

# 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/](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 - Mamalian 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 (2025)

### Online

### Online

**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\\_ON\\_2#subjects](https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=NATS3034_25-SPR_ON_2#subjects))