Bachelor of Exercise and Movement Science/Bachelor of Health Science (Nutrition and Dietetics) (HL22)

Year offered: 2010  
Admissions: Yes  
CRICOS code: 070081C  
Course duration (full-time): 5 years  
Domestic fees (indicative): 2010: CSP $2,950 (indicative) per semester  
Domestic Entry: February  
International Entry: February  
Past rank cut-off: 98  
Past OP cut-off: 2  
Total credit points: 516  
Course coordinator: Dr Ian Renshaw (Ex&MovementSc component); Ms Melinda Service (Nutrition and Dietetics component) (enrolment queries to email: enquirieshms@qut.edu.au or phone: 07 3138 4697)  
Campus: Kelvin Grove

Overview
HL22 Bachelor of Exercise and Movement Science/ Bachelor of Health Science (Nutrition and Dietetics) will replace HL42 Bachelor of Applied Science (Human Movement Studies)/ Bachelor of Health Science (Nutrition and Dietetics) from 2010 for all commencing students.

The Bachelor of Exercise and Movement Science/ Bachelor of Health Science (Nutrition and Dietetics) double degree program will prepare you as a multi-skilled professional who meets current requirements for employment as a nutritionist/dietitian, and in a range of exercise and sports science professions. At present, the demand for sports nutritionists is growing rapidly and there is a growing field in the area of rehabilitation science for people with dual qualifications.

Career outcomes
Graduates of this five-year program pursue a broad range of careers including those in corporate and community health, wellness and fitness, and sports performance, and/or in nutrition and dietetics. Graduates are especially qualified for work with clinical, sporting or occupational groups in which both nutrition and physical activity are prominent issues.

Pathways
Graduates can apply for admission to the HM44 Bachelor of Clinical Exercise Physiology if they should wish to achieve full Exercise Physiologist status.

Professional recognition
Graduates are eligible for membership of the Dietitians Association of Australia (DAA), and may enrol in the Accredited Practising Dietitian (APD) program.

Further information
For information about this course, please call the School of Public Health on +61 7 3138 3368 or email sph.studentcentre@qut.edu.au, and/or School of Human Movement Studies on +61 7 3138 4697 or email enquirieshms@qut.edu.au

Course structure

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<td>PUB251</td>
<td>Contemporary Public Health</td>
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<td>PUB474</td>
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<td>SCB111</td>
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<td>Research in Human Movement</td>
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<td>LQB488</td>
<td>Medical Physiology 2</td>
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<td>HMB271</td>
<td>Foundations of Motor Control, Learning and Development</td>
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<td>HMB274</td>
<td>Functional Anatomy</td>
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<td>LQB381</td>
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<td>LQB388</td>
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<td>PUB530</td>
<td>Health Education and Behaviour Change</td>
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<td>Biomechanics</td>
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<td>HMB273</td>
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<td>HMB277</td>
<td>Exercise and Sport Nutrition</td>
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<td>HMB382</td>
<td>Principles of Exercise Prescription</td>
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<td>PUB326</td>
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PUB541 Medical Nutrition Therapy 1

Year 3, Semester 2
HMB275 Exercise and Sport Psychology
HMB282 Resistance Training
PUB436 Evidence Based Practice
PUB628 Advanced Food Studies
PUB641 Medical Nutrition Therapy 2

Year 4, Semester 1
HMB373 Cardiorespiratory and Metabolic Disorders
HMB470 Practicum 1
PUB509 Community and Public Health Nutrition
Elective Exercise and Movement Science (List A)

Year 4, Semester 2
HMB378 Neurological, Psychological and Musculoskeletal Disorders
HMB481 Clinical Exercise for Cardiorespiratory and Metabolic Disorders
PUB506 Foodservice Management
PUB645 Introduction To Dietetic Practice

Year 5, Semester 1
PUB723 Clinical Dietetic Practice
PUB821 Practice in Community Nutrition
PUB822 Practice in Foodservice Management

Year 5, Semester 2
HMB476 Practicum 2A
PUB606 Dietetic Management

List A - Exercise and Movement Science Electives
HMB361 Functional Anatomy 2
HMB362 Biomechanics 2
HMB371 Motor Control And Learning 2
HMB381 Exercise Physiology 2

List A - Exercise and Movement Science Electives

Potential Careers:
Community Dietician, Community Education Officer, Community Health Officer, Community Nutritionist, Community Worker, Dietitian, Director of Health Programs and Services, Health Educator, Health Policy Officer, Health Promotion Officer, Health Services Manager, Policy Officer, Public Health Officer, Public Health Program Manager, Sports Scientist.

UNIT SYNOPSISES

HMB271 FOUNDATIONS OF MOTOR CONTROL, LEARNING AND DEVELOPMENT
This unit introduces students to the behavioural and neural bases of movement control through an examination of the central nervous and neuromuscular systems, hierarchical control, human information processing and dynamical systems. It covers elements of sensory mechanisms related to movement. Foundations of motor learning and adaptation are introduced, linking underlying mechanisms of learning with principles that may be applied in teaching, coaching and rehabilitation.

Prerequisites: LSB131 or LSB231 or LSB255 Credit points: 12 Contact hours: 4 per week Campus: Kelvin Grove Teaching period: 2010 SEM-1

HMB272 BIOMECHANICS
This unit includes the application of mechanics as they apply to Human Movement including: kinematics and dynamics of human body models; quantitative analysis; impact; work and power; fluid dynamics; material properties.

Prerequisites: LSB131 Credit points: 12 Contact hours: 4 per week Campus: Kelvin Grove Teaching period: 2010 SEM-2

HMB273 EXERCISE PHYSIOLOGY 1
This unit describes the immediate physiological responses to exercise, and the adaptations that occur with long-term exercise training. Exercise places a demand on the human body to provide sufficient energy to perform. The metabolic, hormonal, cardiovascular and pulmonary systems must adapt to meet the challenge of homeostasis. The active skeletal muscle must increase extraction and utilisation of oxygen and other fuels, the cardiovascular system must respond to improved gas and fuel transport, and lung function must change to facilitate increased respiratory gas exchange.

NOTE for Summer Semester students: Teaching will not commence until January 2010, but some unit information will be available from 16 November 2009.

Students wishing to enrol up to the beginning of January will need to email enquirieshms@qut.edu.au

Prerequisites: LSB231 or LSB142 Credit points: 12 Contact hours: 4 per week Campus: Kelvin Grove Teaching period: 2010 SUM-2, 2010 SEM-2 and 2010 SUM-2.
HMB274 FUNCTIONAL ANATOMY  
This unit includes the following: surface anatomy of the trunk and upper and lower limb; morphological and mechanical properties of bone, muscle-tendon units with implications for physical activity; joint structure and function; analyses of movement tasks including walking and running; cinematography and electromyography in functional anatomy of movement tasks.  
**Prerequisites:** LSB131 or LSB255  
**Credit points:** 12  
**Contact hours:** 4 per week  
**Campus:** Kelvin Grove  
**Teaching period:** 2010 SEM-2

HMB275 EXERCISE AND SPORT PSYCHOLOGY  
This unit includes the following: introduction to the psychological factors which influence performance, participation and adherence to both sport and exercise programs; personality and the athlete; attention and arousal; relaxation theory and practice; aggression and psychosocial development; leadership and team cohesion.  
**Prerequisites:** PYB100 or PYB012 or EDB002  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Kelvin Grove  
**Teaching period:** 2010 SEM-2

HMB276 RESEARCH IN HUMAN MOVEMENT  
This unit includes principles of research: purposes, philosophy, applications. It addresses quantitative research including basic statistics, descriptives, ANOVA, correlation, regression and non-parametrics, and basic research design hypothesis testing. Qualitative research includes methodology, data collection, and theory building. Research presentation includes: writing a research report and developing conclusions. This unit also considers application of research, examples in human movement, related literature, computer data analysis, and information retrieval.  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Kelvin Grove  
**Teaching period:** 2010 SEM-2

HMB277 EXERCISE AND SPORT NUTRITION  
This unit considers the relationship between nutrition and exercise and physical activity. Areas covered include dietary and energy requirements in exercise and sport and substrate utilisation at the cellular level during exercise. The influence that nutrition has on performance via changes in body composition, fuel utilisation, blood biochemistry and ergogenic aids will also be covered. Nutritional supplements and water and electrolyte balance in exercise and sport are also part of this unit.  
**Prerequisites:** HMB172 or PUB201  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Kelvin Grove  
**Teaching period:** 2010 SEM-1

HMB282 RESISTANCE TRAINING  
This unit aims to equip students with the basic knowledge, skills and competencies required for exercise prescription in resistance training for muscular fitness. Students build on prior knowledge of biomechanics, anatomy, physiology and motor control to develop understanding of the mechanical and physiological determinants of muscular fitness. The unit incorporates a blend of theoretical background, practical knowledge and skills in the main areas of muscular hypertrophy, strength, power and endurance. This understanding is then used to critically analyse resistance training programs.  
**Prerequisites:** LSB131  
**Credit points:** 12  
**Campus:** Kelvin Grove  
**Teaching period:** 2010 SEM-2
HMB381 EXERCISE PHYSIOLOGY 2
This unit examines the integrated regulation of the organ system examined in Exercise Physiology 1. Within this integrated perspective current research areas will be highlighted, including but not limited to (1) exercise performance and environmental stress, (2) special aids to exercise training and performance, and (3) limitations to exercise in healthy normal individuals, elite athletes and selected patient populations.
Prerequisites: HMB273  Credit points: 12  Contact hours: 3-4 per week  Campus: Kelvin Grove  Teaching period: 2010 SEM-1

HMB382 PRINCIPLES OF EXERCISE PRESCRIPTION
In this unit, students examine the physiological principles and methods used in training and conditioning programs at all levels of physical activity. The integration of fitness assessment and exercise prescription is a major component of the unit, introducing the student to these requirements in the context of aerobic conditioning, resistance training, weight loss and flexibility. There is a strong emphasis on putting theory into practice, including the development and utilisation of appropriate practical skills in both fitness assessment and exercise prescription.
Prerequisites: HMB273 and HMB282  Credit points: 12  Contact hours: 4 per week  Campus: Kelvin Grove  Teaching period: 2010 SEM-1

HMB470 PRACTICUM 1
In the first of the Human Movement dedicated practicum units, students undertake in-depth experience at two different workplaces (40 hours each) while maintaining ongoing involvement in the School's clinics (20 hours). The student is provided with an extended opportunity to apply classroom learned knowledge and skills under the supervision of Human Movement Practitioners. Workplace involvement is preceded by a vocational skill seminar and workshop program while an interactive analysis program is instigated post practicum.
Prerequisites: HMB382  Credit points: 12  Campus: Kelvin Grove  Teaching period: 2010 SEM-1 and 2010 SEM-2

LQB381 BIOCHEMISTRY: STRUCTURE AND FUNCTION
This unit extends basic organic chemistry theory to the level of the biological macromolecules. A clear understanding of the structure and function of these molecules is essential to a student's understanding of the metabolism of living cells. Hence this biomolecular unit is a fundamental prerequisite for all advanced units in the various disciplines in the field of life sciences.
Prerequisites: (SCB121 and SCB122) or (SCB111 and SCB121) or SCB113  Antirequisites: LS275 and LS325 and LS308  Credit points: 12  Contact hours: 4 per week  Campus: Gardens Point  Teaching period: 2010 SEM-1

LQB388 MEDICAL PHYSIOLOGY 1
This unit deals specifically with the physiological systems that are responsible for the maintenance of health in humans. In the course of the semester students will investigate half the systems that constitute the human body (with the remainder dealt with in the second semester unit Physiology 2 [LQB488]). The unit offers a useful frame of reference for students enrolled in courses such as animal biology, biochemistry, microbiology, molecular biology, nutrition and human movements. Together with Physiology 2 [LQB488] this unit is a prerequisite to the third level unit, Applied Physiology [LQB588] and will be of particular interest to students considering medicine as a postgraduate career option.
Prerequisites: SCB120, LSB131, LSB142, LSB255, LSB258 or NRB270  Antirequisites: LSB358  Credit points: 12  Contact hours: 4 per week  Campus: Gardens Point  Teaching period: 2010 SEM-1

LQB481 BIOCHEMICAL PATHWAYS AND METABOLISM
The study of biochemistry and cell biology, along with molecular biology, provides students with the knowledge required for the proper understanding of the structure and function of living organisms at the molecular level. As such, this unit extends the studies begun in the unit LQB381 Biochemistry into the metabolic processes occurring in living cells, and provides students with a basis for further studies in biochemistry as well as support for other units in the third year of the course.
Prerequisites: LQB381 or LSB308  Antirequisites: LSB275, LSB325, LSB408  Credit points: 12  Contact hours: 4 per week  Campus: Gardens Point  Teaching period: 2010 SEM-2

LQB488 MEDICAL PHYSIOLOGY 2
This unit deals specifically with the physiological systems that are responsible for the maintenance of health in humans. In the course of the semester students will investigate half the systems that constitute the human body (with the remainder having been dealt with in the first semester unit Physiology 1 [LQB388]). The unit offers a useful frame of reference for students enrolled in courses such as animal biology, biochemistry, microbiology, molecular biology, nutrition and human movements. Together with Physiology 1 [LQB388] this unit is a prerequisite to the third level units, Applied Physiology [LQB588] and will be of particular interest to students considering medicine as a postgraduate career option.
Prerequisites: LSB131, LSB142, LSB255, LSB258, NRB270, or SCB120  Corequisites: LSB658  Antirequisites: LSB458  Credit points: 12  Contact hours: 4 per week  Campus: Gardens Point  Teaching period: 2010 SEM-2
LSB131 ANATOMY
This unit includes basic concepts of anatomy: an overview of the structure of cells, body tissues, and body systems; aspects of surface anatomy which are relevant to human movement; musculoskeletal systems.

Antirequisites: LSB142, LSB182, LSB258   Equivalents: LSB145  Credit points: 12  Contact hours: 5 per week  Campus: Gardens Point   Teaching period: 2010 SEM-1

PUB201 FOOD AND NUTRITION
This unit includes the following: an introduction to the history of food and nutrition in Australia; the food system; the food supply; proteins, carbohydrates, fats, vitamins and minerals; food grouping systems; dietary guidelines; the recommended dietary intakes; nutrition through the life cycle; food and nutrition problems; nutrition as a public health issue; and international nutrition issues.

Credit points: 12  Contact hours: 4 per week  Campus: Kelvin Grove and External   Teaching period: 2010 SEM-2

PUB251 CONTEMPORARY PUBLIC HEALTH
This unit provides an introduction to the following: the philosophy and approach of public health; the traditional public health process; the multidisciplinary nature of public health; and health policy and its impact on public health. Recent reformulations of traditional public health approaches including health promotion, intersectoral action for health and healthy public policy are examined. The role of public health in Australia and overseas, its main discipline components and some of the constraints faced by public health is also addressed. This unit considers groups with special needs and contemporary issues.

Antirequisites: PUN106  Credit points: 12  Contact hours: 4 per week (KG and Ext Sem 1; KG Sem 2)  Campus: Kelvin Grove and External   Teaching period: 2010 SEM-1 and 2010 SEM-2

PUB326 EPIDEMIOLOGY
Epidemiology is the core scientific method of public health. It is the study of the distribution of health and disease in the population and includes research into causes of disease and the effectiveness of public health programs. Epidemiological methods are used to generate the evidence base for clinicians, health promotion specialists, health educators, occupational and environmental health officers and health service managers.

Antirequisites: HLN710   Assumed knowledge: Successful completion of 96cp is assumed prior knowledge  Credit points: 12  Contact hours: 3 per week (Ext PU40 Pub Hlth students only)  Campus: Kelvin Grove and External   Teaching period: 2010 SEM-1

PUB405 NUTRITION SCIENCE
Nutrition science examines a range of nutrient components in our food supply, including the biochemical pathways and physiological effects in the body, possible health implications of deficiency or toxicity and important dietary sources. It integrates nutritional knowledge with the science of biochemistry and clinical physiology and provides the foundation on which further studies in nutrition can be built.

Prerequisites: (LSB308 or LQB381) and PUB201 and (LQB481 or LSB408). (LQB481 or LSB408) can be enrolled in the same teaching period.  Credit points: 12  Contact hours: 4 per week  Campus: Kelvin Grove   Teaching period: 2010 SEM-2
PUB530 HEALTH EDUCATION AND BEHAVIOUR CHANGE
Antirequisites: PUB329, PUB341  Credit points: 12  
Teaching period: 2010 SEM-1

PUB541 MEDICAL NUTRITION THERAPY 1
This unit incorporates the best of a multidisciplinary, 'whole client' view of health care. The goals of MNT in preventive care are to keep people healthy in their communities, to reduce the incidence and severity of preventable diseases, to improve health and quality of life and to reduce medical costs particularly in drug therapy, surgery, hospitalisation and extended care. A sound understanding of the process of nutrition assessment enables students to undertake the assessment, planning, implementation and evaluation of dietary intervention in the more complex disease states.  
Prerequisites: PUB405 and LQB481, or LSB408 and LQB488 or LSB458  Credit points: 12  Contact hours: 5 per week  
Campus: Kelvin Grove  Teaching period: 2010 SEM-1

PUB606 DIETETIC MANAGEMENT
This unit includes the following: history of dietetics and the role of management in dietetics; planning and organisation; leadership; peer review systems; total quality management; clinical costing; program evaluation and measuring effectiveness; information systems applied to dietetic management; managing change; casemix funding; management tools; marketing; planning community based programs; team building; and managing role conflict.  
Prerequisites: PUB506  Credit points: 12  Contact hours: 3 per week  
Campus: Kelvin Grove  Teaching period: 2010 SEM-2

PUB628 ADVANCED FOOD STUDIES
This unit provides students with an opportunity to acquire practical skills in the planning, preparation and delivery of nutrient modified food products suitable for a wide range of therapeutic diets. Students evaluate the outcome of incorporating nutrient modified food products into dietary regimens. Food standards, relevant developments and issues are also considered.  
Prerequisites: PUB474 and (PUB648 or PUB541) and PUB641. PUB641 can be enrolled in the same teaching period.  
Credit points: 12  Contact hours: 6 per week  
Campus: Kelvin Grove  Teaching period: 2010 SEM-2

PUB641 MEDICAL NUTRITION THERAPY 2
This unit builds on the extensive knowledge base of the theory and application of dietary treatment to disease and the principles of nutritional assessment development in Medical Nutrition Therapy 1.  
Prerequisites: (PUB541 or PUB648) and PUB628. PUB628 can be enrolled in the same teaching period.

PUB645 INTRODUCTION TO DIETETIC PRACTICE
Prerequisites: PUB628 and PUB641 (can be enrolled in the same teaching period)  
Antirequisites: PUB875  Assumed knowledge: Completion of all prior core units in your course is assumed knowledge.  
Credit points: 12  Teaching period: 2010 SEM-2

PUB723 CLINICAL DIETETIC PRACTICE
Students are required to develop skills in the management of nutritional care of clients in the clinical setting, to a standard that allows entry to the Dietetics profession. This unit incorporates the basic strategies of the dietetic care process, such as assessment, planning, implementation and evaluation of nutritional care, for clients who have a variety of disease states. Students also need to demonstrate basic skills in research in relation to clinical outcome.  
Prerequisites: PUB645 and PUB641  Credit points: 24  
Campus: Kelvin Grove  Teaching period: 2010 SEM-1 and 2010 SEM-2

PUB821 PRACTICE IN COMMUNITY NUTRITION
Prerequisites: PUB645 and PUB509  
Antirequisites: PUB821-1, PUB821-2  Credit points: 12  
Teaching period: 2010 SEM-1 and 2010 SEM-2

PUB822 PRACTICE IN FOODSERVICE MANAGEMENT
Prerequisites: PUB645 and PUB506  
Antirequisites: PUB822-1, PUB822-2  Credit points: 12  
Teaching period: 2010 SEM-1 and 2010 SEM-2

PYB208 COUNSELLING THEORY AND PRACTICE 1
This unit develops the student’s knowledge of the counselling process and skills and provides practice in changing the ways in which people express, conceptualise and respond to their concerns. It builds upon the communication skills and concepts introduced in PYB007 and introduces a range of counselling approaches. It emphasises skills in solution oriented approaches but also covers a range of models and skills for workers in crisis situations. It provides a basis for further studies in counselling in clinical settings requiring psychotherapeutic intervention, and other modes of delivery such as couple, family or group work.  
Prerequisites: PYB007 or PYB074 or HHB113 or SWB104 or PYB111 or PUB209  Credit points: 12  Contact hours: 3 per week  
Campus: Kelvin Grove  Teaching period: 2010 SEM-2

SCB111 CHEMISTRY 1
This unit covers the fundamentals of general and physical chemistry. Topics include atomic and molecular structure,
introduction to chemical bonding, reaction stoichiometry, thermochemistry, gas phase chemistry, reaction kinetics, equilibrium, acids, bases, buffers, oxidation, reduction and electrochemistry. The practical program involves experiments illustrating a range of chemical reaction types including precipitation reactions, acid-base chemistry and redox chemistry using analytical experimental methods. A comprehensive tutorial program (CHELP) complements the lectures and is designed to assist students to develop the problem solving skills required for further study in chemistry and related sciences.

**Antirequisites:** SCB113  
**Credit points:** 12  
**Contact hours:** 4.5 per week  
**Campus:** Gardens Point  
**Teaching period:** 2010 SEM-1 and 2010 SEM-2

## SCB121 CHEMISTRY 2

Chemistry is the central science. This is a unit of fundamental importance as it covers the background and general principles that underpin understanding in many Science and Health related disciplines, particularly in regards to the chemistry of life. In this unit students will be introduced to fundamental aspects of chemistry including the electronic structure of atoms, chemical bonding and molecular structure. From this basis students will develop an understanding of the fundamentals of organic chemistry including chirality, functional groups and organic reactions which will lead to important bio-inorganic molecules and coordination complexes.

**Prerequisites:** (SCB111 or PCB142) . SCB111 can be studied in the same teaching period  

**Antirequisites:** SCB113  
**Credit points:** 12  
**Contact hours:** 4.5 per week  
**Campus:** Gardens Point  
**Teaching period:** 2010 SEM-1 and 2010 SEM-2