BACHELOR OF HEALTH & MEDICAL SCIENCES PROGRAM SUITE
Information booklet for Current Students

July 2016

FACULTY OF HEALTH AND MEDICAL SCIENCES

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INTRODUCTION

The Bachelor of Health and Medical Sciences and the Bachelor of Health and Medical Sciences (Advanced) will be available from Semester 1 2017. The information in this document has been prepared to assist current students in understanding the requirements and content of the new degrees.

This document provides information about the:

- **program structure** for both programs;
- **core courses** which are specific to each program; and
- **new courses** that comprise each of the 7 Majors, which are available in both programs.

Note that information on **existing courses** that are listed in this document can be obtained from Course Planner.

IMPORTANT NOTE

Some courses will first be offered in 2018, and this is noted against affected courses in the course lists related to each Major.

Note that the course information contained in this document is correct at time of publication, and should be considered indicative; new courses are coded as 1XXX for Level I courses, 2XXX for Level II courses and 3XXX for Level III courses.

Final details for all courses offered in 2017 will be available through Course Planner in October 2016.

PROGRAM STRUCTURE

The information below is designed to assist you in understanding the structure of both programs; the formal Academic Program Rules for 2017 will be available in December 2016.

Bachelor of Health and Medical Sciences

To qualify for the degree of **Bachelor of Health and Medical Sciences**, students must satisfactorily complete the following requirements, with a combined total of not less than 72 units of study, comprising:

- Level I courses to the value of **no more than 30 units**, of which at least 12 units are Health Science courses, and which may include the Core courses and Closed electives
- Level II Health Science courses to the value of **at least 12 units**, which may include the Core courses and Closed electives
- Level III Health Science courses to the value of **at least 24 units**, which may include Closed electives
- Core courses **to the value of 6 units**
- **One major to the value of 27 units** selected from the following:
    - Addiction and Mental Health
    - Clinical Trials
    - Medical Sciences
    - Neurosciences
    - Nutritional Health
    - Public Health
    - Reproductive and Childhood Health
- Broadening Electives to the value of **9 units**
- Additional elective courses to **complete a total of 72 units** for the program, which may include Closed and Open electives.

Bachelor of Health and Medical Sciences (Advanced)

To qualify for the degree of **Bachelor of Health and Medical Sciences (Advanced)**, students must satisfactorily complete the following requirements, with a combined total of not less than 72 units of study, comprising:

- Level I courses to the value of **no more than 30 units**, of which at least 12 units are Health Science courses, and which may include the Core courses and Closed electives
- Level II Health Science courses to the value of **at least 12 units**, which may include the Core courses and Closed electives
- Level III Health Science courses to the value of **at least 24 units**, which may include Closed electives
- Core courses **to the value of 9 units**
- **One major to the value of 27 units** selected from the following:
    - Addiction and Mental Health
    - Clinical Trials
    - Medical Sciences
    - Neurosciences
    - Nutritional Health
    - Public Health
    - Reproductive and Childhood Health
- Broadening Electives to the value of **9 units**
- Additional elective courses to **complete a total of 72 units** for the program, which may include Closed and Open electives.

CORE COURSES IN THE BACHELOR OF HEALTH & MEDICAL SCIENCES DEGREE

HLTH SC 1XXX Create. Communicate. Connect with Health Sciences **3 units**

Have you ever wondered what a career in the health and medical sciences encompasses and the attributes that you need to excel in this field? This course will explore these questions through three modules, each with a different focus and include contributions from health and medical sciences teachers and professionals.

The first module will focus on the development of academic, research, communication and independent learning skills that are required for success in health and medical sciences careers. The second module will enhance student's skills and confidence in oral, written and interpersonal communication equipping students with the capacity to provide and communicate solutions and knowledge to others. The third module will facilitate students to begin networking and connecting with active health and medical scientists through peer and staff mentors, in their very first semester of study.

The learning outcomes of this course will be achieved through the delivery of seminars, interactive workshops and small group discovery experience (SGDE) where students will have the opportunity to interact with health and medical science professionals. Upon successful completion of this course you will be equipped with a range of skills and knowledge that health and medical science employers demand.

**Only available to students enrolled in a Bachelor of Health and Medical Sciences or Bachelor of Health and Medical Sciences (Advanced).

Semester offered	*1*
Prerequisites	*N/A*
Assumed Knowledge	*N/A*
Incompatible	*N/A*

HLTH SC 2XXX Reflect. Research. Resolve Questions in Health **3 units**

This course involves the interactive, student-centred exploration of specific real-world health problems written to stimulate collaborative analysis and investigation. Students will work in teams to consider contemporary health challenges from a range of perspectives (medical science, public health etc.) and further develop their research, problem solving and teamwork skills.

**Only available to students enrolled in a Bachelor of Health and Medical Sciences.

Semester offered	*2*
Prerequisites	*HEALTH SC 1XXX Create. Communicate. Connect With Health Sciences*
Assumed Knowledge	*N/A*
Incompatible	*HLTH SC 2XXX Hacking Health*

CORE COURSES IN THE BACHELOR OF HEALTH & MEDICAL SCIENCES (ADVANCED) DEGREE

HLTH SC 1XXX Clinical Skills and Simulation **3 units**

In this course students will be introduced to current approaches to delivering healthcare and the challenges these approaches are facing. From primary to tertiary care, students will learn how different professions, including researchers, collaborate to improve the wellbeing of the general population. Students will be introduced to three of the largest health challenges facing Australian healthcare: aged care; health inequalities with Aboriginal and Torres Strait Islander peoples; and mental health. Through interactions with patients and in simulation exercises students will learn how chronic illness affects patients and communities. Students will develop knowledge and skills in patient examination, communication and clinical reasoning.

**Only available to students enrolled in Bachelor of Health and Medical Sciences (Advanced)

Semester offered	*1*
Prerequisites	*N/A*
Assumed Knowledge	*N/A*
Incompatible	*N/A*

HLTH SC 2XXX Hacking Health **3 units**

Hacking Health will bring together health professionals and technologists to both understand problems that need to be solved and to use cutting edge technology to develop innovative solutions for these problems. Hacking Health uses the principles of Translational Science to provide students with skills and practical knowledge to (i) creatively assess current health challenges in the community and collaboratively develop innovative solutions (ii) identify and appraise current technologies/interventions and strategies for effectiveness (iii) scope the role for potential new technologies/interventions (iv) consider the determinants of successful implementation of new or existing technologies/interventions. The course will build on the foundation skills developed in Clinical Skills and Simulation. Health clinicians and researchers from a wide range of disciplines will showcase successful innovation projects and students will then work in groups on solutions for a significant challenge within the health system.

**Only available to students enrolled in Bachelor of Health and Medical Sciences (Advanced)

Semester offered	*2*
Prerequisites	*HLTH SC 1XXX Clinical Skills and Simulation*
Assumed Knowledge	*N/A*
Incompatible	*HLTH SC 2XXX Reflect. Research. Resolve*

HLTH SC 3XXX Innovation and Entrepreneurship in Health **3 units**

The human genome was sequenced over a decade ago and daily we discover the genetic causes of diseases. Medical research has excelled at identifying the causes of many diseases. Basic science has led to understanding of our battle with microbes and parasites and their means of transmission. Agricultural and nutritional sciences has given us the knowledge to substantially improve our diet. Information technology has transformed the way we communicate and organise our lives and has made information substantially easier to obtain. Improvements in communication and transportation has made us all part of the global mix and presents new challenges to health of all of us. The challenge for society now is how to use all this new information to improve our health outcomes.

Many changes and improvements come not from a top down approach but rather from entrepreneurship. This course will enable students to learn how to identify opportunities to improve health care and to be innovative and entrepreneurial in proposing solutions. It will enable students to assess challenges, evaluate potential solutions, impediments to their implementation and ways and means of improving health and health care delivery.

**Only available to students enrolled in Bachelor of Health and Medical Sciences (Advanced)

Semester offered	*1*
Prerequisites	*HLTH SC 2XXX Hacking Health*
Assumed Knowledge	*N/A*
Incompatible	*N/A*

MAJOR: ADDICTION AND MENTAL HEALTH

The Addiction and Mental Health Major will give you an understanding of the scientific basis of substance abuse and mental health, and review interventions (pharmacological, psychosocial, and public health) used in addiction and mental health fields. To satisfy the requirements for the Addiction and Mental Health Major, students must complete courses to the value of 27 units.

Level I
All of the following courses must be completed:

ANAT SC 1102	Human Biology IA	3 units
* PUB HLTH 1001	Health and Illness in Populations	3 units

Level II
All of the following courses must be completed:

HLTH SC 2XXX	Essential Understanding of Disease and Treatment	3 units

Level III
All of the following courses must be completed:

HLTH SC 3XXXA	Research Placement (Addiction and Mental Health) Part 1	3 units
HLTH SC 3XXXB	Research Placement (Addiction and Mental Health) Part 2	3 units

And
Courses to the value of at least 12 units from the following:

PHARM 3XXX	Assessment and Treatment of Addiction	3 units
PHARM 3XXX	Biological and Psychosocial Factors in Addiction	3 units
PHARM 3XXX	Drug Action and Therapeutics	3 units
PSYCHIAT 3200	Fundamentals of Biological Psychiatry	3 units

NOTES: Highlighted courses will first be offered in 2018.

* This course was previously called Public Health IA, and will be renamed from 2017.

MAJOR: CLINICAL TRIALS

The Clinical Trials Major will allow you to acquire the expertise needed to design, develop and conduct clinical trials in hospitals, research organisations/institutes and pharmaceutical companies. To satisfy the requirements for the Clinical Trials Major, students must complete courses to the value of 27 units.

Level I
All of the following courses must be completed:

ANAT SC 1102	Human Biology IA	3 units

Level II
All of the following courses must be completed:

HLTH SC 2XXX	Essential Understanding of Disease and Treatment	3 units
PUB HLTH 2XXX	Epidemiology for Health and Medical Sciences	3 units

Level III
All of the following courses must be completed:

HLTH SC 3XXXA	Research Placement (Clinical Trials) Part 1	3 units
HLTH SC 3XXXB	Research Placement (Clinical Trials) Part 2	3 units

And
Courses to the value of at least 12 units from the following:

HLTH SC 3XXX	Clinical Trials Management: Principles and Practice	3 units
PHARM 3XXX	Drug Action and Therapeutics	3 units
PHARM 3XXX	Preclinical Drug Discovery & Development	3 units
PUB HLTH 3XXX	Design and Analysis of Experimental Studies	3 units

NOTES: Highlighted courses will first be offered in 2018.

MAJOR: MEDICAL SCIENCES

The Medical Sciences Major will enable you to understand how the human body functions in health and disease, and how treatments for disease are developed. You will gain an understanding of the fundamental medical science disciplines of anatomy, physiology, and pathology. To satisfy the requirements for the Medical Sciences Major, students must complete courses to the value of 27 units.

Level I

All of the following courses must be completed:

ANAT SC 1102 Human Biology IA ..... 3 units

Level II

Courses to the value of at least 6 units from the following:

ANAT SC 2XXX Musculoskeletal Anatomy ..... 3 units
HLTH SC 2XXX Essential Understanding of Disease and Treatment ..... 3 units
PHYSIOL 2510 Physiology IIA: Heart, Lung & Neuromuscular Systems ..... 3 units

Level III

All of the following courses must be completed:

HLTH SC 3XXXA Research Placement (Medical Sciences) Part 1 ..... 3 units
HLTH SC 3XXXB Research Placement (Medical Sciences) Part 2 ..... 3 units

And

Courses to the value of at least 12 units from the following:

ANAT SC 3101 Anthropological and Forensic Anatomy III ..... 3 units
ANAT SC 3XXX Applied Clinical Anatomy ..... 3 units
PATHOL 3100 Topics in Forensic Sciences ..... 3 units
PATHOL 3XXX Investigative Cell Biology ..... 3 units
PATHOL 3XXX Essentials of Pathology ..... 3 units
PHYSIOL 3120 Neuromotor Control of Human Movement ..... 3 units
PHYSIOL 3200 Advanced Exercise Science ..... 3 units
PHYSIOL 3XXX Cellular & Systems Neurobiology ..... 3 units
PHYSIOL 3XXX Integrated and Applied Systems Physiology ..... 3 units

NOTES: Highlighted courses will first be offered in 2018.

MAJOR: NEUROSCIENCES

Neurosciences major will equip you with an understanding of how the nervous system regulates the body and behaviour with a view to finding ways to prevent or cure neurological disorders. To satisfy the requirements for the Neurosciences Major, students must complete courses to the value of 27 units.

Level I

All of the following courses must be completed:

ANAT SC 1102 Human Biology IA ..... 3 units

Level II

Courses to the value of at least 6 units from the following:

ANAT SC 2XXX Foundations of Human Neuroanatomy ..... 3 units
HLTH SC 2XXX Essential Understanding of Disease and Treatment ..... 3 units
PHYSIOL 2510 Physiology IIA: Heart, Lung & Neuromuscular Systems ..... 3 units

Level III

All of the following courses must be completed:

HLTH SC 3XXXA Research Placement (Neurosciences) Part 1 ..... 3 units
HLTH SC 3XXXB Research Placement (Neurosciences) Part 2 ..... 3 units

And

Courses to the value of at least 12 units from the following:

PATHOL 3200 Neurological Diseases ..... 3 units
PATHOL 3XXX Principles of Neuroimmunology ..... 3 units
PHYSIOL 3120 Neuromotor Control of Human Movement ..... 3 units
PHYSIOL 3XXX Cellular & Systems Neurobiology ..... 3 units
PSYCHIAT 3200 Fundamentals of Biological Psychiatry ..... 3 units

NOTES: Highlighted courses will first be offered in 2018.

MAJOR: NUTRITIONAL HEALTH

The Nutritional Health Major will explore our body's mechanical and physiological responses to food including how we use energy and nutrients from the food we eat. To satisfy the requirements for the Nutritional Health Major, students must complete courses to the value of 27 units.

Level I

All of the following courses must be completed:

ANAT SC 1102 Human Biology IA ..... 3 units

Level II

All of the following courses must be completed:

HLTH SC 2100 Fundamentals in Human Nutrition ..... 3 units
PHYSIOL 2520 Physiology IIB: Systems & Homeostasis ..... 3 units

Level III

All of the following courses must be completed:

HLTH SC 3XXXA Research Placement (Nutritional Health) Part 1 ..... 3 units
HLTH SC 3XXXB Research Placement (Nutritional Health) Part 2 ..... 3 units

And

Courses to the value of at least 12 units from the following:

FOOD SC 3502WT Nutrition III ..... 3 units
FOOD SC 3505WT Public Health Nutrition III ..... 3 units
HLTH SC 3100 Exercise, Nutrition & Metabolism ..... 3 units
HLTH SC 3200 Life Span Nutrition ..... 3 units
PUB HLTH 3XXX Public Health Nutrition: Ideology, Individuals and Industry ..... 3 units

NOTES: Highlighted courses will first be offered in 2018.

MAJOR: PUBLIC HEALTH

In the Public Health Major, you will learn how to measure the health of populations, understand how social, cultural and economic factors influence contemporary health problems in Australia and internationally, and develop practical skills in health promotion and health educational strategies. To satisfy the requirements for the Public Health Major, students must complete courses to the value of 27 units.

Level I

All of the following courses must be completed:

* PUB HLTH 1001 Health and Illness in Populations ..... 3 units

Level II

All of the following courses must be completed:

PUB HLTH 2200 Social Foundations of Health II ..... 3 units
PUB HLTH 2XXX Epidemiology for Health and Medical Sciences ..... 3 units

Level III

All of the following courses must be completed:

HLTH SC 3XXXA Research Placement (Public Health) Part 1 ..... 3 units
HLTH SC 3XXXB Research Placement (Public Health) Part 2 ..... 3 units

And

Courses to the value of at least 12 units from the following:

PUB HLTH 3124 Health Promotion III ..... 3 units
PUB HLTH 3XXX Big Challenges in Public Health ..... 3 units
PUB HLTH 3XXX Practical Epidemiology in Health Sciences ..... 3 units
PUB HLTH 3XXX Reawakening Health Systems: Dreams and Realities ..... 3 units

NOTES: Highlighted courses will first be offered in 2018.

* This course was previously called Public Health IA, and will be renamed from 2017.

MAJOR: REPRODUCTIVE AND CHILDHOOD HEALTH

The Reproductive and Childhood Health Major will equip you with knowledge about fertility, conception, pregnancy and birth. You will also learn about key health issues that affect children and adolescents. To satisfy the requirements for the Reproductive and Childhood Health Major, students must complete courses to the value of 27 units.

Level I

All of the following courses must be completed:

ANAT SC 1102 Human Biology IA.....3 units

Level II

All of the following courses must be completed:

ANAT SC 2109 Biology & Development of Human Tissues.....3 units
PUB HLTH 2XXX Epidemiology for Health and Medical Sciences.....3 units

Level III

All of the following courses must be completed:

HLTH SC 3XXXA Research Placement (Reproductive and Childhood Health) Part 1.....3 units
HLTH SC 3XXXB Research Placement (Reproductive and Childhood Health) Part 2.....3 units

And

Courses to the value of at least 12 units from the following:

HLTH SC 3XXX Infant, Child and Adolescent Health.....3 units
HLTH SC 3XXX Reproductive Health Matters.....3 units
OB&GYNAE 3XXX Reproductive Biology.....3 units
PAEDIAT 3XXX Biology of Childhood Growth, Development and Health.....3 units

NOTES: Highlighted courses will first be offered in 2018.

COURSE DESCRIPTIONS: New courses for the program suite

NOTE: Information on existing courses can be obtained from Course Planner.

ANAT SC 2XXX Foundations of Human Neuroanatomy **3 units**

This course is designed to introduce students to basic concepts in neuroanatomy including: gross and microscopic organization of the central nervous system, normal and pathological CNS functioning, nervous system development, and the development and evolution of the CNS. In order to accomplish this aim, nervous system structure, function and pathology are integrated, drawing on information and techniques from cellular, systems and clinical neuroscience. Lectures are supplemented with weekly tutorial and practical sessions. Tutorials include small group activities, designed to reinforce key concepts. Practicals include the study of human brain and spinal cord prosections and models. Students will also undertake a group research project in order to enhance their development of scientific research skills: forming collaborations, writing research proposals, presenting research findings and responding to critical questions.

Semester offered	*1*
Prerequisites	*ANAT SC 1102 or BIOL1101 or BIOL 1310 or equivalent*
Assumed Knowledge	*N/A*
Incompatible	*N/A*

ANAT SC 2XXX Musculoskeletal Anatomy **3 units**

This course will provide students with a comprehensive understanding of the gross anatomy, function and integration of the neuro-musculoskeletal system, with an emphasis on clinical problem solving related to common injuries and movement dysfunction. Syllabus content will include advanced regional and sectional anatomy of the upper and lower limbs, vertebral column, diaphragm and abdominopelvic structures, and the head/neck with an emphasis on the musculoskeletal system (osteology and arthrology), relevant parts of the nervous system and vasculature. Students will learn how to recognise major neural plexuses and peripheral nerves and their innervation to muscle groups and skin, and consequently be able to identify the impact of injury on motor and sensory function. The effects of growth and development, maturation and ageing on the musculoskeletal system will also be studied. In addition, advanced functional aspects of joint anatomy and common pathological manifestations will be discussed for select anatomical regions. Teaching sessions will be delivered using a blended-learning approach; content delivered using a combination of didactic and online lectures, and contextualised learning enforced in weekly practical resource sessions, the latter using prosected human material, anatomical models and medical images (MSCT, MRI, conventional radiography and ultrasound) to promote deep learning.

Semester offered	*1*
Prerequisites	*ANAT SC 1102*
Assumed Knowledge	*ANAT SC 1103*
Incompatible	*ANAT SC 2000*

ANAT SC 3XXX Applied Clinical Anatomy **3 units**

This course will enable students to gain a better appreciation of the structural and functional relationships in the human body and to enable a better understanding of the body in health and disease. Delivered as a series of lectures, small group discovery experiences, a short project, presentations and practicals it will cover the regions of the body routinely examined clinically as part of an initial patient assessment. Clinically applied anatomy of the head and neck, including the nervous system, thorax, abdomen, pelvis and limbs will be emphasised and reinforced by cadaveric dissections, surface anatomy, imaging and clinical testing. The course will be useful for students considering medicine or paramedical careers where an initial assessment of clients or patients is mandatory.

Semester offered	*1*
Prerequisites	*ANAT SC 2XXX Musculoskeletal Anatomy*
Assumed Knowledge	*ANAT SC 1102 and 1103*
Incompatible	*N/A*

HLTH SC 2XXX Essential Understanding of Disease and Treatment **3 units**

The course provides a general introduction to pathology and basic pharmacological concepts and principles needed to understand mechanisms of disease and treatment. Topics covered include the classification, causes and mechanisms of basic tissue processes which underlie disease and how drugs interact with cellular target molecules, as well as for the cellular and physiological responses resulting from such interactions. These concepts will be illustrated by examining major drug classes and their use in the treatment of major human diseases.

Semester offered	*1*
Prerequisites	*ANAT SC 1102 or BIOLOGY 1101*
Assumed Knowledge	*ANAT SC 1103 or BIOLOGY 1201*
Incompatible	*PHARM 2100 AND PATHOL 2200*

HLTH SC 3XXX Clinical Trials Management: Principles and Practice **3 units**

This course will teach the practical aspects of clinical trial conduct such as synopsis and protocol writing, principles of informed consent, study conduct and follow up, adverse event reporting, report writing, as well as the principles of Good Clinical Practice. This will be done within the regulatory and reporting framework for clinical trials.

Semester offered	*2*
Prerequisites	*N/A*
Assumed Knowledge	*PUB HLTH 3XXX Design and Analysis of Experimental Studies*
Incompatible	*N/A*

HLTH SC 3XXX Infant, Child and Adolescent Health **3 units**

Students will investigate infant, child and adolescent health from clinical, epidemiological and social perspectives. Topics will include parenting, social and emotional development, and a range of infectious diseases, non-communicable conditions and mental health disorders. Changes in occurrence over time, prevention and management of these diseases, conditions and disorders will be considered. Health across childhood of Aboriginal people and other disadvantaged groups will receive special attention, along with strategies to reduce inequalities in infant, child and adolescent health. Students will have opportunities to hear from scientists and practitioners with relevant expertise. Active learning will be encouraged, for example, through guided reading and group exercises. Students will enhance skills in analysis of literature and in creating a coherent written account of a body of work.

Semester offered	*1*
Prerequisites	*PUB HLTH 2XXX Epidemiology for Health and Medical Sciences*
Assumed Knowledge	*PUB HLTH 1001*
Incompatible	*N/A*

HLTH SC 3XXX Reproductive Health Matters **3 units**

In this course, students will consider reproductive health from clinical, epidemiological and social perspectives. Topics will include the occurrence and prevention of sexually transmitted diseases, sex education and contraception, and health care in pregnancy. Historical trends in maternal and neonatal outcomes will be considered and the basis for significant improvements since the 19th century. Reproductive health of Aboriginal people and other disadvantaged groups will receive special attention, along with strategies to reduce inequalities in reproductive health. Students will have opportunities to hear from scientists and practitioners with relevant expertise. Active learning will be encouraged, for example, through guided reading and group exercises. Students will enhance skills in analysis of literature and in creating a coherent written account of a body of work.

Semester offered	*2*
Prerequisites	*PUB HLTH 1001 and PUB HLTH 2XXX Epidemiology for Health and Medical Sciences*
Assumed Knowledge	*N/A*
Incompatible	*OB&GYNAE 3000*

HLTH SC 3XXXA and B Research Placement (Addiction and Mental Health) Part 1 and 2 **2 x 3 units**
HLTH SC 3XXXA and B Research Placement (Clinical Trials) Part 1 and 2 **2 x 3 units**
HLTH SC 3XXXA and B Research Placement (Medical Sciences) Part 1 and 2 **2 x 3 units**
HLTH SC 3XXXA and B Research Placement (Neurosciences) Part 1 and 2 **2 x 3 units**
HLTH SC 3XXXA and B Research Placement (Nutritional Health) Part 1 and 2 **2 x 3 units**
HLTH SC 3XXXA and B Research Placement (Public Health) Part 1 and 2 **2 x 3 units**
HLTH SC 3XXXA and B Research Placement (Reproductive and Childhood Health) Part 1 and 2 **2 x 3 units**

The Research Placement course is a capstone experience designed to develop research skills in third-year students through a year-long research placement related to their major. Students will design a project, learn research methodology in performing the project, analyse, interpret and communicate the findings of a research project or internship placement under academic supervision in a Small Group Discovery Experience.

The research placement experience will be supported by workshop modules and journal club sessions. These will include:
1. Common modules on core competencies (e.g. research integrity, research ethics),
2. Major-specific modules including journal clubs to develop evaluation skills
3. A fixed number of skills modules selected according to skills required for the specific placement and the student's existing skills/courses already completed (e.g. systematic review principles, laboratory research design).

Each student will document their research activities with a final written report, and in addition will communicate their research findings at an end-of-year symposium.

** Only available to Bachelor of Health and Medical Sciences and Bachelor of Health and Medical Sciences (Adv) students. Students may only complete a single 6 unit research placement, within their chosen major.

Semester offered	*1 and 2 (continuing)*
Prerequisites	*HLTH SC 2XXX Reflect, Research, Resolve for BHlthMedSc students or HLTH SC 2XXX Hacking Health for BHtlhMedSc (Adv) students, as well as the compulsory course(s) at level 2 specified for each of the 7 majors.*
Assumed Knowledge	*N/A*
Incompatible	*N/A*

OB&GYNAE 3XXX Reproductive Biology **3 units**

In this course, students will investigate the biological processes of reproduction, including the endocrinology and physiology of male and female reproduction, puberty, lactation and menopause. They will gain an understanding of the determinants of fertility and infertility, and how reproductive biotechnology is used to overcome poor fertility. This course will also include a focus on the biology of normal and disordered pregnancy. Students will explore how reproductive biology impacts other aspects of health, exploring implications of early life exposures for later health and of the biology of reproductive cancers. Social and ethical implications of reproductive technologies and research will be discussed within appropriate topics. Students will have opportunities to hear from scientists and practitioners with relevant expertise. Active learning will be encouraged, for example, through guided reading and group exercises. Students will enhance skills in analysis of literature and in creating a coherent written account of a body of work.

Semester offered	*2*
Prerequisites	*ANAT SC 1102 and ANAT SC 2109*
Assumed Knowledge	*N/A*
Incompatible	*OB&GYNAE 3000*

PAEDIAT 3XXX Biology of Childhood Growth, Development and Health **3 units**

In this course, students will investigate the biological processes underlying infant, child and adolescent growth, development and health. This will include discussion of normal and perturbed neonatal, infant, child and adolescent growth and development, specific exploration of neurodevelopment and its assessment and the processes of learning. We will investigate the biology, prevention and management of common childhood diseases, and conclude with discussions of the adolescent, including sex hormones and gender. Social and ethical implications of current practice, interventions and research will be discussed within appropriate topics. Students will have opportunities to hear from scientists and practitioners with relevant expertise. Active learning will be encouraged, for example, through guided reading and group exercises. Students will enhance skills in analysis of literature and in creating a coherent written account of a body of work.

Semester offered	*1*
Prerequisites	*ANAT SC 1102 and ANAT SC 2109*
Assumed Knowledge	*N/A*
Incompatible	*N/A*

PATHOL 3XXX Essentials of Pathology **3 units**

Essentials of Pathology is designed to present students with essential concepts of pathological processes and altered health states. The course looks in depth at a wide variety of common pathological conditions. General topics covered include the nature and causes of cell injury and death; adaptive cellular changes; inflammation, healing and repair, thrombosis, infarction and neoplasia. More detailed attention is given to cardio and cerebrovascular pathology, gastrointestinal diseases, bone and joint diseases and common cancers. Clinical scenarios within each module correlate the anatomical pathology with major clinical symptoms and signs. In addition to lectures, small group tutorials provide an opportunity for students to examine macroscopic and microscopic specimens illustrating the pathology covered in lectures.

Semester offered	*1*
Prerequisites	*HLTH SC2XXX Essential Understanding of Disease and Treatment or PHYSIOL 2510*
Assumed Knowledge	*N/A*
Incompatible	*PATHOL 3003*

PATHOL 3XXX Investigative Cell Biology **3 units**

Investigative Cell Biology will provide students with a foundation to be effective researchers by providing an understanding of current areas of medical research and knowledge of a variety of laboratory and analytical skills used to investigate these. This course will develop the research skills to prepare students for both a research position as well as postgraduate study. Investigative Cell Biology specifically investigates methodology used to answer real life research questions. Assessment tasks are given during the semester and will develop skills as a scientific researcher such as communication and critical analysis.

Investigative Cell Biology has been designed to enable students to develop and improve various skills such as critical thinking, critical evaluation and analysis as well as academic writing, time management and an understanding of planning and conducting research. This exciting and stimulating course will be based around several themes and will be presented by internationally recognised researchers from the Faculty of Health Sciences. Each theme will have a biology and pathology background component introducing students to the lecturers' field of research. This will be followed by review and discussion of research techniques and findings in their research fields and laboratories.

Tutorials/workshops will be held with a specific emphasis on the theory and process of current techniques/models, including the application of the method, via videos and examples from scientific ppr. In workshops students may be asked to critically evaluate the information gained from and limitations of the use of particular technique to answer research questions in scientific publications/examples. Students are expected to come along to workshops and be prepared to interact with the lecturer/tutors. This course will stimulate an interest in biological and pathological processes and how scientific research and methodology investigates these. Each of the different assessment components is aimed at developing and improving each student's research skills.

Semester offered	*2*
Prerequisites	*HLTHSC 2XXX Essential Understanding of Disease and Treatment*
Assumed Knowledge	*N/A*
Incompatible	*ANAT SC 3104*

PATHOL 3XXX Principles of Neuroimmunology **3 units**

Although the brain was traditionally considered an "immune privileged" organ, in recent decades, it has become clear that inflammation in the brain actually plays a critical role in disease. This course is designed to introduce students to essential concepts in the field of neuroimmunology. The course will begin with a basic introduction to the nervous system and immune system. Later modules will explore the role of both acute and chronic inflammation in neurological disease, as well as the therapeutic potential of targeting the immune system for the treatment of neurological disease. Each module consists of a lecture series and large group tutorial session. Large group tutorials include small group activities and worksheets designed to reinforce key course concepts.

Semester offered	*1*
Prerequisites	*ANAT SC 1102 or BIOL1101 or BIOL 1310 or equivalent*
Assumed Knowledge	*N/A*
Incompatible	*N/A*

PHARM 3XXX Assessment and Treatment of Addiction **3 units**

This course will help you understand pathways from dependence to recovery and how we match the treatment to the patient's goals. First we will look at how we can identify risky use and intervene early. An extensive range of treatments is available to support people with moderate to severe dependence, depending on their goals. Some treatments will address physical dependence, while others focus on psychological factors and reintegration into the community. We will review the range of psychosocial and pharmacological treatments that can be used to support people to manage withdrawal and prevent relapse. Evidence-base of treatments, policy options and public health approaches will be reviewed. Population groups with special needs, and the rationale for addressing those special needs, will be discussed. The treatment of comorbidities, particularly mental health and substance use disorders, is an important example of special needs that will be addressed in some detail. Hurdles to access treatment will be reviewed as well as, the place of systematic reviews and guidelines in promoting the translation of evidence into practice.

Semester offered	*2*
Prerequisites	*N/A*
Assumed Knowledge	*HLTH SC 2XXX Essential Understanding of Disease and Treatment; PUB HLTH 1001; and PHARM 3XXX Biological and Psychosocial Factors in Addiction*
Incompatible	*N/A*

PHARM 3XXX Biological and Psychosocial Factors in Addiction **3 units**

Everyone differs in their susceptibility to develop addiction. We respond differently to drugs of abuse, have different side-effects and develop problem behaviour at a different rate. This course explores the factors that can increase or decrease the chance that someone will develop addictive behaviour. We will explore the effects of individual substances and learn how the body adapts to continued drug use. Addiction is more than just using drugs often. The biological changes that happen with long-term drug use go far beyond the initial local adaptations in the brain. Understanding this is important to help people manage their long-term use. In this course, we will explore the biological basis of addictions, but also review environmental and psychological factors that are important contributors to the development of addiction. Behavioural addictions have a lot in common with substance addictions. We will explore these links and look at other new developments in the research on the biological basis of addiction.

Semester offered	*1*
Prerequisites	*N/A*
Assumed Knowledge	*HLTH SC 2XXX Essential Understanding of Disease and Treatment*
Incompatible	*N/A*

PHARM 3XXX Drug Action and Therapeutics **3 units**

The course will provide students with an understanding of how drugs are used as therapeutics. Students will gain an understanding of drug-receptor interactions. Particular emphasis will be given to the key factors that influence and govern the effects of drugs within the body, ranging from molecular determinants to physiological factors that control disposition of drugs within the body. Selected systems pharmacology examples will be given to illustrate contemporary approaches to treatment of disease. The practical component of this course will demonstrate key issues from the theoretical part of the course as well as providing laboratory and experimental proficiency for students, ensuring they gain an appreciation for studying drug actions at different levels of biological organisation, ranging from simple in vitro systems (e.g. organ baths) to whole animals.

Semester offered	*1*
Prerequisites	*HLTH SC 2XXX Essential Understanding of Disease and Treatment OR at least 6 units in either of Level II Biochemistry, Chemistry or Physiology courses (or equivalent with approval of Head of School)*
Assumed Knowledge	*N/A*
Incompatible	*PHARM 3010*

PHARM 3XXX Preclinical Drug Discovery & Development **3 units**

This course will provide students with a fundamental knowledge of drug discovery and development with a preclinical focus. This includes both conventional, historical and contemporary approaches to sourcing and developing new drugs, from natural sources through to rational drug design, lead optimisation and both in vitro and in vivo screening approaches for drug efficacy and safety, including pharmacogenomic and pharmacokinetic considerations. Additional topics in commercialisation from industry and academic perspectives provide students with a comprehensive knowledge of how new drugs are sourced, developed and evaluated for effectiveness and safety prior to clinical testing.

Semester offered	*2*
Prerequisites	*N/A*
Assumed Knowledge	*HLTH SC 3XXX Drug Action and Therapeutics*
Incompatible	*PHARM 3010 or PHARM 3011*

PHYSIOL 3XXX Cellular & Systems Neurobiology **3 units**

The Cellular & Systems Neurobiology course encompasses the study of the mammalian central and peripheral nervous system, from the level of ion channels, receptors, and cell signalling mechanisms, through the integrated roles of brain and nerves in sensory perception, homeostasis, higher cognition, learning and memory. Research case studies from the primary literature are used to explore cutting edge concepts, introduce methods, and develop critical evaluation skills. In-class review sessions are provided to assist with revising key material. Conceptual knowledge is assessed with four block exams through the semester, and on-line tutorials.

Semester offered	*1*
Prerequisites	*PHYSIOL 2510*
Assumed Knowledge	*PHYSIOL 2520*
Incompatible	*PHYSIOL 3001: Cellular and Systems Neurobiology (6 units)*

PHYSIOL 3XXX Integrated and Applied Systems Physiology **3 units**

The Integrated and Applied Systems Physiology course is designed to challenge and stimulate your interest in how the integration of organ systems is necessary for whole body function. We will use examples that focus on the complex integration of multiple systems, including neural, gastrointestinal and cardiovascular, which enable human function. The lecture stream offers a series of independent modules covering the following main topics: cardiovascular and respiratory health and disease, gastrointestinal function and nutrient signalling, and bone marrow development. An added dimension of many of the topics is the physiological basis of the development of common diseases and changes that occur throughout the lifespan. Assessment tasks are designed to encourage, application of knowledge in to practice.

Semester offered	*2*
Prerequisites	*PHYSIOL 2510 OR PHYSIOL 2520*
Assumed Knowledge	*PHYSIOL 2510*
Incompatible	*PHYSIOL 3000 (6 unit course)*

PUB HLTH 2XXX Epidemiology for Health and Medical Sciences **3 units**

This course introduces key approaches and concepts used in epidemiology to assess the health of populations. Principles of data collection will be explored and applied. Students will use statistical concepts and software to manipulate and analyse data to illustrate key epidemiological measures and concepts. By the end of the course students will be equipped to understand published epidemiological research, and gain practical skills in analysing and interpreting results. Examples will be drawn from a range of disciplines including Nutritional Health, Clinical Trials, Reproductive and Childhood Health, Addiction and Mental Health to illustrate the essential concepts.

Semester offered	*1*
Prerequisites	*N/A*
Assumed Knowledge	*PUB HLTH 1001*
Incompatible	*N/A*

PUB HLTH 3XXX Big Challenges in Public Health **3 units**

What are the "big health challenges" of our time? How can we manage them? In this course we will explore issues such as the use of drugs and alcohol, obesity, ageing and climate change from a range of inter-disciplinary perspectives. At the end of the course students will be able to identify, appraise and consolidate relevant evidence; undertake an effective environmental scanning process to quantify the magnitude of a public health problem or issue; be able to explain and understand major public health problems and issues and make recommendations or provide advice about appropriate interventions to manage them. Much of the learning in this course will be student led and through independent study. Students will participate in a series of public health issue-based topics led by key research groups from the School of Public Health and will contribute to tutorial group discussions about these issues. Students will select a major public health challenge and critically appraise the current evidence from a range of perspectives, evaluate the effectiveness of existing interventions and propose areas for future research. Students will present the findings of their report to their peers at the end of the semester.

Semester offered	*2*
Prerequisites	*N/A*
Assumed Knowledge	*PUB HLTH 1001 OR PUB HLTH 2200*
Incompatible	*N/A*

PUB HLTH 3XXX Design and Analysis of Experimental Studies **3 units**

Principles in the design of experimental studies and practical skills in the statistical analysis of results will be developed in this course. Topics will include construction of research hypotheses, principles of statistical inference, confidence interval estimation, and differences in statistical approaches in the clinical trials setting. Students will undertake analyses of study data where outcomes are continuous or binary, and understand the role of univariable and adjusted analyses. Students will carry out sample size calculations appropriate to different study designs. Interpretation and critical appraisal of published study results using the CONSORT guidelines will be built upon throughout this course.

Semester offered	*1*
Prerequisites	*PUB HLTH 2XXX Epidemiology For Health and Medical Sciences*
Assumed Knowledge	*N/A*
Incompatible	*PUB HLTH 3XXX Practical Epidemiology in Health Sciences*

PUB HLTH 3XXX Practical Epidemiology in Health Sciences **3 units**

This course focuses on the implementation and interpretation of epidemiological concepts and measures, and the essential role of epidemiology in (i) understanding the health of populations and (ii) evaluating public health initiatives. To achieve that, students will deepen their knowledge of the biostatistical concepts that underpin epidemiological analyses. The course will also extend students' practical skills and ability to locate, access, manipulate, analyse, and present data through hands-on use of statistical software. Emphasis will be placed on the principles of epidemiological reasoning and interpretation of findings. At the end of this course students will be able to apply quantitative approaches to address population health challenges, interpret epidemiological information contained in scientific literature, communicate these interpretations to both lay and professional audiences, and think critically about the strengths and limitations of different approaches.

Semester offered	*1*
Prerequisites	*PUB HLTH 2XXX Epidemiology for Health and Medical Sciences*
Assumed Knowledge	*N/A*
Incompatible	*PUB HLTH 3XXX Design and Analysis of Experimental Studies and PUB HLTH 3501*

PUB HLTH 3XXX Public Health Nutrition: Ideology, Individuals and Industry **3 units**

Public health nutrition: ideology, individuals & industry aims to develop critical thinking around contemporary challenges to nutrition. It will extend ideas learned in HLTH SC 2XXX Reflect, Research, Resolve to challenges that are specific to the field of nutrition and improving the nutritional health of populations. This course will draw from case studies to understand higher-level influences on the nutritional health of a population. Attention will be paid to 'up-stream' factors such as Big-Food, supermarkets, food advertising, as well as government action and policy such as fortification, taxes, regulation and law. Students will identify, evaluate and reflect on the advantages and disadvantages of different strategies for improving the nutritional health of the population.

Semester offered	*Winter School*
Prerequisites	*N/A*
Assumed Knowledge	*HLTH SC 2100 OR FOOD SC 2510 WT OR PUB HLTH 2200*
Incompatible	*N/A*

PUB HLTH 3XXX Reawakening Health Systems: Dreams and Realities **3 units**

This is a time of major change in our health care system. The system must meet the health needs of all Australians at a time when health care costs are rapidly increasing and our population is ageing. How can we ensure our health care system is efficient, equitable and the expectations of all Australians are met?

In this course, students will examine how our health care system currently works and explore the various strategies that could improve both the quality and effectiveness of the care that people receive. This will include studying health care policies and how they directly impact on people's lives; following the health care journeys of a variety of Australians to examine how the health care system functions at an individual level and how it interacts with other systems like the social and aged care systems and we will look briefly at how health care systems in other countries work. Students will learn a variety of practical skills such as how to analyse health polices, how to write a policy brief and the importance of advocacy in health care reform.

Semester offered	*2*
Prerequisites	*N/A*
Assumed Knowledge	*PUB HLTH 1001 or PUB HLTH 2200*
Incompatible	*N/A*