

NATS 3034 MOLECULAR MEDICINE

Credit Points 10

Legacy Code 300927

Coordinator Mark Temple ([https://directory.westernsydney.edu.au/search/name/Mark Temple/](https://directory.westernsydney.edu.au/search/name/Mark%20Temple/))

Description Molecular Medicine is an inquiry based capstone subject that integrates core concepts in molecular and cell biology with a focus on cancer as a framework to discuss autoimmune, infectious and genetic diseases. This subject aims to enhance critical thinking for the professional environment and prepares students for future innovations in prevention, management and cure of catastrophic diseases. Current research, diagnosis, treatment and policy issues, related to health and disease states, are placed in the context of real world experiences and changing imperatives.

School Science

Discipline Medical Science

Student Contribution Band HECS Band 2 10cp

Check your fees via the Fees (https://www.westernsydney.edu.au/currentstudents/current_students/fees/) page.

Level Undergraduate Level 3 subject

Equivalent Subjects LGYA 6144 - Molecular Basis of Disease LGYA 6012 - Mammalian Molecular Medicine

Restrictions

Successful completion of 120 credit points

Learning Outcomes

On successful completion of this subject, students should be able to:

1. Describe the molecular biology of a gene in the context of various monogenic diseases and of various genes in the development of a complex disease
2. Outline the potential of various genetic technologies diagnose and to treat disease
3. Explain the potential of various molecular analyses to diagnose and to treat disease
4. Explain the basis of cancer genetics
5. Demonstrate an ability to search and collate data from internet based health databases
6. Evaluate new developments in functional genomics in relation to their potential to diagnose disease

Subject Content

1. Molecular analyses in the context of diagnosis and treatment of disease
2. New genetic technologies in diagnosis and treatment of disease
3. The nature of cancer as characterised by genetic factors, tumor viruses and cellular oncogenes
4. Control of cell invasion, metastasis and angiogenesis by growth factors, receptors and cytoplasmic signalling and tumor suppressor genes
5. Genomic integrity and multistep tumorigenesis

Assessment

The following table summarises the standard assessment tasks for this subject. Please note this is a guide only. Assessment tasks are regularly updated, where there is a difference your Learning Guide takes precedence.

Type	Length	Percent	Threshold	Individual/ Group Task	Mandatory
Presentation	5 minutes	20	N	Individual	N
Report	1500 words	40	N	Group	N
Quiz	2 x 1 hour	40	N	Individual	N

Teaching Periods

Spring (2024)

Campbelltown

On-site

Subject Contact Mark Temple ([https://directory.westernsydney.edu.au/search/name/Mark Temple/](https://directory.westernsydney.edu.au/search/name/Mark%20Temple/))

View timetable (https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=NATS3034_24-SPR_CA_1#subjects)

Parramatta - Victoria Rd

On-site

Subject Contact Mark Temple ([https://directory.westernsydney.edu.au/search/name/Mark Temple/](https://directory.westernsydney.edu.au/search/name/Mark%20Temple/))

View timetable (https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=NATS3034_24-SPR_PS_1#subjects)

Spring (2025)

Campbelltown

On-site

Subject Contact Mark Temple ([https://directory.westernsydney.edu.au/search/name/Mark Temple/](https://directory.westernsydney.edu.au/search/name/Mark%20Temple/))

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=NATS3034_25-SPR_CA_1#subjects)

Parramatta - Victoria Rd

On-site

Subject Contact Mark Temple ([https://directory.westernsydney.edu.au/search/name/Mark Temple/](https://directory.westernsydney.edu.au/search/name/Mark%20Temple/))

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=NATS3034_25-SPR_PS_1#subjects)