



## UNSW Course Outline

# BABS2011 Current Trends in Biotechnology - 2024

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## General Course Information

**Course Code :** BABS2011

**Year :** 2024

**Term :** Term 1

**Teaching Period :** T1

**Is a multi-term course? :** No

**Faculty :** Faculty of Science

**Academic Unit :** School of Biotechnology and Biomolecular Sciences

**Delivery Mode :** In Person

**Delivery Format :** Standard

**Delivery Location :** Kensington

**Campus :** Sydney

**Study Level :** Undergraduate

**Units of Credit :** 6

### Useful Links

[Handbook Class Timetable](#)

## Course Details & Outcomes

### Course Description

This course is designed for undergraduate students with an interest in biotechnology, drug development, and science communication. The course builds on background knowledge in the biomolecular science field, and covers non-science disciplines related to business, law, and

finance.

Lectures, tutorials, and case studies focus on current analytical technologies that are enabling the performance of fundamental and applied scientific research and its ultimate commercialisation into products that solve problems in the fields of medicine, agriculture, and environmental management.

## Course Aims

The course aims to provide students with an entry-level overview of how biotechnology is applied to solve real-world problems related to agriculture, environment/climate, and human/veterinary health. Students will learn the most up-to-date methods used in biotechnology research including proteomics, bioinformatics, synthetic biology, and more. Finally, students will learn about commercialisation, intellectual property, and develop skills in science communication including written, graphical, and oral communications to both lay and scientific audiences.

# Course Learning Outcomes

Course Learning Outcomes
CLO1 : Define biotechnology in the context of its breadth and scope of diverse applications.
CLO2 : Communicate complex scientific reports in written and verbal formats to both lay and professional audiences.
CLO3 : Analyse scientific literature and develop biotechnology strategies for addressing market opportunities.
CLO4 : Identify and explain how different biotechnology methodologies are needed to investigate specific research questions.
CLO5 : Develop strategies for commercialising biotechnology-based opportunities.

Course Learning Outcomes	Assessment Item
CLO1 : Define biotechnology in the context of its breadth and scope of diverse applications.	<ul style="list-style-type: none"><li>• Tests</li></ul>
CLO2 : Communicate complex scientific reports in written and verbal formats to both lay and professional audiences.	<ul style="list-style-type: none"><li>• Scientific Presentation</li><li>• Assignments</li><li>• Technology Brochure</li></ul>
CLO3 : Analyse scientific literature and develop biotechnology strategies for addressing market opportunities.	<ul style="list-style-type: none"><li>• Assignments</li></ul>
CLO4 : Identify and explain how different biotechnology methodologies are needed to investigate specific research questions.	<ul style="list-style-type: none"><li>• Tests</li></ul>
CLO5 : Develop strategies for commercialising biotechnology-based opportunities.	<ul style="list-style-type: none"><li>• Scientific Presentation</li><li>• Technology Brochure</li></ul>

## Learning and Teaching Technologies

Moodle - Learning Management System

# Assessments

## Assessment Structure

Assessment Item	Weight	Relevant Dates
Tests Assessment Format: Individual	40%	
Scientific Presentation Assessment Format: Group	15%	
Assignments Assessment Format: Individual	30%	
Technology Brochure Assessment Format: Individual	15%	

## Assessment Details

### Tests

#### Assessment Overview

There will be two tests, each worth 20%, each approximately 90 mins in duration.

Test 1 will typically be held in Week 4 and covers course material delivered in approximately the first half of term and feedback will be provided within 2 weeks of the test date.

Test 2 will typically be held in Week 9 and covers course material delivered in approximately the second half of term and feedback will be provided within 2 weeks of the test date.

You will be expected to answer multiple choice, true/false, and short answer questions that test your knowledge of the course content. More specific information provided during the course.

Expected format is online.

#### Course Learning Outcomes

- CLO1 : Define biotechnology in the context of its breadth and scope of diverse applications.
- CLO4 : Identify and explain how different biotechnology methodologies are needed to investigate specific research questions.

### Scientific Presentation

#### Assessment Overview

Scientific Presentation (15% of marks)

The goal of this project is to teach you how to communicate to a professional audience at

graduate to PhD-level in the context of biotech commercialisation. This term you will prepare a short scientific pitch presentation aimed at attracting venture capital investment. You will work in groups of 3-4 to deliver a 4 minute oral presentation around a product you've invented. You will highlight the unmet need, competitive landscape, market size, value proposition, intellectual property position, and business model.

More specific information will be provided during the course.

Timeline: due in Week 10.

Feedback provided with scores within 1 week.

### **Course Learning Outcomes**

- CLO2 : Communicate complex scientific reports in written and verbal formats to both lay and professional audiences.
- CLO5 : Develop strategies for commercialising biotechnology-based opportunities.

## **Assignments**

### **Assessment Overview**

There are two parts to the assignment.

Part 1: SWOT Analysis (15% of marks)

Individual assignment

A SWOT (strengths, weaknesses, opportunities, and threats) analysis is a tool used to critically evaluate a biotechnology product in development. In this assignment you will create a SWOT analysis for a biotechnology product. Complete information will be provided in lecture.

You will also learn how to search science literature and reference it.

You will be assessed on the completeness of your SWOT analysis against a rubric and your referencing. More specific information provided during the course.

Timeline: Due in Week 3.

Feedback provided with scores within 2 weeks.

Part 2: Investment thesis

(15% of marks)

Individual assignment

You will be expected to write a 4-page report for a scientific audience that describes your investment thesis for a company selected during the course.

The thesis should be written for an investor audience that is generally knowledgeable in the field. It should include a 1-page executive summary of the company and technology with key financial

information, an investment thesis, upcoming catalysts and milestones, base case assumptions with upside and downside scenarios, a detailed scientific description of the technology, and your estimated valuation for the company.

You will be assessed on the completeness of your thesis against a rubric. More specific information provided during the course.

Timeline: Due in Week 7.

Feedback provided with scores within 2 weeks.

#### **Course Learning Outcomes**

- CLO2 : Communicate complex scientific reports in written and verbal formats to both lay and professional audiences.
- CLO3 : Analyse scientific literature and develop biotechnology strategies for addressing market opportunities.

### **Technology Brochure**

#### **Assessment Overview**

Technology Brochure (15% of marks)

Individual assignment

Scientific discoveries are published in journals and are written with complex jargon. In this project you will prepare a brochure suitable for a lay audience that explains the importance of the published scientific discovery. Your target audience is high school students where the objective is to get them interested in pursuing a degree in a science field.

The brochure will fit on one A4 page front and back and have information on background, unmet need, proposed solution, and a data panel to show how the new discovery provides that solution.

More specific information provided during the course.

Timeline: due in Week 5.

Feedback provided with scores within 2 weeks.

#### **Course Learning Outcomes**

- CLO2 : Communicate complex scientific reports in written and verbal formats to both lay and professional audiences.
- CLO5 : Develop strategies for commercialising biotechnology-based opportunities.

## **General Assessment Information**

#### **Grading Basis**

Standard

# Course Schedule

Teaching Week/Module	Activity Type	Content
Week 1 : 12 February - 18 February	Blended	
Week 2 : 19 February - 25 February	Blended	
Week 3 : 26 February - 3 March	Blended	
Week 4 : 4 March - 10 March	Blended	
Week 5 : 11 March - 17 March	Blended	
Week 6 : 18 March - 24 March	Other	No class this week
Week 7 : 25 March - 31 March	Blended	
Week 8 : 1 April - 7 April	Blended	
Week 9 : 8 April - 14 April	Blended	
Week 10 : 15 April - 21 April	Blended	

## Attendance Requirements

Students are strongly encouraged to attend all classes and review lecture recordings.

## Staff Details

Position	Name	Email	Location	Phone	Availability	Equitable Learning Services Contact	Primary Contact
	Kyle Hoehn					No	Yes
	Frances Byrne					No	No

## Other Useful Information

### Academic Information

Upon your enrolment at UNSW, you share responsibility with us for maintaining a safe, harmonious and tolerant University environment.

You are required to:

- Comply with the University's conditions of enrolment.
- Act responsibly, ethically, safely and with integrity.
- Observe standards of equity and respect in dealing with every member of the UNSW community.
- Engage in lawful behaviour.
- Use and care for University resources in a responsible and appropriate manner.
- Maintain the University's reputation and good standing.

For more information, visit the [UNSW Student Code of Conduct Website](#).

## Academic Honesty and Plagiarism

Referencing is a way of acknowledging the sources of information that you use to research your assignments. You need to provide a reference whenever you draw on someone else's words, ideas or research. Not referencing other people's work can constitute plagiarism.

Further information about referencing styles can be located at <https://student.unsw.edu.au/referencing>

Academic integrity is fundamental to success at university. Academic integrity can be defined as a commitment to six fundamental values in academic pursuits: honesty, trust, fairness, respect, responsibility and courage. At UNSW, this means that your work must be your own, and others' ideas should be appropriately acknowledged. If you don't follow these rules, plagiarism may be detected in your work.

Further information about academic integrity, plagiarism and the use of AI in assessments can be located at:

- The [Current Students site](#),
- The [ELISE training site](#), and
- The [Use of AI for assessments](#) site.

The Student Conduct and Integrity Unit provides further resources to assist you to understand your conduct obligations as a student: <https://student.unsw.edu.au/conduct>

## Submission of Assessment Tasks

### Penalty for Late Submissions

UNSW has a standard late submission penalty of:

- 5% per day,
- for all assessments where a penalty applies,
- capped at five days (120 hours) from the assessment deadline, after which a student cannot submit an assessment, and
- no permitted variation.

*Any variations to the above will be explicitly stated in the Course Outline for a given course or assessment task.*

Students are expected to manage their time to meet deadlines and to request extensions as

early as possible before the deadline.

## Special Consideration

If circumstances prevent you from attending/completing an assessment task, you must officially apply for special consideration, usually within 3 days of the sitting date/due date. You can apply by logging onto myUNSW and following the link in the My Student Profile Tab. Medical documentation or other documentation explaining your absence must be submitted with your application. Once your application has been assessed, you will be contacted via your student email address to be advised of the official outcome and any actions that need to be taken from there. For more information about special consideration, please visit: <https://student.unsw.edu.au/special-consideration>

**Important note:** UNSW has a “fit to sit/submit” rule, which means that if you sit an exam or submit a piece of assessment, you are declaring yourself fit to do so and cannot later apply for Special Consideration. This is to ensure that if you feel unwell or are faced with significant circumstances beyond your control that affect your ability to study, you do not sit an examination or submit an assessment that does not reflect your best performance. Instead, you should apply for Special Consideration as soon as you realise you are not well enough or are otherwise unable to sit or submit an assessment.

## Faculty-specific Information

### Additional support for students

- [The Current Students Gateway](#)
- [Student Support](#)
- [Academic Skills and Support](#)
- [Student Wellbeing, Health and Safety](#)
- [Equitable Learning Services](#)
- [UNSW IT Service Centre](#)
- Science EDI Student Initiatives, [Offerings](#) and [Guidelines](#)