POSTGRADUATE DIPLOMA IN
SPORT AND EXERCISE
MEDICINE

SPORT AND EXERCISE MEDICINE:
“SUCCESS THROUGH TEAMWORK”
Postgraduate Diploma in Sport and Exercise Medicine (PGDipSEM)

Overview

The Postgraduate Diploma in Sport and Exercise Medicine (PGDipSEM) is designed for graduates in Medicine, Physiotherapy, Physical Education, Human Nutrition, Pharmacy or Sciences or those with a comparable qualification in the health care professions. Although sport and exercise medicine may form a significant part of their work, most practitioners have minimal or no formal training at an undergraduate or postgraduate level.

This course will reflect the multidisciplinary nature of sport and exercise medicine and provide the opportunity to gain academic and clinical training through the Dunedin School of Medicine, Christchurch School of Medicine and Health Sciences, Wellington School of Medicine and Health Sciences, School of Physical Education, School of Physiotherapy, and Department of Human Nutrition.

The Postgraduate Diploma in Sport and Exercise Medicine (PGDipSEM) is only available through Distance Learning.

Regulations for the Postgraduate Diploma in Sport and Exercise Medicine (PGDipSEM)

1 Admission to the Programme
(a) Admission to the programme shall be subject to the approval of the Pro-Vice-Chancellor (Health Sciences).
(b) Every applicant shall
   (i) be a graduate in Medicine, Physiotherapy, Physical Education or Human Nutrition or, having another relevant health professional qualification, be admitted ad eundem statum;
   (ii) have experience of, or be currently working in, a relevant field;
   (iii) present evidence of ability for advanced level academic study.

2 Structure of the Programme
(a) The programme of study shall consist of papers from the schedule, to the value of 120 points.
(b) A candidate may be granted exemption for up to 30 points based on equivalent study in a relevant or related subject successfully completed at a university or other tertiary institution.

3 Duration of the Programme
(a) A candidate for the diploma shall normally follow a programme of study for not less than one year of full-time study or the equivalent in part-time study.
(b) A candidate shall complete the requirements for the diploma within four years of admission to the programme.

4 Level of Award of the Diploma
The diploma may be awarded with distinction or with credit.

5 Variations
The Pro-Vice-Chancellor (Health Sciences) may in exceptional circumstances approve a course of study which does not comply with these regulations.

Note: An application for admission to the programme is required, register on-line; this is separate from the enrolment process.
Overview

The Master of Health Sciences (MHealSc) degree allows study at a postgraduate level across a range of health disciplines, and research experience (thesis or dissertation) in the student’s area of specialisation.

Regulations for the Degree of Master of Health Sciences (MHealSc)

1 Admission to the Programme
(a) Admission to the programme shall be subject to the approval of the Pro-Vice-Chancellor (Health Sciences).
(b) Every applicant shall
   (i) be a graduate or possess an appropriate health professional qualification requiring at least three years' full-time tertiary study;
   (ii) present evidence of ability for advanced level academic study.

Note: Candidates will normally be expected to have completed the requirements for the Postgraduate Diploma in Health Sciences, or equivalent, and to have achieved grades averaging B or better.

2 Structure of the Programme
(a) The programme of study shall consist of either
   (i) approved papers at 400-level or higher worth at least 120 points, and a thesis (120 points) embodying the results of one year of full-time or equivalent part-time supervised research; or
   (ii) approved papers and other course components at 400-level or higher worth at least 240 points, including a research method paper or papers to the value of 30 points, and either a research project (30 points) or a dissertation (60 points).

The papers shall constitute a coherent and integrated programme, shall prepare the candidate for the research study, and shall normally include an approved research method paper or papers to the value of 30 points. With approval, papers worth up to a maximum total of 120 points which have been completed at a tertiary education institution other than the University of Otago may be credited to the programme and/or used as the basis for exemptions in terms of regulation 2(c) below.

(c) A candidate whose qualification for entry to the programme is an Honours degree or postgraduate diploma or equivalent may be exempted from some of the required papers, provided that this previous study is directly relevant to the candidate’s proposed and approved programme of study, to a maximum of 120 points.

(d) A candidate may not present a thesis which has previously been accepted for another degree.

(e) The programme of study and the topic and supervisors of the thesis shall be approved by the Board of the Graduate Studies in Health Sciences.

3 Duration of the Programme
(a) A candidate for the degree shall normally follow a programme of study for not less than two years of full-time study or the equivalent in part-time study.

(b) A candidate will normally be expected to satisfy the requirements for the degree within four years of admission to the programme.

4 Examination of Thesis
(a) Every thesis shall be assessed by at least two examiners, at least one of whom shall be external to the University.

(b) The candidate’s supervisors shall not be examiners but may make a report on the work of the candidate to the Convener of the Board of Graduate Studies in Health Sciences.

(c) Each examiner shall supply a written report on the thesis and recommend a mark and grade on the basis of the work as submitted, and an overall result selected from the options specified in clause (d) below.

(d) The examiners may recommend that a thesis:
   • be accepted without amendments;
   • be accepted subject to amendments made at the discretion and to the satisfaction of the Convener of the Board of Graduate Studies in Health Sciences;
   • does not meet the criteria for the award of the degree, but may be revised and resubmitted for examination;
   • does not meet the criteria for the award of the degree, and should be rejected without right of resubmission.

(e) Any amendments or revisions required shall be completed by a specified date to be determined by the Convener of the Board of Graduate Studies in Health Sciences.

(f) A candidate shall be permitted to revise and resubmit a thesis for examination once only.

(g) If a revised and resubmitted thesis is finally accepted, the result shall be either Pass or Fail (i.e. ungraded) and without eligibility for the award of the degree with distinction or credit.

(h) Where examiners cannot agree on a result, the Convener of the Board of Graduate Studies in Health Sciences should so report to the Pro-Vice-Chancellor (Health Sciences) who shall arrive at a decision after consulting a referee who should normally be external to the University.

5 Level of Award of the Degree
The degree may be awarded with distinction or with credit.

6 Variations
The Pro-Vice-Chancellor (Health Sciences) may in exceptional circumstances approve a course of study which does not comply with these regulations.

Note: An application for admission to the programme is required; this is separate from the enrolment process.
“As a relatively new vocation, sport and exercise medicine is traditionally linked to images of injured rugby players or broken-down athletes struggling to “return to the fray”. The impression that sports doctors, physiotherapists and scientists are constantly pandering to the desires of prima-donna athletes is another misconception. Sport and exercise medicine embodies a much wider sphere of exercise prescription, drug education, care of the paediatric athlete and advice to the active woman. These issues and the “healthy” application of exercise to counter sedentary lifestyles are very important considerations in contemporary New Zealand. The “epidemic” of childhood obesity, with its future legacy in Type 2 diabetes and coronary heart disease, provides a salutary reminder of the need to encourage early, healthy lifestyle choices.

Sport also has its “dark side”. Drug misuse, widely reported and often misunderstood, is a popular subject and the implications of the World Anti-Doping Code are important to all who advise competitive athletes. Social concerns for the young athlete exposed to inappropriate pressure have given rise to the “Ugly Parent Syndrome”. This important ethical relationship will be advanced by references to subjectivity in judging and the pressure of elite sport linked to “anorexia athletica” and poor bone health in young females.

Sport and recreation are part of our social fabric and for the most part the relationship is a happy healthy one. Our bodies were designed to move. Few have the genetic capabilities to obtain elite athletic status. However, we all share the capacity for meaningful movement. Exercise and sports medicine is primarily concerned with the preservation of life’s quality not enhancing our capacity for breaking world records.”

David Gerrard
January 2008

DESCRIPTION

This compulsory paper has been designed to provide a core academic background in the sciences required for sports and exercise medicine. Specific information on the following core topics will be provided:

1. Applied functional and surface anatomy of the musculoskeletal system.
2. Applied physiology relating to the effects of exercise on the cardiovascular, respiratory, gastrointestinal, renal and musculoskeletal systems.
3. Sport epidemiology.
4. Biomechanics of human movement related to specific activities, and including abnormal biomechanics.
5. Nutrition and energy sources applicable to various levels of exercise.
6. Drugs in sport.
7. Psychology applied to athletic performance, trauma and rehabilitation.
8. Environmental factors which influence physical activity and mechanisms of injury.

Initially, there will be a compulsory 3 day residential course held on campus, January 28-30 at the University of Otago in Dunedin. Student attendance and active participation in this course will account for 10% of the marks for this paper. Internal assessment will account for 20% of the final mark in the form of two assignments and 70% of the marks will be assessed by a 2 hour written examination.
SPMX 701 will be taught through the University of Otago national audioconference network. Seven audioconference sessions beginning on Tuesday 15th of February 2011 from 6:10 – 8:00pm will be held. Academic staff will be drawn from the University of Otago Division of Health Sciences and the Division of Sciences. They will represent input from the Schools of Medicine, Physiotherapy and Physical Education and the Department of Human Nutrition.
SPMX 702: Medical Aspects of Exercise
(Next offered First Semester 2012) 15 points

The issues that relate to the supervision and care of individuals involved in sport and recreational activities.

DESCRIPTION

This paper will provide a basis for the understanding of medical issues relating to specific sporting events, exercise in extreme environments, exercise stress testing and the role of sports medical staff who work with individual athletes or sporting teams. The following topics will be covered:
1) Hypothermia: its recognition and basic management.
2) Heat stress: it’s recognition and early management.
3) The effects of air quality on sporting performance.
4) Hyperbaric and dive medicine.
5) The supervision of endurance events with an emphasis on athlete oversight and safety.
6) Adaptation to altitude and the potential ergogenic effects of this training mode.
7) Travel medicine and adaptation to time zone changes.
8) Performance psychology including strategies for enhanced performance.

SPMX 702 will involve eight one hour audioconferences plus two written assignments each worth 10% of the total marks for this paper.

Academic contributions from specialist university staff will provide the forum for discussing the material supplied in the course workbook.

The final written examination (2 hrs) will account for the remaining 80% of the marks for this paper.
SPMX 703: Sports Nutrition
(Second Semester) 30 points

The relationship between nutrition and exercise and the application of human nutrition to sport and sport performance.

DESCRIPTION

This paper is designed to increase your knowledge and skill to evaluate the interrelationship between nutrition and sport through the study of selected topics of current interest. More specifically it will enable you to update your knowledge of the role of nutrition in exercise and sport and to evaluate the extent to which nutrition and nutritional supplements play in athletic performance. A basic knowledge of the fundamentals of nutrition and the general nutritional needs of the physically active person will be assumed.

Specific topics include:
1. Introduction to sports nutrition
2. Carbohydrate nutrition and sports performance
3. High fat diets for athletes: fuelling the debate
4. Fluid and electrolyte balance during exercise
5. Ergogenic aids and dietary supplements
6. Iron status and sports performance
7. Free radicals, antioxidants and exercise
8. Protein requirements for exercise
9. Nutrition, exercise and bone health

SPMX 703 will involve nine two hour audioconference sessions commencing on Tuesday 12th July 2010 (6.10-8.00pm). The readings will be included in the recommended textbook and the course workbook, presented for discussion at the audioconference sessions. Students will also be expected to complete self-directed assignments as the internally assessed component of this paper.

Final examination will be by written paper (40%) and internally assessed assignments (60%).

SPMX 704: Health & Human Performance (A)  
(Next offered Second Semester 2012)  
15 points

The recognition and management of existing clinical conditions such as asthma, diabetes, and epilepsy, in those who lead active lifestyles.

DESCRIPTION

This paper has been designed primarily for those with registerable clinical qualifications. It provides specific information on a number of medical conditions and their relationship in individuals who participate in sport and other physical activities. The following conditions will be discussed:

1. Asthma and exercise.
2. Diabetes and exercise.
3. The athlete with epilepsy.
4. Cardiovascular issues in sport.
5. Gastrointestinal problems in sport.
6. The tired athlete.
7. Exercise and the immune system.
8. Transmission of infectious disease in sport.

SPMX 704 will involve eight, one hour audioconference sessions. Readings for this paper will be provided via Blackboard and discussed by specialist physicians during the audioconference sessions.

Final examination will be by written paper (2 hrs) and by an internally assessed component involving two individual written assignments. The written paper is worth 60% of the final mark and the internal assessment 40%.
SPMX 705: Health & Human Performance (B)
(Second semester)  15 points

The physical, psychological and social needs of special groups in the sporting setting, including the young athlete, the veteran, the female athlete and the disabled competitor.

DESCRIPTION

This paper provides a framework for the recognition of the special concerns in sport and physical activity for certain groups of participants based on age, gender and physical status. The following specific areas will be covered:

1. Children in sport - developmental, social and psychological concerns.
2. The female athlete - special clinical issues.
3. The masters athlete - sporting options and guidelines.
4. The disabled athlete - exercise options and management issues.

SPMX 705 will involve eight, one hour audioconference sessions commencing Tuesday 5th July 5:00-5:50pm. All readings for this paper will be uploaded to blackboard. These topics will be presented by academic staff and other guests during the audioconference sessions.

Examination will be by written paper (2 hrs) and internal assessment comprising written assignments. The externally assessed, written examination will be worth 60% of the final mark.
Contemporary physiotherapy practices in the prevention and management of injuries to recreational and high performance athletes.

DESCRIPTION

This paper is specifically designed for registered Physiotherapists to advance their base clinical knowledge into the specialised area of sport. Other registered health care professionals maybe admitted to this paper at the discretion of the Academic Convenor with approval from the Assistant Vice-Chancellor (Health Sciences). This paper covers the following specific areas:

1. Injury assessment - management and sports first aid.
2. Injury prevention - education and promotion of safety in sport and recreation.
3. Conditioning strategies including taping and bracing techniques.
4. Rehabilitation of sports injuries and movement analysis.
5. Information management - communication with athletes, coaches and other support staff.
6. The epidemiology of injury in sport.
7. Medico-legal aspects of sports physiotherapy.

All course readings will be provided in the course workbook, and presented during the audioconference sessions or at the residential course.

SPMX 706 will involve eight, two hour audioconference sessions commencing Wednesday 23rd February 2011 (6:10-8:00pm). These topics will be presented by academic staff and other guests during the audioconference sessions.

Examination will be by external written examination (60%) and by an internally assessed 40% component comprising written assignments.
SPMX 707: Regional Sports Injury 1
(First Semester) 15 points

The clinical approach to commonly encountered sports injuries in the upper body.

DESCRIPTION

This paper is restricted to registered Medical Practitioners and Physiotherapists due to the applied clinical nature of its content. Other registered health professionals may be admitted to this paper with academic approval. It focuses on the upper body covering relevant functional anatomy, common sports injuries and their assessment, diagnosis and full management. The following specific topics will be covered:

1. General principles including radiology, medications and other therapeutic techniques.
2. Acute shoulder injuries.
3. Overuse shoulder injuries.
4. Elbow and forearm injuries.
5. Injuries of the wrist.
6. Hand and finger injuries.
7. Fatigue injuries
8. Student choice.

SPMX 707 will involve eight one hour audioconference sessions commencing on Monday 21st February 2011 (5:00-5:50pm). The primary text for this course is Brukner and Khan Clinical Sports Medicine 3rd edition. Supplemental readings will be provided via Blackboard. In addition there will be a requirement to complete written assignments.

Examination will be by written paper (60%) and internal assessment (40%).
SPMX 708: Regional Sports Injury II
(Second Semester) 15 points

The clinical approach to commonly encountered sports injuries in the lower body.

DESCRIPTION

This paper is restricted to registered Medical Practitioners, Physiotherapists and Podiatrists due to the applied clinical nature of its contents. Other registered health professionals may be admitted to this paper with academic approval. It focuses on the lower body and includes relevant functional anatomy, common sports injuries and their assessment, diagnosis and full management. The following specific topics will be covered:

1. General principles including radiology, medications and other therapeutic techniques.
2. Injuries of the buttock and groin.
3. Acute knee injuries.
5. Shin and calf injuries.
6. Acute ankle injuries.
7. Chronic ankle and foot pain.
8. Students choice.

SPMX 708 will involve eight one hour audioconference sessions commencing on Monday, 4th July 2011 (5:00-5:50pm). The primary text for this course is Brukner and Khan Clinical Sports Medicine 3rd edition. Supplemental readings will be provided via Blackboard. In addition there will be a requirement to complete written assignments.

Examination will be by written paper (60%) and internal assessment (40%).
SPMX 709: Women in Sport: Health Issues
(Second Semester) 30 points

The study of the altered physiology of the active female common contemporary issues affecting women in sport.

DESCRIPTION

This paper is designed for both clinical and non-clinical students. It provides in-depth study and discussion of the following areas:

1. Sociological and historical perspectives of women in sport.
2. The female somatotype and physiology.
3. Menstrual cycle manipulation, dysmenorrhoea, contraception and physical activity.
4. Pregnancy and exercise.
5. Exercise and the menopause - bone health.
6. The female athlete triad.
7. Anaemia and the female athlete.
8. Eating disorder and the young female athlete.
9. Exercise and the older woman.
10. The breast and sport.
11. Incontinence and exercise.

SPMX 709 will involve eight two hour audioconference sessions commencing on Wednesday, 6th July 2011 (6:10 – 8:00pm). All readings for this paper will be uploaded to blackboard. Topics will be presented by academic staff and specialist clinicians at the fortnightly audioconferences.

The internally assessed component of the course is worth 40% of the final grade, and will involve two student assignments. An externally assessed, written examination (2 hours) will be worth 60%.
SPMX 710: Sports Ergonomics
(Next offered First Semester 2012)  30 points

A study of the sporting environment and its effect on injury mechanism, injury prevention and rehabilitation.

DESCRIPTION

This paper has application for clinical and non-clinical students and provides a framework of understanding for the principles of injury pathomechanics, tissue responses to loading and the role of sports equipment in sports injury prevention and rehabilitation. The following specific areas will be studied:

1. Aetiology and pathomechanics of injury.
2. Equipment design and injury - sports engineering.
3. Mechanical support to the body - taping, splinting, braces, orthotics.
4. Protective equipment - body padding, mouthguards, helmets, headgear.
5. Shoe-surface interaction - footwear design, surface characteristics, traction.
6. Sport-specific problems- skiing, cycling, tennis, mountain sports.

SPMX 710 involves eight two hour audio conferences. All course readings will be provided in the workbook and these will be supplemented by the audioconference presentations.

Examination of this paper will be by external assessment (60%) and an internal assessment of individual assignments (40%).
SPMX 711: Prescribing Exercise for Health
(Second semester) 30 points

The paper is designed to provide students with the knowledge necessary to undertake the prescription of appropriate exercise to individuals, mindful of their age, gender and clinical status. SPMX 711 has been developed with a range of allied health professionals in mind. The course intends to promote collaboration between allied health professionals and exercise professionals in the primary care setting.

DESCRIPTION

SPMX 711 explores the link between physical activity and health. Evidence will be presented regarding the association between physical activity and all-cause mortality and morbidity. Types of exercise, frequency, duration and intensity are explored in relation to disease prevention and treatment. The course will have an academic and an applied component. The academic component will be delivered via online lectures and through recommended readings. The applied component will be initiated at the residential camp held at the start of the course through a series of workshops, practicums and lectures. This will be followed by 8 audio-conference sessions. During the time of the course the students are expected to actively prescribe an exercise programme for a chosen patient in a supervised environment and based on the guidelines presented at the residential camp.

Course Objectives:

• To understand the health consequences of inactivity and a sedentary lifestyle.
• To explore the science behind the link between physical activity and health.
• To understand the different types and risks of physical activity.
• To understand the principles of health and fitness testing.
• To understand and be able to apply the principles of (clinical) exercise prescription
• To understand the concepts of health behaviour modification
• To understand the multidisciplinary nature of prescribing exercise for health.

SPMX 711 will involve eight one hour audioconference sessions commencing Wednesday 13th July 2011 (8:10-10:00pm). There will be a residential camp at the start of Semester 2. Examination will be by an end of course examination and two written assignments one of which will be the case study.