

GENM0295

PERSONALISED
MEDICINE

COURSE OUTLINE

TRIMESTER 3, 2020

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Please read this manual/outline in conjunction with the following pages on the [School of Medical Sciences website](#):

- [Advice for Students](#)
- [Learning Resources](#)
- [COVID-19 and Online Learning](#)
- [Equitable Learning Services](#)

(or see "STUDENTS" tab at medsciences.med.unsw.edu.au)

Course Introduction

Personalised Medicine (GENM0295) is an undergraduate General Education course, run by the Faculty of Medicine. The acceleration in new technology and genomic science over the last few years has had profound effects on modern medicine and has the potential to revolutionise healthcare. The promise of “personalised medicine” will likely yield significant benefits for patients, yet raises a number of serious ethical and legal issues for clinicians, patients and the wider society. This General Education course will provide students with a framework to understand this rapidly growing field. It will also provide the opportunity to debate the national and international healthcare issues that will arise in parallel with the advent of this genetic revolution.

Course Details

This course is offered during Trimester 3 and has six unit of credit (UOC).

There are no pre-requisites, and the course can be taken in any year of a degree.

This course is delivered in a **blended** format (face to face and online). This means that the face to face contact hours are less than other courses, but that you are expected to study additional hours in your own time. Students are reminded that UNSW recommends that a 6 units-of-credit course should involve about 150 hours of study and learning activities.

The contact hours for this course are 2 hour tutorials every fortnight (Tuesday 1200-1400; weeks 1, 3, 5, 7 & 9).

Course Staff

Course Convenor:

Associate Professor Caroline Ford
Adult Cancer Program, Level 2, Lowy Cancer Research Centre
caroline.ford@unsw.edu.au

Dr. Amir Ariff
Level 2, Lowy Cancer Research Centre
amir.ariff@unsw.edu.au

All students in the course are advised that email is the official means by which the Course Convenor and administrative staff will communicate with them. All email messages will be sent to the student’s official UNSW email address (e.g., z1234567@student.unsw.edu.au). If a student does not wish to use the University email system, they **MUST** arrange for their official mail to be forwarded to their chosen address. The University recommends that students check their mail at least every other day.

Attendance Requirements

Attendance at all tutorials is compulsory and must be recorded in the class roll at the start of each class. Arrival more than 15 minutes after the start of the class will be recorded as non-attendance.

For further information on UNSW attendance policies and procedures concerning students, please see SOMS guidelines indicated under the table of contents.

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Course Aims

The aim of this course is to introduce a general audience to the concept of “personalised medicine”, and the impact that our enhanced understanding of the human genome has had on modern clinical practice.

The last 15 years have yielded significant and rapid advances in our understanding of the human genome, and the impact on human health & clinical practice is already being widely felt. This course will discuss both the potential benefits and possible controversies surrounding the genetic revolution as it relates to healthcare. Students will learn how genetic testing is currently used to guide treatment across a range of diseases including cancer, neurological diseases, metabolic disorders, cardiovascular disease, and infectious disease. In addition, students will explore the power of genetics to impact disease prevention and diagnosis, and the social, legal, political and ethical implications of this new knowledge.

Student Learning Outcomes

At the completion of this course a successful student will be able to:

1. Understand the basic genetic concepts of gene expression, mutation, and how genes are “passed on” to the next generation.
2. Describe the principles of risk determination and provide examples of how genetic testing is currently used to inform medical management.
3. Understand the basic process by which “targeted therapies” are developed, from drug discovery, through clinical trials, to regulatory approval, in both national and international contexts.
4. Describe and debate ethical issues related to the availability and use of direct to consumer genetic testing for determining disease risk and related health outcomes.
5. Describe how research and drug developments in personalised medicine are presented in the media, and the effect this may have on patients, policy & society both locally and globally.
6. Debate the legal, religious, cultural and societal issues surrounding the emerging concept of personalised medicine.

Graduate Attributes

This course will contribute to the following UNSW graduate attributes:

1. The skills involved in scholarly enquiry.
2. The capacity for analytical and critical thinking and for creative problem-solving.
3. The ability to engage in independent and reflective learning.
4. Information literacy: the skills to appropriately locate, evaluate and use relevant information.
5. An appreciation of, and respect for, diversity.
6. A capacity to contribute to, and work within, the international community.
7. A respect for ethical practice and social responsibility.

See also: medsciences.med.unsw.edu.au/students/undergraduate/advice-students#graduate

Teaching Strategies

The course employs a variety of teaching modes to facilitate student learning. These include:

1. A series of short online videos, resources, polls and discussion forums that introduce key concepts about the current use of personalised medicine. Students should aim to spend at least 2 hours every week engaging with the online content.
2. Tutorials (10 hours in total) that extend and amplify students' understanding of concepts and materials presented in lectures and explore the impact of personalised medicine on wider society.
3. Individual and group study. Students will undertake individual and group study to complete key assessment tasks throughout the course (see Assessment).

Learning is supported via Moodle. Announcements, timetables, lecture slides and other resources will be made available on Moodle during the course.

Course Evaluation and Development

For course evaluation, feedback has been gathered at the completion of the course, using among other means, UNSW's Course and Teaching Evaluation and Improvement Process and myExperience. Student feedback is taken seriously, and continual improvements are made to the course based, in part, on such feedback.

Assessment

For UNSW assessment information and policy, see: student.unsw.edu.au/assessment

Assessment for GENM0295 includes both individual and group work.

<i>Short oral presentation</i>	15%
<i>Contributions to online discussion forums</i>	25%
<i>Essay/opinion piece</i>	40%
<i>Group presentation</i>	20%

Short oral presentation (15%)

Students will prepare and present a 3 minute oral presentation on an area of controversy in personalised medicine. This talk will be given in the tutorial class and students will receive feedback from tutors and other students.

Contributions to online discussion forums (25%)

Students will contribute to online discussion forums on the course Moodle site. Contributions must be considered and respectful. Students should aim to make a minimum of one entry per week between 100-200 words.

Essay/opinion piece (40%) and Group presentation (20%)

Students will work in small groups (4-6 students) on a project on one topic in the area of personalised medicine. Students will individually write a comprehensive 1,500 word report on the topic. Students can write a traditional essay or choose to write from a specific viewpoint (e.g. patient, doctor, health minister, genetic counsellor, conservative newspaper columnist). Students will have the opportunity to receive direction and guidance from course tutors during the tutorial sessions. The essay is due at the end of week 8.

The group presentation will be given in the final tutorial (week 10). Students will present a 10-15 minute oral presentation as a group on the same topic as their essay. Students will be given the choice of format - a traditional lecture, debate, panel discussion or video.

Note: Penalties will apply for late submission of work.