Bachelor of Exercise and Movement Science (HM43)

Year offered: 2011
Admissions: Yes
CRICOS code: 070083A
Course duration (full-time): 3 years
Domestic Fees (indicative): 2011: CSP $3,878 (indicative) per semester
International Fees (indicative): 2011: $11,250 (indicative) per semester
Domestic Entry: February
International Entry: February
QTAC code: 425302
Past rank cut-off: 76
Past OP cut-off: 12
OP Guarantee: Yes
Assumed knowledge: English (4,SA); Maths B (4,SA) and at least one of Chemistry, Physics or Biology (4,SA)
Preparatory studies: For information on acquiring assumed knowledge visit http://www.qut.edu.au/assumed-knowledge
Total credit points: 288
Course coordinator: Enquiries to email: enquirieshms@qut.edu.au or phone: 07 3138 4697
Campus: Kelvin Grove

Overview
Exercise and movement science graduates work in the exercise, health, fitness and sports science industries. This degree is ideal if you want a career that promotes physical activity, exercise, health and wellbeing.

Study Areas
There are three study areas available in the course:
- Health and Wellness
- Sport Science and Performance Analysis
- Research in Exercise and Movement Science

The Health and Wellness Study Area is intended for students who seek to work in corporate, government or community positions employing their knowledge of exercise science to support health and wellbeing.

The Sport Science and Performance Analysis study area is for students with a strong interest in sport performance and the goal of sport-related employment, for example, fitness instructors, sportspersons, coaches and sporting officials.

The Research in Exercise and Movement Science study area provides a pathway for students who are considering Honours and/or Higher Research Degrees, or who are considering postgraduate courses in medicine, physiotherapy and other disciplines, and for whom more advanced study and some research experience is valuable.

Students may elect not to undertake a major. These students complete their course requirements by undertaking six elective units.

Course structure
Students complete 18 core units and six additional units from the following:
- six units from a Study Area OR
- four units from a University wide unit set plus two Faculty of Health electives OR
- Two Faculty of Health elective plus four electives from across the University. These could include units from the Study Areas in the course.

The Faculty of Health units are selected from undergraduate elective lists. At least four of these electives must be taken at the intermediate or advanced stage, i.e. offered in year 2 or later.

Recommended Study
Health Education or Physical Education.

Pathways
Graduates of HM43 Bachelor of Exercise and Movement Science can apply for admission to the HM44 Bachelor of Clinical Exercise Physiology if they wish to achieve full Exercise Physiologist status.

Professional recognition
Accreditation with Exercise and Sports Science Australia (ESSA) has been sought for the course to give graduates professional recognition as Exercise Scientists.

Deferment
Domestic students can defer their offer in this course for one year. In exceptional circumstances up to 12 months of additional deferment may be granted.

Find out more on deferment.

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

HM43 Course Structure - for students who commenced 2011

Year 1, Semester 1
## Year 1, Semester 2

<table>
<thead>
<tr>
<th>Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>LSB131</td>
<td>Anatomy</td>
</tr>
<tr>
<td>HMB171</td>
<td>Fitness Health and Wellness</td>
</tr>
<tr>
<td>HMB172</td>
<td>Nutrition and Physical Activity</td>
</tr>
<tr>
<td>PYB007</td>
<td>Interpersonal Processes and Skills</td>
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## Year 2, Semester 1

<table>
<thead>
<tr>
<th>Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>LSB231</td>
<td>Physiology</td>
</tr>
<tr>
<td>HMB276</td>
<td>Research in Human Movement</td>
</tr>
<tr>
<td>PUB209</td>
<td>Health, Culture and Society</td>
</tr>
<tr>
<td>PYB100</td>
<td>Foundation Psychology</td>
</tr>
<tr>
<td>HMB271</td>
<td>Foundations of Motor Control, Learning and Development</td>
</tr>
<tr>
<td>HMB274</td>
<td>Functional Anatomy</td>
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<tr>
<td></td>
<td>Major 1 OR Elective</td>
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<tr>
<td></td>
<td>Major 2 OR Elective</td>
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## Year 2, Semester 2

<table>
<thead>
<tr>
<th>Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>HMB272</td>
<td>Biomechanics</td>
</tr>
<tr>
<td>HMB273</td>
<td>Exercise Physiology 1</td>
</tr>
<tr>
<td>HMB275</td>
<td>Exercise and Sport Psychology</td>
</tr>
<tr>
<td>HMB282</td>
<td>Resistance Training</td>
</tr>
<tr>
<td>HMB382</td>
<td>Principles of Exercise Prescription</td>
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<tr>
<td></td>
<td>List A Elective</td>
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<tr>
<td></td>
<td>Major 3 or Elective</td>
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<tr>
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<td>Major 4 or Elective</td>
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## Year 3, Semester 1

<table>
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<tr>
<th>Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>HMB470</td>
<td>Practicum 1</td>
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<tr>
<td></td>
<td>List A Elective</td>
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<tr>
<td></td>
<td>Major 5 or Elective</td>
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<tr>
<td></td>
<td>Major 6 or Elective</td>
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## Sport Science and Performance Analysis Study Area units

<table>
<thead>
<tr>
<th>Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>HMB376</td>
<td>Motor Development in Children</td>
</tr>
<tr>
<td>HMB315</td>
<td>Games Based Learning in Physical Activity and Sport</td>
</tr>
<tr>
<td>HMB349</td>
<td>Training and Skill Development in Sport</td>
</tr>
<tr>
<td>HMB348</td>
<td>Applied Sport and Exercise Psychology</td>
</tr>
<tr>
<td>HMB377</td>
<td>Children in Sport</td>
</tr>
<tr>
<td>HMB347</td>
<td>Performance Analysis</td>
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## Research in Movement and Exercise Science Study Area units

<table>
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<tr>
<th>Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>PUB406</td>
<td>Health Promotion Practice</td>
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<td>Unit to be advised</td>
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## Research in Movement and Exercise Science Study Area units

<table>
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<tr>
<th>Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>INB102</td>
<td>Emerging Technology</td>
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<tr>
<td>HLB300</td>
<td>Independent Study</td>
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<td></td>
<td>List A elective</td>
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<td></td>
<td>List A elective</td>
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<tr>
<td>PYB350</td>
<td>Advanced Statistical Analysis</td>
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<tr>
<td>HMB483</td>
<td>Research Internship</td>
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## List A - Exercise and Movement Science Electives

<table>
<thead>
<tr>
<th>Code</th>
<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>HMB361</td>
<td>Functional Anatomy 2</td>
</tr>
<tr>
<td>HMB362</td>
<td>Biomechanics 2</td>
</tr>
<tr>
<td>HMB371</td>
<td>Motor Control And Learning 2</td>
</tr>
<tr>
<td>HMB381</td>
<td>Exercise Physiology 2</td>
</tr>
</tbody>
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## Potential Careers:

Sports Scientist.

## UNIT SYNOPSES

### HLB300 INDEPENDENT STUDY

This unit provides the opportunity to substantively explore a topic or subject of personal academic interest within your discipline area. It enables you to extend your knowledge and understanding of a topic area that is not otherwise available as a formal unit of study within the course, and your skills in knowledge development and knowledge management.
HMB171 FITNESS HEALTH AND WELLNESS
The dimensions and interrelationships of health, physical activity and wellness are studied. Basic principles of conditioning and exercise prescription necessary to demonstrate the impact of physical activity on lifestyle diseases, health behaviours and wellness are examined. Principles and theory of behaviour change are employed.
Credit points: 12  Contact hours: 3-4 per week  Campus: Kelvin Grove  Teaching period: 2011 SEM-1 and 2011 SEM-2

HMB172 NUTRITION AND PHYSICAL ACTIVITY
This unit is an introduction to principles of nutrition in relation to the physical activity setting, and the role of nutrition and physical activity in weight management. This unit also covers the essential elements of child growth and development (auxology) in relation to nutrition and health. The unit is designed to underpin studies in exercise physiology and sports nutrition.
Credit points: 12  Contact hours: 3 per week  Campus: Kelvin Grove  Teaching period: 2011 SEM-1 and 2011 SEM-2

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: 2011 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: 2011 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: 2011 SEM-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: 2011 SUM-2 and 2011 SEM-1

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: 2011 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: 2011 SEM-2
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: HMB272 and HMB274  Credit points: 12
Contact hours: 4 per week  Campus: Kelvin Grove  Teaching period: 2011 SEM-1

HMB315 GAMES BASED LEARNING IN PHYSICAL ACTIVITY AND SPORT
In this unit various game forms are analysed in order to identify fundamental game skills and problem areas in skill development. Emphasis is placed on the application of relevant movement knowledge and skills to suit game situations and on learning appropriate strategies for teaching and coaching selected games.
Credit points: 12  Contact hours: 6 per week for 9 weeks  Campus: Kelvin Grove  Teaching period: 2011 SEM-1 and 2011 SEM-2

HMB338 WELLNESS PROCESSES AND STRATEGIES
This unit examines the adoption of health behaviours that contribute to the attainment of optimal health, wellness and quality of life. It reviews how various dimensions of health and fitness together form the basis of an individual’s well-being, and traces the achievement of a high level of wellness through awareness, education and growth.
Credit points: 12  Campus: Kelvin Grove  Teaching period: 2011 SEM-1

HMB361 FUNCTIONAL ANATOMY 2
This is a project-based unit designed to enable students with a background in functional anatomy to develop greater expertise in one or a combination of the following areas: electromyography; orthopaedic biomechanics; kinesiology of sport and work; comparative functional anatomy; locomotion and posture; research techniques in functional anatomy.
Prerequisites: HMB274  Credit points: 12
Contact hours: 4 per week  Campus: Kelvin Grove

HMB362 BIOMECHANICS 2
This unit includes the following: measurement techniques within biomechanics; analysis of force systems; photographic, goniometric and electrophotographic analysis of movement; an introduction to viscoelasticity and biological materials; material properties; mass and inertial characteristics of the human body; applied aspects of biomechanics undertaken from a research project perspective
Prerequisites: HMB272 and HMB274  Credit points: 12
Contact hours: 4 per week  Campus: Kelvin Grove  Teaching period: 2011 SEM-1

HMB371 MOTOR CONTROL AND LEARNING 2
This is an advanced unit which provides an in-depth view of theories and concepts in motor learning and control; how we control actions in both everyday and skilled behaviours, and how this capability is acquired. This course provides a multidisciplinary perspective, drawing on research from psychology, neuroscience, biomechanics, robotics, neural networks and medicine. The unit is organised around the theme of sensorimotor integration as related to posture and balance, locomotion and arm movements such as reaching, grasping and pointing.
Prerequisites: HMB271  Credit points: 12
Contact hours: 4 per week  Campus: Kelvin Grove  Teaching period: 2011 SEM-2

HMB376 MOTOR DEVELOPMENT IN CHILDREN
This unit includes the theoretical perspective of normal and abnormal motor development, incorporating maturational, descriptive and behavioural aspects and the underlying sensory, perceptual, neurological and cognitive changes which influence motor development in children. A theoretical understanding of developmental differences and development delay in children with intellectual, sensory or physical disability. Experience is obtained in developmental and adapted physical activity programs.
Credit points: 12  Contact hours: 4 per week  Campus: Kelvin Grove  Teaching period: 2011 SEM-1

HMB377 CHILDREN IN SPORT
This unit includes the following: physical development of the young athlete; physical maturation; benefits of participation in sport and physical activity; psycho-social issues; positive and negative effects of participation including competitive stress; injuries to the growing skeleton; overtraining, overuse injuries; strength training in childhood and adolescence; promotion of safety in sport; accreditation of teachers and coaches; policy guidelines for junior sport; Aussie sport program.
Credit points: 12  Contact hours: 3 per week  Campus: Kelvin Grove

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: 2011 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: 2011 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. [Designated unit]

Prerequisites: HMB382 and HMB385. HMB385 can be taken in the same study period.  Credit points: 12  Campus: Kelvin Grove  Teaching period: 2011 SEM-1 and 2011 SEM-2

INB102 EMERGING TECHNOLOGY
The aim of this unit is to provide you with a conceptual framework so that you clearly identify Information Technologies and their purpose. This task will be fun as it covers a wide spectrum of ideas and allows us to examine some currently popular technologies. Information Technology has become so entwined with everyday life that identifying its scope is difficult, which also makes it difficult to identify opportunities where IT might further infiltrate into our daily lives for work and play. To achieve these aims, the unit introduces you to some of the theories and engineering practicalities that have already resulted in technological advances in the area of information technology. Concepts leading to existing technologies are introduced during lectures, which are followed by laboratory sessions where students will be encouraged to discuss social change, future information tools and explore the concepts required for constructing these technologies.

Equivalent: ITB005  Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  Teaching period: 2011 SEM-1 and 2011 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: 2011 SEM-1

LSB231 PHYSIOLOGY
This unit covers the general physiological principles such as homeostasis and how all systems in the body contribute to it. Topics include cells, transport processes, cardiovascular system, cardiac electrical activity, cardiac output, regulation of blood pressure, respiratory system, endocrine system, pulmonary ventilation and its function.

Antirequisites: LSB250  Equivalents: LSB245  Credit points: 12  Contact hours: 4 per week  Campus: Gardens Point  Teaching period: 2011 SEM-2

PUB209 HEALTH, CULTURE AND SOCIETY
This unit is concerned with the social and cultural dimensions of health and illness and how they relate to health status and patterns of behaviour. The unit introduces students to thinking about health from sociological and anthropological perspectives, drawing on relevant concepts and theory to examine selected public health issues. Identifying and addressing social and cultural factors that shape people's health experiences of health, illness and health systems are integral parts of public health practice in terms of reducing health inequalities, delivering appropriate services, and ultimately improving population health outcomes.

Credit points: 12  Contact hours: 3 per week  Campus: Kelvin Grove  Teaching period: 2011 SEM-2

PUB406 HEALTH PROMOTION PRACTICE
This unit ties together the fundamental health promotion knowledge and constructs covered in earlier units in the public health subject area. It builds upon this basis to introduce students to the range of strategies available to a health promotion practitioner. The unit promotes an appreciation of the strengths and weaknesses of different approaches, as well as related administrative factors. Students undertake a small health promotion project in groups of 3-4. This is an essential field of study for those students who wish to work in a health promotion or related field.

Prerequisites: PUB251 or PUB530  Credit points: 12  Contact hours: 3  Campus: Kelvin Grove  Teaching period: 2011 SEM-2
PUB530 HEALTH EDUCATION AND BEHAVIOUR CHANGE
This unit gives students the skills to bring about change in health-related behaviours through educational interventions. Topics covered include key health education and behaviour change theories, frameworks, strategies; approaches to bring about change in different contexts; research and design of educational interventions to suit different target populations in different settings, using evidence-based practice; and health literacy as a function of health education.

Antirequisites: PUB329, PUB341  Credit points: 12  Campus: Kelvin Grove  Teaching period: 2011 SEM-1

PYB007 INTERPERSONAL PROCESSES AND SKILLS
Psychology is generally a people-based profession with many positions involving not only understanding and testing people but communicating with them. More broadly however in most areas of modern work, and indeed within personal relationships, people need developed interpersonal skills and the ability to conceptualise interactive processes. The microskills for communication are also the foundation for helping relationships and counselling.

Antirequisites: PYB074, HHB113, PYB111  Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point and Kelvin Grove  Teaching period: 2011 SEM-1 and 2011 SEM-2

PYB100 FOUNDATION PSYCHOLOGY
This unit provides an introduction to the major content areas of psychology, including an introduction to psychological research and report-writing, for students intending to pursue further studies in psychology.

Psychology is a broad-ranging and multifaceted discipline which encompasses the scientific study of human behaviour, and the systematic application of knowledge gained from psychological research to a broad range of applied issues. The goal of this introductory unit is to introduce you to the major subfields and perspectives in psychology, and to develop your understanding of the research methods and report-writing conventions used in psychological research.

Antirequisites: PYB012  Equivalents: PYB101  Credit points: 12  Contact hours: 3 hours per week  Campus: Kelvin Grove  Teaching period: 2011 SEM-1, 2011 SEM-2 and 2011 SUM-1

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: 2011 SEM-2

PYB350 ADVANCED STATISTICAL ANALYSIS
The unit provides students considering further study in psychology with a thorough grounding in analysis of variance techniques, an introduction to multiple regression, and the data analysis tools used in a broad range of research designs in the social sciences. The unit extends the introduction to analysis of variance and regression provided in PYB210, considering more complex designs involving two or more independent variables. The unit is both theoretical (including the use of conceptual formulae to analyse simple data sets by hand) and practical (analysing data sets using the SPSS statistical package), giving students a firm understanding of the principles underlying each analysis.

Prerequisites: PYB210  Credit points: 12  Contact hours: 3 per week  Campus: Kelvin Grove  Teaching period: 2011 SEM-2

Information for future students
Published on: 13 June 2012