UNSW Course Outline

BABS3071 Commercial Biotechnology - 2024

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General Course Information

Course Code : BABS3071
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 provides an introduction to the biotechnology business cycle. Lectures and tutorials cover topics including, the local and international biotechnology industry landscape; intellectual property (IP) processes; commercialisation strategy; government and private funding; internal

and external drivers that affect performance; regulatory approval processes; manufacturing systems; research and business ethics; and the role of politics and associated controversy in the development of modern biotechnology products. Experts who work in the biotechnology sector present most of the lectures. Supporting assignments will reinforce insights into how biotechnology commercialisation efforts are endeavouring to translate advances in science into benefits for society.

Course Aims

The aim of this course is to give students an understanding of:

- The scope and significance of the Australian and global biotechnology industry and the internal and external drivers that affect its performance.
- Key steps in the innovation process of turning ideas into products and applications, including scientific discovery, intellectual property, business strategy, funding, regulatory approval, manufacturing, sales and distribution.

Basic accounting principles to allow an understanding of company financial statements.

Course Learning Outcomes

Course Learning Outcomes
CLO1 : Analyse the technical and financial performance of listed biotechnology companies and communicate research findings via written reports and an oral presentation.
CLO2 : Recognise opportunities for intellectual property protection in scientific discovery.
CLO3 : Evaluate commercialisation pathways for biotechnology-based opportunities.
CLO4 : Recognise and address ethical, community, and political issues related to biotechnology commercialisation.
CLO5 : Analyse and evaluate company financial statements.

Course Learning Outcomes	Assessment Item
CLO1 : Analyse the technical and financial performance of listed biotechnology companies and communicate research findings via written reports and an oral presentation.	• Stock Market Game and Report • Biotech Company Review
CLO2 : Recognise opportunities for intellectual property protection in scientific discovery.	• Final Exam • Stock Market Game and Report • Biotech Company Review
CLO3 : Evaluate commercialisation pathways for biotechnology-based opportunities.	• Final Exam • Stock Market Game and Report • Biotech Company Review
CLO4 : Recognise and address ethical, community, and political issues related to biotechnology commercialisation.	• Final Exam • Stock Market Game and Report • Biotech Company Review
CLO5 : Analyse and evaluate company financial statements.	• Financial accounting problems • Stock Market Game and Report • Biotech Company Review

Learning and Teaching Technologies

Moodle - Learning Management System | Microsoft Teams | Echo 360

Learning and Teaching in this course

Moodle and Microsoft (MS)Teams

- All students enrolled in the course automatically have access to the course Moodle site (https://moodle.telt.unsw.edu.au or accessed via myUNSW).
- Students will be added to the course Teams site during 0-week.
- Moodle and MS Teams will be used to distribute course information, resources, and updates.

Therefore, the course site should be checked regularly.
- If you do not have access to either of these sites, please get in touch with the course coordinator immediately.

Lecture program

- **All lectures will be delivered live online via MS Teams**. Lectures will be run synchronously, i.e. students must be online while the material is delivered live.
- The lecture material is primarily delivered by professionals in the Australian Biotechnology sector and will assist students in completing their assessments.

Tutorials

- **Tutorials are delivered in person, on campus*.**
- The tutorials include various activities, including Startup Stories, workshops and discussions. These sessions are primarily delivered by professionals in the Australian Biotechnology sector and will assist students in completing their assessments.

*Week 1 tutorial is delivered online via MS Teams. Other classes may be subject to change.

Recording of online sessions

- Live online sessions in the course will be recorded to support teaching activities and equity and disability support services. These recordings will only be used for these purposes. All participants will have access to the recordings via Moodle.
- **By joining these online sessions, you consent to the session being recorded**. To state your objection and deny consent, you must email the course coordinator stating that you do not consent to the recording.

Assessments

Assessment Structure

Assessment Item	Weight	Relevant Dates
Financial accounting problems Assessment Format: Individual	10%	Due Date: Weeks 3, 5 and 7, Wednesday 5pm.
Stock Market Game and Report Assessment Format: Individual	25%	Start Date: 19/02/2024 12:00 AM Due Date: 04/04/2024 05:00 PM
Biotech Company Review Assessment Format: Group	30%	Due Date: Week 10: 15 April - 21 April
Final Exam Assessment Format: Individual	35%	Due Date: During Exam Period

Assessment Details

Financial accounting problems

Assessment Overview

Scientists and engineers working in industry require an understanding of commercial processes in order to structure their R&D programs to meet the intellectual property and business needs of their employers. Understanding accounting language is critical for interpreting financial statements and is a skill required for a diverse range of career pathways.

An industry expert will deliver three two-hour workshops addressing the structure of three financial statements: the Balance Sheet (Week 2), the Profit and Loss Statement (Week 4), and the Cash Flow (Week 5). For each of these three workshops you will be expected to complete a homework assignment consisting of a 1-2 page submission that provides your answers to a series of short answer questions. Your homework assignments will be due prior to the next workshop (in Weeks 4, 5 and 7) and will be worth 10% of your final course mark (assignments are equally weighted).

Homework problem sets will be individually marked by the industry expert and marked assessments will be returned to you at the beginning of the next accounting workshop. Feedback on assessments will be provided via written comments on individual marked homework sets and during class discussion of the answers to homework problems.

Course Learning Outcomes

- CLO5 : Analyse and evaluate company financial statements.

Detailed Assessment Description

Details of this assessment task will be provided during the Monday lecture in week 1. Resources for this task, including an assessment-specific rubric will be available via Moodle.

Submission notes

Specific instructions for assessment submission will be available via Moodle.

Assignment submission Turnitin type

This assignment is submitted through Turnitin and students do not see Turnitin similarity reports.

Stock Market Game and Report

Assessment Overview

You will trade virtual stocks via an online game to become familiar with the US Biotechnology sector's structure and performance, the role of internal and external drivers, and how companies are financed. This activity will improve your ability to make educated investment decisions and will be enhanced through workshops on financial statements and lectures that cover the key issues that affect the biotechnology sector.

You will be expected to actively trade stocks online in the game during Weeks 2-7 and submit a 3 page written report Week 8 that critiques the sector and its drivers; this report is worth 25% of your final course mark. A marking rubric addressing the assessment criteria for this assignment will be made available to you in Moodle so that you are fully aware of the expectations for this assessment. Marks and feedback will be released online in Moodle by the end of Week 10.

Course Learning Outcomes

- CLO1 : Analyse the technical and financial performance of listed biotechnology companies and communicate research findings via written reports and an oral presentation.
- CLO2 : Recognise opportunities for intellectual property protection in scientific discovery.
- CLO3 : Evaluate commercialisation pathways for biotechnology-based opportunities.
- CLO4 : Recognise and address ethical, community, and political issues related to biotechnology commercialisation.
- CLO5 : Analyse and evaluate company financial statements.

Detailed Assessment Description

Details of this assessment task will be provided during the Monday lecture in week 1. Resources for this task, including an assessment-specific rubric, will be available via Moodle.

Assessment Length

A 3-page report consisting of a reflective essay (2 pages) and a discussion of featured stock (1 page).

Submission notes

Reports are submitted via Turnitin on Mooodle. Students will be able to see the Turnitin similarity reports after the submission deadline.

Assignment submission Turnitin type

This assignment is submitted through Turnitin and students can see Turnitin similarity reports.

Biotech Company Review

Assessment Overview

You will work in a small team (3-4 students)) to conduct a comprehensive technical and business analysis of an allocated ASX listed Biotech company's performance.

Based on your research and analysis, you will be expected to:

1. submit a group report (20%), and
2. deliver a group oral presentation (10%) in person during class.

Feedback on the report will be provided within 2 weeks of the submission date via a marked rubric and overall feedback will be provided to students after the presentations.

Course Learning Outcomes

- CLO1 : Analyse the technical and financial performance of listed biotechnology companies and communicate research findings via written reports and an oral presentation.
- CLO2 : Recognise opportunities for intellectual property protection in scientific discovery.
- CLO3 : Evaluate commercialisation pathways for biotechnology-based opportunities.
- CLO4 : Recognise and address ethical, community, and political issues related to biotechnology commercialisation.
- CLO5 : Analyse and evaluate company financial statements.

Detailed Assessment Description

Details of this assessment task will be provided during the Monday lecture in week 1. Resources for this task, including an assessment-specific rubric, will be available via Moodle.

Assessment Length

A 4-page report; 5 minute oral presentation

Submission notes

Reports are submitted via Turnitin on Mooodle. Students will be able to see the Turnitin similarity reports after the submission deadline. Group presentations will be delivered during the lecture and tutorial sessions in week 10.

Assignment submission Turnitin type

This assignment is submitted through Turnitin and students can see Turnitin similarity reports.

Final Exam

Assessment Overview

You will be expected to sit a final online exam during the official exam period. The Final Exam will cover all lecture and tutorial material presented throughout the Term. The exam is typically 2 hours in duration and may include multiple choice and short answer question formats.

Feedback is available through inquiry with the course convenor.

Course Learning Outcomes

- CLO2 : Recognise opportunities for intellectual property protection in scientific discovery.
- CLO3 : Evaluate commercialisation pathways for biotechnology-based opportunities.
- CLO4 : Recognise and address ethical, community, and political issues related to biotechnology commercialisation.

Detailed Assessment Description

Details of this assessment task will be provided during the Monday lecture in week 1. Resources for this task, including an assessment-specific rubric, will be available via Moodle.

Assessment Length

2 hours

Submission notes

Online Off Campus Exam via Inspera

Assignment submission Turnitin type

Not Applicable

General Assessment Information

- The lecture and tutorial sessions will provide full details for each assessment task. Assessment Q&A sessions will be held in week 3 and week 8. All assessment-related information and resources will be available on Moodle.
- Electronic copies of your Financial Accounting Problems, Stock Market Game Report, and Company Report should be submitted by the Assessment due date.
- Group presentations will be delivered in person during the week 10 sessions.

Grading Basis

Standard

Requirements to pass course

- To pass this course, you must submit all written assessments and participate in a group oral presentation. You must achieve a composite mark of at least 50 out of 100.

- See also "Attendance Requirements" in the Course Schedule section of this Course Outline.

Course Schedule

Teaching Week/Module	Activity Type	Content
Week 1 : 12 February - 18 February	Lecture	Lecture 1: Course Overview Lecture 2: Stock Markets: ASX & NASDAQ
	Tutorial	Lecture 3: Translational Science Lecture 4: Manufacturing Therapeutic Biologicals Note: This tutorial will occur online via MS Teams
Week 2 : 19 February - 25 February	Lecture	Lecture 5: Patenting Process & Intellectual Property (IP) Review
	Tutorial	Startup Story 1: BondiBio Tutorial 1: Balance Sheets
Week 3 : 26 February - 3 March	Lecture	Assessment Overview and Q&A
	Tutorial	Startup Story 2: DropBio Lecture 6: IP and Commercialisation
Week 4 : 4 March - 10 March	Lecture	Lecture 7: The Continual-G story: from bench to market
	Tutorial	Discussion: ASX Listed Biotech Companies Tutorial 2: Profit and Loss
Week 5 : 11 March - 17 March	Lecture	Lecture 8: Venture Capital
	Tutorial	TBA Tutorial 3: Cash Flow
Week 7 : 25 March - 31 March	Lecture	Lecture 9: Commercialising Australia Life Science
	Tutorial	Lecture 10: Pitching to the Pharmaceutical Industry Tutorial 4: Interpreting Financial Statements
Week 8 : 1 April - 7 April	Lecture	Easter Monday - No Class
	Tutorial	Lecture 11: Licensing Assessment 3 and Final Exam Q&A
Week 9 : 8 April - 14 April	Lecture	Lecture 12: The role of Accelerators in building successful startups
	Tutorial	Workshop: Building a company around technology research translation
Week 10 : 15 April - 21 April	Lecture	Assessment 3 Presentations Note session will occur in person, Mathews Theatre D
	Tutorial	Assessment 3 Presentations

Attendance Requirements

Attendance at 80% of all classes (online lectures and face-to-face tutorials) is compulsory to pass this course.

If you can not attend a class, email the course coordinator within three days of the absence. Communications relating to the course should be from your official UNSW student email account. Coordinator: Dr Sarah Bajan. Email: s.bajan@unsw.edu.au

General Schedule Information

- This course has 5 hours of class contact per week. This comprises 2 hours of lectures, which are delivered online via MS Teams and 3 hours of Tutorials which are in person in Mathews Theatre D
- Additional non-class hours will be required to complete assessments.

Please note: The majority of the course content is delivered by professionals from the Australian Biotechnology sector. The provided Course Schedule is, therefore, subject to change.

Course Resources

Prescribed Resources

Course Outline

- The Course Outline will be available to students via Moodle.

Literature searching

- PubMed can be used to search for and access peer-reviewed scientific literature and should be used in preference to Google Scholar: http://www.ncbi.nlm.nih.gov/pubmed
- For full access to the journal articles, please use the UNSW Library VPN (https://www.myit.unsw.edu.au/services/students/remote-access-vpn).

UNSW Library

- http://www.library.unsw.edu.au

Referencing

- Referencing is a way of acknowledging the sources of information that you use to research your assignments. You must provide a reference whenever you draw on someone else's words, ideas or research. Not referencing other people's work can constitute plagiarism.
- This course has no recommended referencing style; thus, students can choose a style they desire from an accepted journal in the field. However, the chosen style needs to be consistently used throughout an assignment.
- Further information about referencing styles can be located at https://student.unsw.edu.au/referencing

Recommended Resources

- Current Students: https://student.unsw.edu.au/
- The Nucleus Student Hub (https://nucleus.unsw.edu.au/en)
- Student Academic Skills: https://student.unsw.edu.au/skills
- Student Wellbeing & Health: https://student.unsw.edu.au/wellbeing
- Equitable Learning Services (ELS): https://student.unsw.edu.au/els
- Student Psychology and Wellness: https://student.unsw.edu.au/counselling
- UNSW IT Service Centre: https://www.myit.unsw.edu.au/services/students

Course Evaluation and Development

The University's online student survey (MyExperience) will be used to gather student feedback.

- To ensure we understand your learning experience, please complete the MyExperience evaluation survey and provide feedback.
- Your feedback will be gathered and used to guide future course improvements.
- Course improvements will be communicated to subsequent student cohorts of this course.

Staff Details

Position	Name	Email	Location	Phone	Availability	Equitable Learning Services Contact	Primary Contact
Convenor	Sarah Bajan		Rm 301D, Biological Sciences Building D26		By appointment	No	Yes
Lecturer	Christopher Marquis		Rm 320A, Biological Sciences Building D26		By appointment	No	No
	Maurice Chiarella					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 Plagarism

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