

# Course Outline (Higher Education)

<b>School:</b>	School of Health and Life Sciences
<b>Course Title:</b>	MOLECULAR BIOLOGY AND BIOTECHNOLOGY
<b>Course ID:</b>	BTHGC3752
<b>Credit Points:</b>	15.00
<b>Prerequisite(s):</b>	(BTHGC2732)
<b>Co-requisite(s):</b>	Nil
<b>Exclusion(s):</b>	Nil
<b>ASCED Code:</b>	010999

## Description of the Course :

This unit focuses on recombinant DNA methodology and genomics, which underpin commercial developments in the rapidly expanding biotechnology industry. Advanced techniques for gene manipulation in prokaryotes and eukaryotes, methods for genome mapping and sequencing, and techniques for investigating gene and protein function, including mutagenesis, RNA interference and expression profiling, will be considered. Industrial and research applications of these technologies, such as genetic manipulation of plants and animals, gene therapy, virus detection and typing, recombinant vaccine production and personalized medicine will be explored.

**Grade Scheme:** Graded (HD, D, C, etc.)

## Work Experience:

No work experience: Student is not undertaking work experience in industry.

**Placement Component:** No

**Supplementary Assessment:** Yes

Where supplementary assessment is available a student must have failed overall in the course but gained a final mark of 45 per cent or above and submitted all major assessment tasks..

## Program Level:

AQF Level of Program						
	5	6	7	8	9	10
<b>Level</b>						
Introductory	■	■	■	■	■	■
Intermediate	■	■	■	■	■	■
Advanced	■	■	✓	■	■	■

## Learning Outcomes:

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BTHGC3752 MOLECULAR BIOLOGY AND BIOTECHNOLOGY

On completion of this unit students will be able to:

1. Discuss the molecular basis of a wide range of techniques for gene manipulation, and genomic and proteomic analysis;
2. Apply their knowledge to the pursuit of current scientific problems in industry, medicine and research;
3. Critically evaluate a variety of approaches to a particular scientific or industrial problem;
4. Demonstrate proficiency in a wide range of techniques for gene manipulation and in the interpretation of data acquired by these techniques;
5. Demonstrate advanced scientific writing skills.

## Course Content:

## Learning Task and Assessment:

Learning Outcomes Assessed	Learning Tasks	Assessment Type	Weighting
3-hour end of semester examination	3-hour end of semester examination	3-hour end of semester examination	50%
Critical analysis of scientific literature	Critical analysis of scientific literature	Critical analysis of scientific literature	10%
Assignment (2000 words)	Assignment (2000 words)	Assignment (2000 words)	10%
Practical performance and report writing	Practical performance and report writing	Practical performance and report writing	30%

## Adopted Reference Style: