Bachelor of Exercise and Movement Science / Bachelor of Education (Secondary) (IX18)

Overview
IX18 Bachelor of Exercise and Movement Science/Bachelor of Education (Secondary) will replace IX04 Bachelor of Applied Science (in Human Movement Studies)/Bachelor of Education (Secondary) from 2010.

The four-year Bachelor of Exercise and Movement Science/Bachelor of Education (Secondary) covers the major elements of the single degree in secondary education as well as equipping students with both foundation knowledge in the exercise and movement sciences and their applications to health and wellness, or sport science and performance assessment.

Year 1, Semester 1
HMB171 Fitness Health and Wellness
HMB313 Socio-Cultural Foundations of Physical Activity
LSB131 Anatomy
Second teaching area discipline unit

Year 2, Semester 1
HMB314 Performance Skills 1
HMB231 Physical Education Curriculum Studies 1
EDB002 Teaching and Learning Studies 2: Development and Learning
EDB031 Secondary Field Studies 1
Curriculum Studies 1Y

Year 2, Semester 2
HMB273 Exercise Physiology 1
HMB275 Exercise and Sport Psychology
HMB276 Research in Human Movement
HMB282 Resistance Training
Second teaching area discipline unit

Year 3, Semester 1

Professional recognition
The Bachelor of Education (Secondary) is recognised by the Queensland College of Teachers as meeting the requirements for registration as a teacher in Queensland.

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 or phone: 07 3138 4697. Education enrolment enquiries to email: educationenq@qut.edu.au

Course coordinator:
Dr Craig Daly (ExMovementSc); Dr Mal Shield (Education); HMS enrolment queries to email: enquirieshms@qut.edu.au or phone: 07 3138 4697. Education enrolmentquiries to 3138 3947 or educationenq@qut.edu.au

Campus: Kelvin Grove

Why choose this course?
This double degree will prepare you for a career teaching physical education with an emphasis on exercise, health, nutrition and sports cience. You will also develop a theoretical background in human movement, complemented by practical skills obtained from a variety of practicum placements.

Career outcomes
Graduates of this four-year program pursue a broad range of careers including those in corporate and community health, wellness and fitness, and sports performance.

Pathways
Graduates can apply for admission to the HM44 Bachelor of Clinical Exercise Physiology if they should wish to achieve full Exercise Physiologist status.
HMB271  Foundations of Motor Control, Learning and Development
HMB274  Functional Anatomy
HMB377  Children in Sport
SPB012  Classroom and Behaviour Management
Second teaching area discipline unit

Year 3, Semester 2

EDB003  Teaching and Learning Studies 3: Practising Education
EDB032  Secondary Field Studies 2
HMB331  Physical Education Curriculum Studies 2
Curriculum Studies 2Y

Year 4, Semester 1

EDB004  Teaching and Learning Studies 4: Inclusive Education
EDB033  Secondary Field Studies 3
HMB431  Physical Education Curriculum Studies 3
Curriculum Studies 3Y

Year 4, 6TP4

EDB005  Teaching and Learning Studies 5: Professional Work of Teachers
EDB007  Culture Studies: Indigenous Education
(Students must enrol in 6TP4 mode for both EDB005 and EDB007)
EDB005 is delivered through the Stepping Out Conference, which for 2010 is held from 12-14 July (subject to change).

Year 4, Semester 2

EDB034  Secondary Field Studies 4
EDB035  Internship (Secondary)

Second Teaching Area Discipline Studies

Health Discipline Studies
PUB251  Contemporary Public Health
(Year 1, semester 1)
PUB209  Health, Culture and Society
(Year 1, semester 2)
HMB333  Child and Adolescent Health
(Year 2, semester 2)

PUB530  Health Education and Behaviour Change
(Year 3, semester 1)

Maths Discipline Studies
MAB120  Algebra and Calculus
(Year 1, semester 1)
MAB101  Statistical Data Analysis 1
(Year 1, semester 2)
MAB121  Calculus and Differential Equations
(Year 2, semester 2)
MAB122  Algebra and Analytic Geometry
(Year 3, semester 1)

English Discipline Studies
CLB320  Studies In Language
(Year 1, semester 1)
KWB109  Writing Australia
(Year 1, semester 2)
CLB323  Teaching Adolescent Literature
(Year 2, semester 2)
CLB321  Writing Workshop
(Year 3, semester 1)

Biology Discipline Studies
SCB112  Cellular Basis of Life
(Year 1, semester 1)
SCB120  Plant and Animal Physiology
(Year 1, semester 2)
SCB122  Cell and Molecular Biology
(Year 2, semester 2)
SCB110  Science Concepts and Global Systems
(Year 3, semester 1)

Second Teaching Area Curriculum Studies 1, 2 and 3

Year 2, Semester 1

Curriculum Studies 1 - choose the appropriate curriculum unit for your second teaching area
MDB031  Science Education Curriculum Studies 1
CLB018  English Curriculum Studies 1
HMB292  Health Education Curriculum Studies 1
MDB021  Mathematics Curriculum Studies 1

Year 3, Semester 2
Curriculum Studies 2 - choose the appropriate curriculum unit for your second teaching area

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Year 4, Semester 1

Curriculum Studies 3 - choose the appropriate curriculum unit for your second teaching area

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Potential Careers:
Director of Health Programs and Services, Educator, Fitness Assessor/Personal Trainer, Health Educator, Health Policy Officer, Health Promotion Officer, Public Health Program Manager, Secondary School Teacher, Sports Scientist.

UNIT SYNOPSES

CLB018 ENGLISH CURRICULUM STUDIES 1
This introduction to English teaching in secondary schools, provides an indispensable foundation on which English Curriculum Studies II and III are built. Students will develop an understanding of the theories of language and texts that underpin secondary English curriculum and pedagogy and which condition students learning within English classrooms. Students will have opportunities to apply their learning to their field observations and to plan to put theory of language, texts and learners into practice for English teaching.

Assumed knowledge: 24 credit points of English discipline studies is assumed knowledge. Credit points: 12
Campus: Kelvin Grove  Teaching period: 2010 SEM-1

CLB019 ENGLISH CURRICULUM STUDIES 2
This unit provides an opportunity to develop a theorized understanding of the Queensland English Syllabus for Years 1-10 and to implement this understanding by developing lessons and curriculum units that are appropriate for the needs and interests of diverse learners in a range of sociocultural contexts.

Prerequisites: CLB018  Credit points: 12  Campus: Kelvin Grove  Teaching period: 2010 SEM-2

CLB020 ENGLISH CURRICULUM STUDIES 3
This unit provides opportunities to develop a theorized understanding of the Queensland English Syllabus for Years 11 and 12, Senior English Communication (SAS) and the Senior English Extension (Literature) Syllabus, and to implement this understanding by analysing and developing senior English programs, teaching and assessment strategies that are appropriate for the needs and interests of diverse learners in particular sociocultural contexts.

Prerequisites: CLB019  Credit points: 12  Campus: Kelvin Grove  Teaching period: 2010 SEM-1

CLB320 STUDIES IN LANGUAGE
This unit addresses the following topics: the language basis in current approaches to the teaching of English; nature and function of language; the dynamics involved in interactive situations; the appropriateness of language forms used in various social contexts; the educational implications of linguistic diversity within the community; the recognition of the developmental features of adolescent language.

Credit points: 12  Contact hours: 3 per week  Campus: Kelvin Grove  Teaching period: 2010 SEM-1 and 2010 SEM-2

CLB321 WRITING WORKSHOP
The student, as writer, uses all the language modes in social contexts (either genuine or simulated) to lead to writing in a range of situations. Engagement in these writing situations is designed to bring about personal understanding of the following: the nature of the writing process; the influence of audience and purpose on the final written product; the range of genres (or forms) falling within the writing activity.

Credit points: 12  Contact hours: 3 per week  Campus: Kelvin Grove  Teaching period: 2010 SEM-1

CLB323 TEACHING ADOLESCENT LITERATURE
This unit addresses the following topics: scope and nature of young adult literature; strategies for evaluation and selection; recent research into adolescents' reading needs, interests and responses; using young adult books in the curriculum.

Credit points: 12  Contact hours: 3 per week  Campus: Kelvin Grove  Teaching period: 2010 SEM-2

EDB002 TEACHING AND LEARNING STUDIES 2: DEVELOPMENT AND LEARNING
This unit has the dual purposes of promoting your own personal and professional development as life long, creative, autonomous learners, capable of reflection and high level thinking, and of enabling you, as educators, to promote similar development in your learners. Pursuit of these aims will involve an exploration of human development, from personal and interpersonal perspectives,
with sensitivity to socio-cultural contexts, and with a particular focus on the theory, research and practice which informs educators about how learners construct knowledge and become creative, self-motivated thinkers and problem solvers.

Credit points: 12  Contact hours: 3 per week  Campus: Kelvin Grove, External and Caboolture  Teaching period: 2010 SEM-1

EDB003 TEACHING AND LEARNING STUDIES 3: PRACTISING EDUCATION

Education is a social and cultural activity. This unit provides a sociological and cultural studies framework that provides an insightful explanation of how education in its various sites is constructed and organised. The unit includes a socio-cultural analysis of an educational site which will be undertaken in conjunction with the Field Studies unit.

Credit points: 12  Contact hours: 3 per week  Campus: Internet, Kelvin Grove and Caboolture  Teaching period: 2010 6TP4 and 2010 SEM-2

EDB004 TEACHING AND LEARNING STUDIES 4: INCLUSIVE EDUCATION

This unit aims to develop students’ understanding and appreciation of the contributions that diversity, belonging and trust make towards a quality learning environment for all learners. Students will learn to engage in teaching a broad range of students in diverse and inclusive ways utilising pedagogies and curriculum practices that enhance learning for all students and generate inclusive cultures within the school and classroom settings. Desired outcomes are achieved through descriptive, interpretative, analytic and expressive processes to share learning with fellow students and staff.

Credit points: 12  Campus: Kelvin Grove  Teaching period: 2010 SEM-1

EDB005 TEACHING AND LEARNING STUDIES 5: PROFESSIONAL WORK OF TEACHERS

Students will share the responsibility for shaping their beginning career learnings through a process of professional induction with a number of key significant stakeholders. The process will be proactive, collaborative and self determined and students will need to become professionally responsible for developing a professional development program that best accommodates their needs at the close of the teacher education program.

Prerequisites: EDB033, EDB023, or EDB013  Credit points: 12  Campus: Internet, Kelvin Grove, External and Caboolture  Teaching period: 2010 6TP4

EDB007 CULTURE STUDIES: INDIGENOUS EDUCATION

Numerous government reports and recent discussions about reconciliation have called for an increased commitment to Indigenous education in Australia. Teachers are increasingly being asked to improve their skill, knowledge and understanding to teach Indigenous students, and to teach curricula which incorporates Indigenous viewpoints on social, cultural and historical matters. This unit begins with an analysis of the students' own cultural place in the Australian context and afterwards moves towards an understanding of Aboriginal and Torres Strait Islander perspectives on history and contemporary issues, and an understanding of why Aboriginal and Torres Strait Islander students have been so disadvantaged by the Australian education system.

Credit points: 12  Contact hours: 3 per week  Campus: Internet, Kelvin Grove and Caboolture  Teaching period: 2010 SEM-1 and 2010 SEM-2

EDB031 SECONDARY FIELD STUDIES 1

Designated Unit.

This unit focuses on the students' professional development as an educator, and reinforces the twin themes of teacher as researcher, and teacher as reflective practitioner. It provides the first set of teaching experiences, in a graduated sequence over the course of the BEd. Students develop the ability to plan, implement and evaluate effective teaching/learning programs. This requires an understanding of learner needs, curriculum knowledge, procedures for creating supportive classroom environments, and sensitivity to socio-cultural contexts.

Please note in Semester 2 this unit is ONLY available to students who have previously failed the unit and have received approval from the faculty to be enrolled in the alternate offering. This unit is not available to Visiting or Cross-Institutional students.

Prerequisites: HMB231, HMB292, CLB018, CLB036, CLB021, CLB051, CLB054, MDB015, MDB021, MDB031, or PUB343 (can be enrolled in the same teaching period)

Credit points: 12  Contact hours: 3 per week  Campus: Internet, Kelvin Grove and Caboolture  Teaching period: 2010 SEM-1 and 2010 SEM-2

EDB032 SECONDARY FIELD STUDIES 2

Designated Unit

Through critical examination of the socio-cultural dimensions of these sites, this unit aims to utilise aspects of social enquiry to analyse the practice of teaching as a social and cultural activity. At the same time, the unit aims to develop students' pedagogical and curriculum skills as a teachers.

Prerequisites: EDB031, and HMB331, HMB396, CLB019, CLB025, CLB037, CLB022, CLB010, CLB013, CLB016, CLB028, CLB031, CLB034, CLB040, MDB010, MDB013, MDB016, MDB022, MDB025, MDB028, MDB453, or PUB643 (can be enrolled in the same teaching period)

Credit points: 12  Campus: Internet, Kelvin Grove and External  Teaching period: 2010 SEM-2 and 2010 SUM
EBD033 SECONDARY FIELD STUDIES 3
Designated Unit.
Students will be required to design, implement and evaluate differentiated teaching strategies, programs and assessment tasks in inclusive and critically reflective ways and in a manner that is responsive to the diverse nature of the students in your classes. Students will be required to argue that their orientations to curriculum, teaching and assessment reflect practices that offer all students access to quality learning experiences.
Prerequisites: EDB032, and HMB431, HMB496, CLB020, CLB026, CLB038, CLB023, CLB053, CLB056, MDB017, MDB023, MDB033, or PUB743 (can be enrolled in the same teaching period) Credit points: 12 Campus: Internet and Kelvin Grove Teaching period: 2010 SEM-1 and 2010 SEM-2

EBD034 SECONDARY FIELD STUDIES 4
Designated Unit.
This unit is designed to fully immerse the pre-service teacher into the field with a view to scaffolding their repositioning as an autonomous, critically reflective, inclusive professional teacher on completion.
Prerequisites: EBD034 (Can be enrolled in same teaching period) Assumed knowledge: Completion of all units in your course is assumed knowledge. Credit points: 12 Campus: Internet and Kelvin Grove Teaching period: 2010 5TP2 and 2010 SEM-2

EBD035 INTERNSHIP (SECONDARY)
Designated Unit.
This unit aims to induct students into the professional work of teachers. The aim of this unit is to apply the knowledge, skills and understandings of teaching and learning that students have acquired throughout the course in an extended time in the workplace.
Prerequisites: EDB034 Credit points: 12 Campus: Internet and Kelvin Grove Teaching period: 2010 5TP3 and 2010 SEM-2

HMB171 FITNESS HEALTH AND WELLNESS
The dimensions and interrelationships of health, physical activity and wellness are studied. Basic principles of conditionning 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: 2010 SEM-1

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: 2010 SEM-2

HMB231 PHYSICAL EDUCATION CURRICULUM STUDIES 1
This unit provides students with a range of understandings and competencies for interpreting and managing the physical education environment for teaching and learning. It assists students to develop competencies needed for lesson planning and teaching at all school levels.
Prerequisites: HMB171 and HMB315 Credit points: 12 Contact hours: 3 Campus: Kelvin Grove Teaching period: 2010 SEM-1

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-1

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-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 psycho-social 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

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

HMB292 HEALTH EDUCATION CURRICULUM STUDIES 1
This is the initial unit in a series of three Health Education Curriculum units. Students are introduced to current health education curriculum documents with a specific focus on the Queensland Education System. The unit also provides students with a range of competencies for interpreting and managing the health education classroom as a complex social environment for teaching and learning.

Assumed knowledge: Completion of 24cp of Health Education units is assumed knowledge  Credit points: 12

Contact hours: 3  Campus: Kelvin Grove

Teaching period: 2010 SEM-1

HMB313 SOCIO-CULTURAL FOUNDATIONS OF PHYSICAL ACTIVITY
This unit lays a foundation in the disciplines of the socio-cultural areas which underpin the study of human movement. It serves as an introduction to the historical, sociological, philosophical, anthropological and cultural foundations of sports, games and leisure activities.

Credit points: 12  Contact hours: 4 per week  Campus: Kelvin Grove

Teaching period: 2010 SEM-1

HMB314 PERFORMANCE SKILLS 1
This unit involves the application of movement principles to the analysis and development of techniques in all major swimming strokes, water rescue methods, and track and field events. Students explore teaching strategies, motivational, conditioning and training activities, the development of learning experiences for various ability levels and event rules application.

Credit points: 12  Contact hours: 6 per week  Campus: Kelvin Grove

Teaching period: 2010 SEM-1

HMB315 PERFORMANCE SKILLS 2
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

HMB331 PHYSICAL EDUCATION CURRICULUM STUDIES 2
This unit extends the principles of professional practice established in the first curriculum studies unit and further encourages students to develop a critically reflective approach to teaching. Students learn how to extend professional practice with a range of understandings and competencies for interpreting and managing the health and physical education classroom as a complex environment for teaching and learning and develop competencies needed for planning and teaching a range of health and physical education units of work. Current health and physical education curriculum documents are explored.

Prerequisites: HMB231  
Credit points: 12  
Campus: Kelvin Grove  
Teaching period: 2010 SEM-2

HMB333 CHILD AND ADOLESCENT HEALTH
This unit focuses on the wide range of factors that impact on the health of individuals in the two crucial stages of life: childhood and adolescence. An analysis is made of knowledge, beliefs and skills required for promoting health-enhancing behaviours during these ages and experience is provided on some of the skills needed to assess and maintain the health status of children and adolescents.

Credit points: 12  
Contact hours: 3 per week  
Campus: Kelvin Grove  
Teaching period: 2010 SEM-2

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  
Teaching period: 2010 SEM-1

HMB396 HEALTH EDUCATION CURRICULUM STUDIES 2
This is the second in a suite of three Health Education Curriculum units. It is designed to extend students with a range of understandings and competencies for interpreting and managing the health education classroom as a complex social environment for teaching and learning. It helps students to develop those competencies needed for planning and teaching health education units of work. It has an important role in preparing students for the professional practice component of the course, leading to the development of confidence and competence in class management skills, and facilitating the use of post-lesson and post-practicum reflection and evaluation.

Prerequisites: HMB292  
Credit points: 12  
Teaching period: 2010 SEM-2

HMB431 PHYSICAL EDUCATION CURRICULUM STUDIES 3
This unit develops students' competencies in the effective planning and implementation of school work programs and units of work consistent with the Senior Physical Education Syllabus. It will also develop students' skills and confidence in effective teaching practices specifically related to teaching physical education and will assist them to become independent and reflective learners.

Prerequisites: HMB331  
Credit points: 12  
Contact hours: 3  
Campus: Kelvin Grove  
Teaching period: 2010 SEM-1

HMB496 HEALTH EDUCATION CURRICULUM STUDIES 3
This unit extends the principles of professional practice established in HMB292 and HMB396 and further encourages the development of a critically reflective approach to the teaching in that area. It emphasises planning and teaching in the senior secondary school and extends a student's ability to make independent judgments about curriculum decisions within syllabus guidelines and broader systems policies, while considering national and international trends in education and society. The unit also encourages exploration of current issues and emerging and future trends in subject areas.

Prerequisites: HMB396  
Credit points: 12  
Campus: Kelvin Grove  
Teaching period: 2010 SEM-1

KWB109 WRITING AUSTRALIA
This unit provides you with opportunities to read, explore, discuss and evaluate a number of Australian texts written and published over the last twenty-five years. Upon completing this unit, you are able to understand and critically interrogate texts pertinent to contemporary Australian society and culture.

Equivalents: KWB002, KWB710  
Credit points: 12  
Contact hours: 3 per week  
Campus: Kelvin Grove  
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

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: 2010 SEM-2

MAB101 STATISTICAL DATA ANALYSIS 1
Experiments, observational studies, sampling, and polls; data and variables; framework for describing and manipulating probability; independence; Binomial and Normal distributions; population parameters and sample statistics; concepts of estimation and inference; standard error; confidence intervals for means and proportions; tests of hypotheses on means and proportions (one sample and two independent samples); inference using tables of counts; modelling relationships using regression analysis; model diagnosis; use of statistical software. 
Antirequisites: BSB123, EFB101, MAB141, MAN101  Assumed knowledge: Grade of at least Sound Achievement in Senior Mathematics B (or equivalent) or MAB105 is assumed knowledge.  Credit points: 12  Contact hours: 4 per week  Campus: Gardens Point  Teaching period: 2010 SUM-2, 2010 SEM-1 and 2010 SEM-2

MAB120 ALGEBRA AND CALCULUS
This unit introduces and reviews the elementary concepts of function, calculus, matrices and vectors with special reference to applications in science, technology and business where appropriate. Topics covered include the algebra of complex numbers, elementary functions (polynomial, trigonometric, exponential and logarithmic) and their properties, differentiation and integration methods and principles, geometric and algebraic applications of vectors and the solution of linear systems using matrices.  
Assumed knowledge: Grade of at least Sound Achievement in Senior Mathematics B (or equivalent) or MAB105 is assumed knowledge  Equivalents: MAB100, MAB125, MAB180  Credit points: 12  Contact hours: 4 per week  Campus: Gardens Point  Teaching period: 2010 SEM-1, 2010 SEM-2 and 2010 SUM

MAB121 CALCULUS AND DIFFERENTIAL EQUATIONS
This unit extends the areas of function and calculus introduced in MAB120 by introducing series representations for functions and more advanced methods of differentiation and integration for functions of one variable. A strong connection to real world problems is made by introducing the use of differential equations in modelling, and exploring appropriate methods of solution. Practical calculations of volumes and surface areas of solids of revolution extend your interpretations of the definite integral. Taylor and Fourier series are introduced as a means of approximating functions by sums of polynomials and periodic functions. Some more advanced methods for indefinite integrals, such as partial fraction decomposition, are also introduced.  
Assumed knowledge: Grade of at least Sound Achievement in Senior Mathematics C (or equivalent) or MAB125 or MAB180 or MAB120 is assumed knowledge  Equivalents: MAB111, MAB126  Credit points: 12  Contact hours: 4 per week  Campus: Gardens Point  Teaching period: 2010 SEM-1, 2010 SEM-2 and 2010 SUM

MDB010 BIOLOGY CURRICULUM STUDIES 2
This unit provides an opportunity to develop as an learner-centred teacher who can plan to meet the needs of individual students in a varied, stimulating and safe environment.  
Prerequisites: MDB031  Credit points: 12  Campus: Kelvin Grove  Teaching period: 2010 SEM-2

MDB021 MATHEMATICS CURRICULUM STUDIES 1
Teachers of middle and secondary school mathematics need a range of understandings and skills to be effective practitioners in the complex social and technological environment of the classroom. This unit introduces students to the teaching and learning of mathematics at the secondary school level. It begins development of students' knowledge and understanding of the secondary mathematics curriculum and their curriculum development skills. The unit is an important component of preparation for Field Studies 1.  
Assumed knowledge: 24 credit points in Mathematics discipline studies is assumed knowledge  Contact hours: 3 per week  Campus: Kelvin Grove  Teaching period: 2010 SEM-1

MDB022 MATHEMATICS CURRICULUM STUDIES 2
This unit develops students' understanding of the school mathematics curriculum and extends their knowledge and understanding of inclusive learner-focused approaches to mathematics curriculum development.

**Prerequisites:** MDB021  
**Credit points:** 12  
**Campus:** Kelvin Grove  
**Teaching period:** 2010 SEM-2

**MDB023 MATHEMATICS CURRICULUM STUDIES 3**
This unit extends students' knowledge and understanding of mathematics curriculum with an emphasis on catering for the range of students engaged in secondary education, inclusive practices and diagnosis of mathematical learning difficulties.

**Prerequisites:** MDB022 or MDB453 (can be enrolled in the same teaching period)  
**Credit points:** 12  
**Campus:** Internet and Kelvin Grove  
**Teaching period:** 2010 SEM-1

**MDB031 SCIENCE EDUCATION CURRICULUM STUDIES 1**
This unit is to provide you with opportunities to examine praxis in science classrooms in order to help you develop principles for the establishment and management of effective science learning environments.

**Assumed knowledge:** 24 credit points in discipline studies from any of the following is assumed knowledge: Biology, Chemistry, Earth Science, Physics, and Science Studies.

**Credit points:** 12  
**Campus:** Kelvin Grove  
**Teaching period:** 2010 SEM-1

**MDB033 SCIENCE EDUCATION CURRICULUM STUDIES 3**
This unit is to provide opportunities for you to develop an understanding of the theoretical underpinnings of a selection of strategies and resources used in the teaching of science.

**Prerequisites:** MDB010 or MDB013 or MDB019 or MDB025 or MDB028  
**Credit points:** 12  
**Campus:** Internet and Kelvin Grove  
**Teaching period:** 2010 SEM-1

**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:** 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

**PUB530 HEALTH EDUCATION AND BEHAVIOUR CHANGE**

**Antirequisites:** PUB329, PUB341  
**Credit points:** 12  
**Teaching period:** 2010 SEM-1

**SCB110 SCIENCE CONCEPTS AND GLOBAL SYSTEMS**
You will undertake interdisciplinary study of the physical, geological and biological concepts relating to the origins of life; from the creation of matter and planets, to the emergence of life in all its complexity, culminating in evolution of earth ecosystems. Human influences, overlaid upon earth’s complex systems, will be examined as to their type, extent, and impact. In counterpoint, you will explore the breadth of philosophical developments underlying our search for knowledge; fundamental thoughts and ideas that span the last 2,500 years of human history. Ultimately, these concepts evolved through the development of a scientific method and we explore its workings in relation to the ongoing enterprise of human understanding.

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

**SCB112 CELLULAR BASIS OF LIFE**
A study of life processes in all five groups of living organisms (bacteria, protists, fungi, plants and animals). Traditional topics in biology are integrated with recent research advances in molecular and cellular biology to provide a comprehensive foundation for later units in the medical, biotechnological and ecological sciences. The unit begins by constructing cells from the four quantitatively important groups of biological molecules (proteins, lipids, carbohydrates and nucleic acids). Molecular and evolutionary aspects of genetics are then introduced, with the great diversity of reproductive strategies found among organisms being emphasised. Finally, bioenergetics (photosynthesis and respiration) and its relevance to...
environmental issues is outlined.

**Antirequisites:** LSB118  
**Credit points:** 12  
**Contact hours:** 4 per week  
**Campus:** Gardens Point  
**Teaching period:** 2010 SEM-1 and 2010 SEM-2

**SCB120 PLANT AND ANIMAL PHYSIOLOGY**

Regardless of which area of biology you decide to specialise in, you will need to understand the complex interactions between cells, tissues, organs and organ systems that comprise multi-cellular organisms. Although many living processes can be explained at the levels of biochemistry, biophysics and cell biology, a true understanding of complex, multicellular organisms requires integration of knowledge drawn from all of these areas, combined with the more complex physiological and structural levels you will learn about in this unit. The knowledge gained in this and other first level units provides you with the conceptual framework necessary to understand processes occurring from the cellular to the whole organism level and to higher levels of organisation.

**Prerequisites:** SCB112  
**Equivalents:** NRB270  
**Credit points:** 12  
**Contact hours:** 4.5 per week  
**Campus:** Gardens Point  
**Teaching period:** 2010 SEM-2

**SCB122 CELL AND MOLECULAR BIOLOGY**

SCB122 Cell and Molecular Biology 1 equips students with a comprehensive understanding the molecular basis of the cell. This unit expands on the basic principles and concepts relating to cell structure, function, perpetuation and specialisation introduced in SCB112 and introduces students to fundamental molecular mechanisms central to the organisation of the cell. Students will be shown how macromolecular interactions are crucial to information flow and heredity. Students are taught the relationships between chromosomes, genes and cellular function and ultimately how these may determine an organism's phenotype. This unit underpins cell biology and molecular biology units that are offered in second year Life Science units. SCB122 is also ideal for interfaculty students (eg Education, Business, Arts) who will undertake no further life science studies.

**Prerequisites:** SCB112  
**Antirequisites:** LSB238  
**Credit points:** 12  
**Contact hours:** 4.5 per week  
**Campus:** Gardens Point  
**Teaching period:** 2010 SEM-2

**SPB012 CLASSROOM AND BEHAVIOUR MANAGEMENT**

This unit integrates concepts of behaviour development, management and discipline within a defensible pattern of classroom management and appropriate curricula processes.

**Credit points:** 12  
**Campus:** Internet, Kelvin Grove, External and Caboolture  
**Teaching period:** 2010 SEM-1, 2010 6TP4, 2010 SEM-2 and 2010 SUM