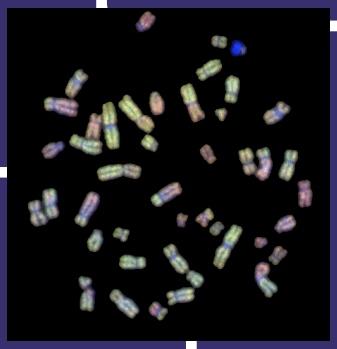
The University of Newcastle
AUSTRALIA



Graduate Certificate in Human Genetics

Why Genetics in Health Care?

Genetics is becoming an integral part of health delivery. With the mapping of the human genome, and the increased profile of genetics in the media, patients are increasingly well informed and questioning their health practitioners about the meaning of genetic screening and uses of genetic technologies.

Advances in genetics has increased the number of available tests across many areas; pregnancy, paediatric and adult care. All health practitioners will become increasingly impacted in their clinical practice, whether through directly ordering tests in general practice, or by identifying, referring, supporting and caring for clients affected by a genetic condition.

Around the globe, the need for genetic education of health professionals is publicly recognised. The Human Genetics Commission (2003) commented that "*nurses would need to be appropriately knowledgeable for advising consumers who were considering genetic tests*" . The Wellcome Trust and DOH United Kingdom concluded that *"a strategic framework for genetics education was necessary for all health professionals."*

The Graduate Certificate In Human Genetics is the first Australian program to meet this need, and one of few distance-learning programs worldwide.

Grad Cert Human Genetics

PROGRAM CODE 11443

ABOUT THE PROGRAM

The Graduate Certificate in Human Genetics is a distance-learning program designed to update health professionals in basic genetics, family history taking, patterns of inheritance, molecular and chromosome testing, chromosomal abnormalities and the ethical and psychosocial impact of genetics on individuals and families. Packages include lecture notes, video and audio material assignments and resources. Elective packages are designed to increase knowledge in the students' specific area of interest.

The program aims to:

- Enable students to feel at ease with genetics
- Teach students how to take a family history efficiently and effectively
- Develop an understanding of specific areas of genetics
- Develop an understanding of current genetic technologies
- To develop an awareness and understanding of the moral and ethical issues in genetic counselling

HOW LONG DOES IT TAKE TO COMPLETE

The program is completed over one year part time (20 units per semester over 1 year).

CAREER PATHWAYS

Students who successfully complete this program will be eligible to apply for admission to the Graduate Diploma in Genetic Counselling. Those wishing to pursue a career in genetic counselling should apply directly to the Graduate Diploma.

COURSE COSTS

It is a full fee paying program. Australian Students may be able to participate in the Postgraduate Education Loans Scheme (PELS). Details of current fee schedules can be obtained by phoning the University on (02) 4921 8695

Module Descriptions

COURSE CONTENT

The program offers February and July intakes. Each subject is offered in both semesters, however HUBS6311 has prerequisites that must be completed before enrolment. The approved program of study is:

Course Code	Course Name	Units
HUBS6301	Human Genetics 1	10
HUBS6310	Introduction to Genetic Counselling	10
HUBS6311	Introduction to Clinical Genetics	20

HUBS6301 HUMAN GENETICS

As an introduction to the field of human genetics, this course covers basic cell structure and function, DNA structure & processes, mitosis and meiosis, human embryology, normal and abnormal cytogenetics, interpretation of different molecular DNA analyses, molecular and cytogenetic correlates of the different forms of inheritance.

HUBS6310 INTRODUCTION TO GENETIC COUNSELLING

This course introduces students to the multi-disciplinary applications of genetic counselling, with emphasis on the physical, psychological and social effects of genetic disease and screening on individuals, families and communities. The course will cover interview skills, pedigree drawing and interpretation, pre-conceptional and prenatal counselling and an introduction to a framework for ethical analysis.

HUBS6311 INTRODUCTION TO CLINICAL GENETICS

This course provides students with a basic understanding of the clinical aspects of common genetic conditions. Students select from the elective options to tailor their learning to their area of interest. Emphasis is on the relevance of all topics to modern preventative and interventional health care, and the psychosocial impact of conditions on the individual, family and community.

Elective topics include:

- Cystic Fibrosis and other Conditions – Genetic mechanisms, clinical systems and available testing for Cystic Fibrosis and common conditions.
- Genetics of Cancer – Genetics of familial breast and colon cancer, and the role of genetic counselling. Issues surrounding presymptomatic testing and the risks and benefits of cancer gene testing are explored.
- Huntington disease - Introduces students to the clinical indications and implications of this disease. Issues surrounding presymptomatic testing and family functioning within this condition are explored.
- Infertility - Introduction to the genetic basis of infertility with reference to genetic conditions, and the impact of infertility on couples. Advances in assisted reproductive technology (ART) for genetic conditions are discussed.
- Haemochromatosis - Clinical, genetic and screening aspects of haemochromatosis covering diagnostic testing and cascade testing principles.
- Intellectual Disability - Overview of genetic and teratogenic causes of intellectual handicap, with particular reference to genetic and management implications for families diagnosed with X-linked mental retardation, and specifically Fragile X syndrome.
- Psychiatric Disorders – Genetic basis of common psychiatric conditions, including Schizophrenia, Aspergers and ADD. Discussing the genetics of intelligence and personality.

Term Dates 2006

Applications Close Grad Dip/Masters for 2006	30 November 2005
Applications Close Grad Cert Sem I intake	26 February 2006
Applications Close Grad Cert Sem II intake	10 July 2006

Term 1 2006

Monday 20 February— Friday 14th April

Monday 1 May—Friday 9 June

Term 2 2006

Monday 17 July—Friday 29 September

Monday 16 October—Friday 3 November

Eligibility

Applicants come from a diverse range of backgrounds including nursing, social work, general medicine, psychology, science, and teaching. To be eligible for the program applicants must hold a bachelor degree, other relevant qualification or have work experience in a relevant field. No prior knowledge of genetics is assumed.

How to Apply

Australian and International students can submit their application online through UAC:

www.uac.edu.au/pg/uac/app_proc_formb.html

For additional assistance, do not hesitate to contact:

Program Convenor: Elvira Zilliacus
Email elvira@agtc.net.au
Phone: (02)4985 3132

Administative Assistant: Cath Williams
Email: cath.williams@newcastle.edu.au
Phone: (02) 49218 695