.	Upon completion of the module, students should be able to: i. Describe the physiological responses and adaptation to both acute and chronic exercise training understand the relationship between biomechanics, movements and musculoskeletal injuries ii. Understand the principles of rehabilitation and injury prevention
2	**MD6002 - Sports Injuries I**	1. Fundamentals of sports medicine (pathophysiology, diagnosis, investigation) 2. The foot, ankle and leg 3. The knee 4. The hip, groin and pelvis	Covers principles of diagnosis and investigations in sports medicine, as well as common injuries and causes of pain affecting the foot and ankle, leg, knee, thigh, hip, pelvis and groin.	i. Describe the epidemiology of injuries affecting the lower limbs ii. Understand the mechanisms of injury and their relationship to biomechanics iii. Obtain a relevant history and perform a targeted clinical examination for diagnosis iv. Order and interpret the relevant investigations v. Describe the management of these injuries

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3	**MD6003 - Sports Injuries II**	1. The lumbar spine 2. The shoulder 3. The elbow, wrist and hand 4. The cervical spine and concussion in sports	Covers the common injuries and causes of pain affecting the shoulder, elbow, wrist, hand and spine.	i. Describe the epidemiology of injuries affecting the upper limbs and spine ii. Understand the mechanisms of injury and their relationship to biomechanics iii. Obtain a relevant history and perform a targeted clinical examination for diagnosis iv. Order and interpret the relevant investigations v. Describe the management of these injuries
4	**MD6004 - Medical Considerations in Exercise and Sports**	1. Risks and benefits of physical activity and exercise 2. Pre-participation screening 3. Clinical Exercise Testing and Cardiovascular Screening Tests 4. Exercise Prescription for Health and Common Chronic Disease	Covers benefits of regular physical activity. It will also include pre-participation screening guidelines and methodology, as well as equip candidates with the knowledge required to prescribe exercise for the healthy and low risk patient.	i. Describe the physical and mental benefits of regular exercise ii. Describe the risks associated with exercise iii. Perform risk – stratification and identify patients who require pre-exercise screening iv. Describe the resources available for screening v. Prescribe exercise for healthy and low risk patients

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5	**MD6005 - Exercise in Special Populations**	1. a Injuries in the child and adolescent athlete 1. b Exercise in the elderly 2. Exercise in the female athlete and pregnancy 3. Exercise in people with disability 4. Injuries in the military population	Covers exercise prescription in children and adolescents, women, the elderly, and injuries in the military environment.	To provide candidates with an understanding of the issues related to exercise and sports participation in these client groups. This will enable candidates to prescribe exercise safely for these clients
6	**MD6006 – Thermal stress, drug use in sports, sports nutrition and event medical cover**	1. Exercise in extreme environments and thermal injuries 2. Doping in sports and the WADA code 3. Principles of sports nutrition 4. Travelling with a team and event medical cover	Covers the effects of exercise in extreme environments as well the rules and regulations in the WADA code. The relationship between nutrition and athletic performance, as well as the administrative aspects of providing medical cover for a sporting event or team are also included.	i. Sports performance in cold and hot environments ii. Regulations on drug use, drug testing and exemptions iii. Nutrition and hydration considerations at different phases of training and performance iv. Requirements for providing safe and effective on-site medical cover

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NO	MODULE	COURSE COMPONENT	DESCRIPTION	LEARNING OBJECTIVES
7	**Workshop : Physical examination techniques**	Practical workshop with tutorial, practical demonstrations and hands-on practice.	This workshop aims to impart practical skills on physical examination, assessment and diagnosis of musculoskeletal injuries, including the use of biomechanical principles and analyses of gait patterns to diagnose movement-related causes of injuries.	To acquire physical examination techniques for the musculoskeletal system
8	**Workshop : Exercise Prescription Practicum**	Practical workshop with tutorial and practical demonstrations.	This workshop will impart practical skills and knowledge on exercise prescription for prevention and treatment of chronic disease. The materials covered include international guidelines and consensus on exercise prescription for public health purpose and pre-exercise medical clearance	To gain basic skills and knowledge counselling patients on exercise programmes to maintain a good state of health and to improve health conditions for those with common chronic disease
9	**Workshop : Physiological – lecture & demonstration Testing for sports performance**	Practical workshop with tutorial and practical demonstrations.	This workshop will impart basic skills and knowledge on exercise stress tests for maximum oxygen uptake (VO_{2max}) and blood lactate response. Students will learn the physiological bases for these tests and also to interpret the test results.	To gain fundamental understanding of VO2max and blood lactate responses during exercise performance, including the test procedures and interpretation of test results

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10	**Clinical Attachment**	Practical attachment	Students will be attached to Sports Medicine Departments at CGH, KTPH, NUH and TTSH to work beside Sports Medicine Clinicians in managing actual cases in the clinic. Where possible and there are suitable ongoing event , the clinical attachment will also include medical cover of sporting events.	

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11	**Summary Training**	Day 01 – OSCE Briefing (1hr) Day 01 – Podiatry Workshop (2hrs) Day 01 - Radiological investigations (2hrs) Day 01 - Principles of rehabilitation - lecture & practicum Day 02 - Pitch-Side Medical Cover	Students are expected to undergo training to support and help them in preparing for the examination. It comprises lectures, practical demonstrations and clinical skills assessment. Students would receive the following training: i. Physical Examination Techniques ii. Interpretation of Radiological Investigations iii. To impart practical skills for doctors when they provide medical coverage for sporting events and in the management of acute trauma and other sport-related injuries in the field. Case studies will be used to train students practical diagnostic skills, injury management and decision making in the field. iv. Sports Taping and Rehabilitation Techniques v. Exercise Testing and Prescription vi. Clinical Skills Assessment	