

Course Outline

Code: BIM202 Title: Medical Genetics

School: Health & Sport Sciences
Teaching Session: Semester 2
Year: 2020
Course Coordinator: Dr Anna Kuballa Email: akuballa@usc.edu.au
Course Moderator: Dr Ann Parkinson Email: aparkins@usc.edu.au

Please go to the USC website for up to date information on the teaching sessions and campuses where this course is usually offered.

1. What is this course about?

1.1 Description

Medical genetics will provide you with an overview of the role of genetic factors in human health and disease. Rapid advancements in technology, including human genome sequencing, are allowing genetics to play an increasingly important role in medicine. Medical genetics uses inquiry-based learning in lecture, laboratory and tutorial classes to explain concepts such as: personalised medicine, the genetics of cancer, epigenetics, genetic immunity, human microbiome, genetic screening and reproductive genetics, genetic counselling and ethics, and common molecular and cytogenetic diagnostic techniques.

1.2 Field trips, WIL placements or activities required by professional accreditation

Activity	Details
Nil	Nil

2. What level is this course?

200 level Developing – Applying broad and/or deep knowledge and skills to new contexts. May require pre-requisites and introductory level knowledge/skills. Normally undertaken in the 2nd or 3rd year of an undergraduate program.

3. What is the unit value of this course?

12 units

4. How does this course contribute to my learning?

Specific Learning Outcomes	Assessment tasks	Graduate Qualities or Professional Standards mapping
On successful completion of this course, you should be able to:	You will be assessed on the learning outcomes in task/s:	Completing these tasks successfully will contribute to:
Describe and interpret the concepts and principles behind the genetic regulation of health and disease and how our understanding of these processes can	Task 1, 2 & 3	Knowledgeable. Sustainability-focused.

Specific Learning Outcomes On successful completion of this course, you should be able to:	Assessment tasks You will be assessed on the learning outcomes in task/s:	Graduate Qualities or Professional Standards mapping Completing these tasks successfully will contribute to:
lead to improved health outcomes for individuals and communities.		
Collect, accurately record, interpret and draw conclusions from scientific data	Task 1	Empowered
Describe and critically analyse ethical issues associated with genetic research, counselling and diagnostics.	Task 1 & 2	Ethical
Gather, synthesise and critically evaluate information from a range of sources and communicate this information to a range of audiences using multi-media.	Task 2	Empowered

5. Am I eligible to enrol in this course?

Refer to the [USC Glossary of terms](#) for definitions of “pre-requisites, co-requisites and anti-requisites”.

5.1 Enrolment restrictions

Nil

5.2 Pre-requisites

LFS100 or LFS103

5.3 Co-requisites

LFS100 or LFS103 and enrolled in SC357

5.4 Anti-requisites

Nil

5.5 Specific assumed prior knowledge and skills (where applicable)

It is recommended that students have some prerequisite knowledge of basic cell biology, and research methodology.

6. How am I going to be assessed?

6.1 Grading scale

Standard – High Distinction (HD), Distinction (DN), Credit (CR), Pass (PS), Fail (FL)

6.2 Details of early feedback on progress

BIM202 will include early assessment with the completion of weekly tutorial and laboratory class activities beginning in Week 3. You will receive both formative and summative feedback on low stakes assessment items that are designed to allow you to apply your medical genetics knowledge in both written and practical contexts.

6.3 Assessment tasks

Task No.	Assessment Product	Individual or Group	Weighting %	What is the duration / length?	When should I submit?	Where should I submit it?
1	Quiz/zes	Individual	40	2 hours	Week 3, Week 6, Week 9, Week 12.	Quiz (Online Test)
2	Artefact - Technical and Scientific, and Written Piece	Choice	20	500 words	Week 10	Online Assignment Submission with Plagiarism check
3	Examination	Individual	40	2 hours	Central exam period	Exam Venue
			100%			

Assessment Task 1: Theoretical and practical portfolio quizzes

Goal:	You will actively engage in and demonstrate learning of the theoretical and practical concepts of medical genetics that have been delivered in the online lectures, tutorial and laboratory classes.
Product:	Quiz/zes
Format:	Four online quizzes, each worth 10%, based on the theoretical and practical concepts covered in lectures, tutorials and laboratory classes. The quizzes are to be completed individually in Weeks 3, 6, 9 and 12. The quizzes may consist of multiple-choice questions and written responses to short answer style questions.
Criteria:	You will be assessed on the following: <ul style="list-style-type: none"> • demonstration of depth and breadth of knowledge of the theoretical content • ability to critically analyse and solve medical genetics problems • ability to collect, accurately record, interpret and draw conclusions from medical genetics experiments • understanding of the ethical frameworks of genetic counselling and research in a medical genetics setting.

Assessment Task 2: Medical genetics assignment

Goal:	You will explore and develop an understanding of the concepts associated with medical genetics, and will gain skills in the review and critical analysis of relevant literature, and the communication of information to a broader audience. If you opt to work in a group you will also gain skills in team work.
Product:	Artefact - Technical and Scientific, and Written Piece
Format:	You will work as either an individual or in a group to review scientific literature and produce a 500-word written assignment, with the incorporation of appropriate diagrams, to describe the molecular mechanisms associated with a genetic disorder. Detailed instructions along with other resources will be available on Blackboard. The assignment with in-text references and reference list will be submitted to Blackboard SafeAssign for review (text matching software for plagiarism checking) in Week 10.
Criteria:	You will be assessed on: <ul style="list-style-type: none"> • critical analysis of the topic and synthesis of information, • the scientific merit of the factual information presented, • communication skills including writing style (grammar, vocabulary, spelling, logical order)

Assessment Task 3: End of semester examination

Goal:	Task 3 will assess your understanding of and ability to apply theoretical knowledge of the concepts relevant to medical genetics.
Product:	Examination
Format:	An individual, two-hour final examination, consisting of multiple choice and short answer style questions.
Criteria:	You will be assessed on demonstration of knowledge, critical analysis and ability to provide correct answers to questions on the theoretical content covered in the course.

7. Directed study hours

The directed study hours listed here are a portion of the workload for this course. A 12-unit course will have total of 150 learning hours which will include directed study hours (including online if required), self-directed learning and completion of assessable tasks. Directed study hours may vary by location. Student workload is calculated at 12.5 learning hours per one unit.

This course will be delivered via technology-enabled learning and teaching. All lectures/workshops will remain in this mode for Semester 2 2020. When government guidelines allow, and if practical, students that elected on-campus study via the class selection process will be advised via Blackboard if/when on-campus sessions can resume.

Location:	Directed study hours for location:
USC Sunshine Coast	Lectures – one hour per week Tutorials – one hour per fortnight Practicals – three hour laboratory classes per fortnight Tutorial and practical classes are delivered on alternating weeks

8. What resources do I need to undertake this course?

Please note that course information, including specific information of recommended readings, learning activities, resources, weekly readings, etc. are available on the course Blackboard site. Please log in as soon as possible.

8.1 Prescribed text(s) or course reader

Please note that you need to have regular access to the resource(s) listed below as they are required:

Author	Year	Title	Publisher
Turnpenny, P. & Ellard, S.	2017	Emery’s Elements of Medical Genetics (15 th Edition)	Elsevier

8.2 Specific requirements

Personal protective equipment including laboratory coat, safety glasses and covered shoes are required for practical classes.

9. How are risks managed in this course?

Risk assessments have been performed for all laboratory classes and a moderate level of health and safety risk exists, such as working with chemicals and hazardous substances. You will be required to undertake laboratory induction training.

It is your responsibility as a student to review course material, search online, discuss with lecturers and peers, and understand the health and safety risks associated with your specific course of study. It is also your responsibility to familiarise yourself with the University’s general health and safety principles by

reviewing the [online Health Safety and Wellbeing training module for students](#), and following the instructions of the University staff.

10. What administrative information is relevant to this course?

10.1 Assessment: Academic Integrity

Academic integrity is the ethical standard of university participation. It ensures that students graduate as a result of proving they are competent in their discipline. This is integral in maintaining the value of academic qualifications. Each industry has expectations and standards of the skills and knowledge within that discipline and these are reflected in assessment.

Academic integrity means that you do not engage in any activity that is considered to be academic fraud; including plagiarism, collusion or outsourcing any part of any assessment item to any other person. You are expected to be honest and ethical by completing all work yourself and indicating in your work which ideas and information were developed by you and which were taken from others. You cannot provide your assessment work to others. You are also expected to provide evidence of wide and critical reading, usually by using appropriate academic references.

In order to minimise incidents of academic fraud, this course may require that some of its assessment tasks, when submitted to Blackboard, are electronically checked through SafeAssign. This software allows for text comparisons to be made between your submitted assessment item and all other work that SafeAssign has access to.

10.2 Assessment: Additional requirements

Eligibility for Supplementary Assessment

Your eligibility for supplementary assessment in a course is dependent of the following conditions applying:

- a) The final mark is in the percentage range 47% to 49.4%
- b) The course is graded using the Standard Grading scale
- c) You have not failed an assessment task in the course due to academic misconduct

10.3 Assessment: Submission penalties

Late submission of assessment tasks will be penalised at the following maximum rate:

- 5% (of the assessment task's identified value) per day for the first two days from the date identified as the due date for the assessment task.
- 10% (of the assessment task's identified value) for the third day
- 20% (of the assessment task's identified value) for the fourth day and subsequent days up to and including seven days from the date identified as the due date for the assessment task.
- A result of zero is awarded for an assessment task submitted after seven days from the date identified as the due date for the assessment task.

Weekdays and weekends are included in the calculation of days late.

To request an extension, you must contact your Course Coordinator and supply the required documentation to negotiate an outcome.

10.4 Study help

In the first instance, you should contact your tutor, then the Course Coordinator. Additional assistance is provided to all students through Academic Skills Advisers. To book an appointment or find a drop-in session go to [Student Hub](#).

Contact Student Central for further assistance: +61 7 5430 2890 or studentcentral@usc.edu.au

10.5 Wellbeing Services

Student Wellbeing Support Staff are available to assist on a wide range of personal, academic, social and psychological matters to foster positive mental health and wellbeing for your success. Student Wellbeing is comprised of professionally qualified staff in counselling, health and disability Services.

Ability Advisers ensure equal access to all aspects of university life. If your studies are affected by a disability, mental health issue, learning disorder, injury or illness, or you are a primary carer for someone with a disability, [AccessAbility Services](#) can provide assistance, advocacy and reasonable academic adjustments.

To book an appointment with either service go to [Student Hub](#), email studentwellbeing@usc.edu.au or accessability@usc.edu.au or call 07 5430 1226

10.6 Links to relevant University policy and procedures

For more information on Academic Learning & Teaching categories including:

- Assessment: Courses and Coursework Programs
- Review of Assessment and Final Grades
- Supplementary Assessment
- Administration of Central Examinations
- Deferred Examinations
- Student Academic Misconduct
- Students with a Disability

Visit the USC website:

<http://www.usc.edu.au/explore/policies-and-procedures#academic-learning-and-teaching>

10.7 General Enquiries

In person:

- **USC Sunshine Coast** - Student Central, Ground Floor, Building C, 90 Sippy Downs Drive, Sippy Downs
- **USC Moreton Bay** – Service Centre, Ground Floor, Foundation Building, Gympie Road, Petrie
- **USC SouthBank** - Student Central, Building A4 (SW1), 52 Merivale Street, South Brisbane
- **USC Gympie** - Student Central, 71 Cartwright Road, Gympie
- **USC Fraser Coast** - Student Central, Student Central, Building A, 161 Old Maryborough Rd, Hervey Bay
- **USC Caboolture** - Student Central, Level 1 Building J, Cnr Manley and Tallon Street, Caboolture

Tel: +61 7 5430 2890

Email: studentcentral@usc.edu.au