



Course Outline

BABS7030

Foundations in Biotechnology Finance

Core

Graduate Certificate in Commercial Biotechnology
(7066)

Elective

Master of Professional Science
(8958)

School of Biotechnology and Biomolecular Sciences

Faculty of Science

Term 3, 2021

1. Staff

Position	Name	Email	Locations	Consultation Times
Course Convenor	Lisa Selbie, PhD Senior Lecturer	l.selbie@unsw.edu.au		Online by appointment
Program Director	A/Prof Wallace Bridge	wj.bridge@unsw.edu.au	Room 420C, Bioscience North Building	By appointment

2. Course information

Units of credit: 6UOC

Core Course: Graduate Certificate in Commercial Biotechnology

Pre-requisite(s): None

Timetable details: TBC

2.1 Course summary (Handbook entry)

This course focuses on the biotechnology financial life cycle. Effective management of money is key to the success of any enterprise, and even more so in the biotechnology sector due to the long lead times before sustainable and profitable revenue is achieved. You will be introduced to the key milestones in the biotechnology financial life cycle and the need of the business leaders to meet deadlines in order to maintain investor confidence. You will also learn about funding cycles and the processes involved in securing multiple sources of investment including government support, private capital investment, industry partnerships, stock exchange listing, and secondary capital raisings. You will develop practical skills to interpret and prepare financial statements, to analyse the value of potential investments and equity value, to identify and manage risks, and to negotiate legal documents such as term sheets and contractual agreements. For real-world context, the course utilises case studies and project-based assignments that involve the business analysis of successful and failed companies in Australia and internationally.

2.2 Course aims

To give students an understanding of:

- the business opportunities in the funding cycle, the types of ventures that can be established, and the processes and requirements to access multiple sources of capital investment and resource assistance in Australia and Asia

- the practical skills to interpret and prepare financial statements, to analyse the value of potential investments and equity value, to identify and manage risks, and to negotiate legal documents such as term sheets and contractual agreements
- case studies that involve the business analysis of successful and failed companies in Australia and internationally.

2.3 Course learning outcomes (CLO)

At the successful completion of this course you (the student) should be able to:

1. Understand the basic business and finance management concepts.
2. Demonstrate the ability to interpret, analyse and evaluate financial statements.
3. Describe, analyse and assess the business opportunities in the funding cycle, the types of ventures that can be established, and the processes and requirements to access multiple sources of capital investment and resource assistance in Australia and Asia.
4. Determine the value of biotechnology ventures and investments based on interpretation, evaluation and assessment of industry-specific financial and business information.
5. Identify potential risks and develop risk management approaches to enable sustainable funding of the biotechnology venture.
6. Assess the potential impacts of current trends in biotechnology ventures and investment.

2.4 Relationship between course and program learning outcomes and assessments

Course Learning Outcome (CLO)	LO Statement	Related Tasks & Assessment
CLO 1	Understand the basic business and finance management concepts.	Lectures and discussions Assessments 1-3
CLO 2	Demonstrate the ability to interpret, analyse and evaluate financial statements.	Lectures and discussions Assessments 1-3
CLO 3	Describe, analyse and assess the business opportunities in the funding cycle, the types of ventures that can be established, and the processes and requirements to access sources of funding and resource assistance in Australia and Asia.	Lectures and discussions Assessments 1-3
CLO 4	Determine the value of biotechnology ventures and investments based on interpretation, evaluation and	Lectures and discussion

	assessment of industry-specific financial and business information.	Assessment 1, 3 and 4
CLO 5	Identify potential risks and develop risk management approaches to enable sustainable funding of the biotechnology venture.	Lectures and discussion Assessment 1, 3 and 4
CLO 6	Assess the potential impacts of current trends in biotechnology ventures and investment.	Lectures and discussion Assessment 1 and 4

3. Strategies and approaches to learning

3.1 Learning and teaching activities

This course will be taught entirely in the online environment on the Course Website (Moodle). All students enrolled in courses offered at BABS automatically have access to the course Moodle site <https://moodle.telt.unsw.edu.au>. This site, detailed in section 7, will be used for the entire course to communicate with students, provide content, lectures, video links, quizzes and assessments and, importantly, facilitate all class discussion forums.

Throughout the course, students are encouraged to develop problem-solving skills and to critically evaluate concepts, ideas and research findings by participating in all learning activities including viewing lectures and videos, reading relevant articles and websites, participating in discussion learning forums, completing online timed quizzes, and completing two assessment projects.

Lectures available on the course Moodle site serve to emphasise principles, provide an overview and connect the individual components of the course. The lectures provide a guide to the material that needs to be covered by the course. Students are encouraged to extend their knowledge by reading from a variety of sources.

More details on learning activities and how they are going to assist students to achieve the intended learning outcomes will be provided during the course (via the course manual and Moodle).

3.2 Expectations of students

Students are expected to participate in the online course in a consistent and professional manner throughout each week of the class. Lectures, as well as providing facts, will provide an understanding of processes by which scientific enquiries and discoveries are made and commercialised. Learning activities are designed to help students to revise the lecture materials and complete assessment tasks.

Students who miss an occasional class due to illness or other approved absence should contact the course convenor. As a rule, there will be no extensions for assignments, unless you have approved special circumstances. <https://student.unsw.edu.au/special-consideration>

If you do foresee issues with submission of an assignment, immediately contact the instructor before the assignment deadline to see if any accommodations can be made.

Social networks (i.e. Facebook, Twitter etc) will not be used to share class materials and a way to contact academics including demonstrators/tutors involved in this course. If students have course-related questions, they are encouraged to use discussion forums on the course's Moodle website for questions and answers, which should benefit all students in the course.

If more help is needed, you may contact or email (from their UNSW email) the Course Convener or alternative contacts listed in the course website. When sending an email to the course coordinator, a student must state their name, student number and the course they are enrolled in.

Students are encouraged to consult with Wallace Bridge if in doubt as to their progress.

4. Course schedule Term 3 2021

Week(s)	Themes & Topics
1 13 Sep 2021	Introduction to the course Theme 1: Overview of the biotechnology industry and finance structure Topic 1: Overview of biotechnology commercialisation and types of company structures Topic 2: Key terms and concepts
2-3 20 Sep	Theme 2: Foundations of biotech finance Topic 1: The financial sheets Topic 2: The balance sheet Topic 3: The income statement Topic 4: The cash flow Assessment 1: Required Discussion Participation Wks 2-3
4-5 4 Oct	Theme 3: Determining the Value of a biotechnology innovation, investment and/or venture Topic 1: Technology/Innovation Analysis and Intellectual Property (IP) Topic 2: IP and Market opportunities Topic 3: Analysis of Financial Statements to investigate the performance and value of a company Assessment 1: Required Discussion Participation Wks 4-5 Assessment 2: Quiz 1: on Weeks 1, 2 & 3 due end of Week 4 Assessment 3: Company Financial Analysis <u>Individual Written Report</u> due end of Week 6
6-7 18 Oct	Theme 4: Funding a biotechnology innovation, investment and/or venture Topic 1: (Week 6) The biotechnology funding cycle Topic 2: (Week 6) Financial considerations in funding and operating a biotechnology business Topic 3: (Week 6) Sources of government support and investment capital Topic 4: (Week 7) Discussion on AT3 Company Financial Analysis Reports Assessment 1: Required Discussion Participation Wks 6-7 Assessment 2: Quiz 2: on Weeks 4 & 5 due end of Week 6 Assessment 3: Company Financial Analysis <u>Individual Written Report</u> due end of Week 6 and <u>Peer review of another student's report</u> due end of Week 7
8-9 1 Nov	Theme 5: Risk management and negotiation Topic 1: Risk analysis and mitigation Topic 2: Negotiation of legal opportunities: term sheets and contractual agreements Assessment 1: Required Discussion Participation Wks 8-9 Assessment 2: Quiz 3: on Weeks 6 & 7 due end of Week 8 Assessment 4: Company Comparison & Analysis <u>Presentation</u> (Weeks 8-10) begins and due end of Week 10
10 15 Nov	Theme 6: Current trends in biotechnology ventures and investment internationally Topic 1: Current trends in biotechnology ventures and investment internationally Topic 2: The impacts of potential future disruptions Assessment 1: Required Discussion Participation Wk 10 Assessment 4: Company Comparison & Analysis <u>Presentation</u> and <u>Peer review</u> of team members' contributions due end of Week 10
11 22 Nov	
12 29 Nov	Course completed on Saturday 4 Dec

5. Assessment

To pass the course, it is advised that you submit all the assignments. However, if you are confident of passing the course without submitting an assessment, you are not obliged to do so (notice that you will not receive a mark for any unsubmitted assessments).

5.1 Assessment tasks

Assessment task and methods	Weighting (%)		Submission methods	Mark and feedback style	Week Due
Assessment 1: Participation in 5 x asynchronous class discussions	Required Discussion forums (5 x 5%) Wks 2-3, 4-5, 6-7, 8-9, 10	25%	Asynchronous online submission.	Feedback given during the discussion, and after the end of the week. Discussion grades are posted in the Gradebook.	By Sunday 11:59 pm of each week.
Assessment 2: Three online open book quizzes.	Three online open book quizzes in Wks 4, 6 & 8 (5% each).	15%	Timed quizzes are completed online. Contributions to the discussion forums are posted online.	Quiz grades are entered into the Gradebook.	By Sunday 11:59 pm of each week.
Assessment 3: Company Financial Analysis Individual Written Report: A due diligence review of a company's finances and technology to determine the company's future potential	A: Written Team Report Wk6 20%		Via Moodle/Turnitin	Feedback – Rubric comments in Week 8 All uploaded on Moodle	Week 6 By Sunday 11:59 pm
	B: Peer review and feedback of another student report Wk7 10%				Week 7 By Sunday 11:59 pm
Assessment 4: Team Company Comparison & Analysis	A: Team Presentation on Voicethread or similar Wk10	25%	Via Moodle/Turnitin	Feedback – Rubric comments in Week 11	Week 10 By Sunday 11:59 pm
	B: Peer review of team	5%	Via Moodle/Turnitin		Week 10

Presentation	contribution Wk10				By Sunday 11:59 pm
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5.2 Assessment criteria and standards

The major components of this course are the content which is delivered through lectures, readings and discussion forums. This will be assessed by written or oral assignments, and quizzes, and quality participation in discussion forums. More details on the assessment tasks and how they will be graded will be provided during the course (in the course manual or online via Moodle).

5.3 Submission of assessment tasks

Assessment submission

Details on assessment submission are given in the course manual or online via Moodle (also please refer to the table provided in section 5.1). Information on extension of deadline and penalties for late submission are explained in the course manual.

Special consideration

Applications must be made via Online Services in myUNSW. Students must obtain and attach Third Party documentation before submitting the application. Failure to do so will result in the application being rejected.

5.4. Feedback on assessment

Students will receive constructive feedback on their assignments in a timely manner (within 2 weeks after submissions as instructed in the UNSW assessment Policy). The delivery method of feedback may vary depending on the assessment type. Brief outline of assessment feedback is presented in the table provided in section 5.1. Full details are provided in Section 10.

Further information

UNSW grading system: <https://student.unsw.edu.au/grades>

UNSW assessment policy: <https://student.unsw.edu.au/assessment>

6. Academic integrity, referencing and plagiarism

No particular recommended referencing style is required for this course; thus, students can choose a style they prefer from an accepted journal in the field. However, the chosen style needs to be used throughout an assignment to ensure consistency.

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.¹ At UNSW, this means that your work must be your own, and others' ideas should be appropriately acknowledged. If you do not follow these rules, plagiarism may be detected in your work.

Further information about academic integrity and **plagiarism** can be located at:

- The *Current Students* site <https://student.unsw.edu.au/plagiarism>, and
- The *ELISE* training site <http://subjectguides.library.unsw.edu.au/elise/presenting>

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

7. Readings and resources

Course Website (Moodle)

All students enrolled in courses offered at BABS automatically have access to the course Moodle site <https://moodle.telt.unsw.edu.au>. This site will be used for the entire course to communicate with students, provide content, lectures, video links, quizzes and assessments and importantly facilitate all class discussion forums.

This includes:

- Lectures, videos and website links
- Readings (available online through the library and Leganto (<https://subjectguides.library.unsw.edu.au/leganto>))
- Discussion Forums
- Assessments - detailed information
 - online timed quizzes
 - marks
 - further information resulting from special consideration
- Self-management resources

Resources

Literature Searching: <http://www.ncbi.nlm.nih.gov/pubmed>

UNSW Library: <http://www.library.unsw.edu.au>

¹ International Center for Academic Integrity, 'The Fundamental Values of Academic Integrity', T. Fishman (ed), Clemson University, 2013.

8. Administrative matters

Biosciences Student Office

Student Advisor (BABS)

Email: BABStudent@unsw.edu.au

Tel: +61 (2) 9385 8047

School Contact (set up in progress)

Director of Teaching

Email: BABSteaching@unsw.edu.au

Faculty Contact

Dr Gavin Edwards

Associate Dean (Academic Programs)

Email: g.edwards@unsw.edu.au

Tel: +61 (2) 9385 4652

Additional Websites

- Biosciences Student Office: <https://www.babs.unsw.edu.au/contact/biosciences-student-office>
- School of Biotechnology and Biomolecular Sciences website for current students: <https://www.babs.unsw.edu.au/current-students/undergraduate-programs>
- UNSW Faculty of Science: <https://www.science.unsw.edu.au/>
- MyUNSW: <https://my.unsw.edu.au/>

9. Additional support for students

- The Current Students Gateway: <https://student.unsw.edu.au/>
- Academic Skills and Support: <https://student.unsw.edu.au/academic-skills>
- Student Wellbeing, Health and Safety: <https://student.unsw.edu.au/wellbeing>
- Disability Support Services: <https://student.unsw.edu.au/disability-services>
- UNSW IT Service Centre: <https://www.it.unsw.edu.au/students/index.html>
- UNSW Academic Calendar Key Dates: <https://student.unsw.edu.au/dates>
- UNSW Handbook: <http://www.handbook.unsw.edu.au/2018/index.html>
- UNSW Learning Centre: <http://www.lc.unsw.edu.au/>
- UNSW Student Equity and Disabilities Unit: <https://student.unsw.edu.au/disability>
- Counselling and Support: <https://www.counselling.unsw.edu.au/>
- University Health Service: <http://www.healthservices.unsw.edu.au/>
- The Hub: <https://student.unsw.edu.au/hub>
- UNSW Careers and Employment Service: <http://www.careers.unsw.edu.au/>
- ARC- Student Life: <https://www.arc.unsw.edu.au/>
- UNSW Student Life: <https://www.unsw.edu.au/life>

Course Manual

10. Assessment Tasks

Assessment 1: Required Discussion Participation

Due Date: varied (end of Wks 3, 5, 7, 9 & 10)

Type: Individual

Weighting: Discussion forums (5% x 5 weeks) Wks 2-3, 4-5, 6-7, 8-9 and 10

Submission Details: Contributions to the weekly discussion forum are posted to the designated discussion forums; links are provided in each topic.

Feedback Details: General feedback summarising class strengths and weaknesses will be provided at the start of the following week. Discussion marks will be entered in to the gradebook at the start of the following week after the deadline.

Aligned CLOs: 1-6

Rationale

Asynchronous class discussions will develop skills to analyse, interpret and reflect on examples of specific company case studies.

Assessment 2: Online quizzes

Due Date: Wks 4, 6 and 8

Type: Individual

Weighting: Three online open book quizzes in Weeks 4, 6 & 8 (5% each; total 15%). The quizzes cover the content delivered during the previous weeks.

Submission Details: Open book quizzes will be accessible online, with a time out window of 90 minutes - your quiz will be automatically submitted after 90 minutes regardless whether you have finished or not.

Feedback Details: Quiz marks will be returned at the start of the following week after the quiz deadline. You are encouraged to seek feedback on quiz questions and answers in the general *What's up* forum, so that any discussions are available and can be of benefit to all students.

Aligned CLOs: 1-3

Rationale

Quizzes assess the learning of basic concepts and ability to interpret and evaluate aspects of company financial statements and industry-specific financial and business information. The quizzes are designed to give you immediate feedback as to whether you are grasping the basics of the material. If they seem too easy, then you are on the right track!

Assessment 3: Company Financial Analysis Individual Written Report

Due Date: Varied: Individual written report due Week 6 Sunday 11:59pm. Peer review of another student's report due Week 7 Sunday 11:59pm.

Type: Written report and peer review

Weighting: Individual written report 20%; Peer review and feedback of another student's report 10% (total 30%).

Length: Individual report 1000-1500 words; Peer review and feedback of another student's report 200 words.

Submission Details: Students should submit their assignment electronically to the Company Financial Analysis Report Assessment task folder. Assessment files should be named: STUDENTNAME_Assessment3_BABS7030_2021
Peer review of another student's report will be submitted electronically in the designated site.

Feedback Details: Students will receive written feedback at the end of the course from instructor, together with the marking rubric. General feedback will be provided in the *What's up* forum.

Aligned CLOs: 4-6

Rationale

This assessment is designed for a student to further develop and apply the requisite skills to interpret and analyse a biotechnology company's financial statements and its technology in order to evaluate the company's future potential.

Assessment 4: Team Company Comparison & Analysis Presentation

Due Date: Week 10, Sunday 11:59pm for the Company Comparison and Analysis Presentation; Week 10, Sunday 11:59pm for the Peer Evaluation.

Type: Combination of both individual report and peer review

Weighting: Team presentation 25%; Peer evaluation of other team members' contributions to group work 5% (total 30%).

Length: approximately 30 slide PowerPoint presentation on VoiceThread or similar.

Submission Details: Teams should submit their assignment electronically to the Team Company Comparison & Analysis Presentation Assessment task folder. Assessment files should be named: TEAMNAME_Assessment4_BABS7030_2021

Feedback Details: Feedback will be provided on the returned work during the grade release period, together with the marking rubric. General feedback will be provided in the *What's up* forum. Students may contact the instructor with any specific questions.

Aligned CLOs: 4-6

Rationale

This assessment involves a team (3-4 students) project designed to further develop and assess the student's ability to interpret financial statements and navigate the funding cycle.

11. Special consideration/further assessment - Term 1 2021

Students who believe that their performance, either during the session or in the end of session assessments, may have been affected by illness or other circumstances may apply for special consideration. Applications can be made for compulsory class absences such as (laboratories and tutorials), in-session assessments tasks, and final examinations. **Students must make a formal application for Special Consideration** for the course/s affected as soon as practicable after the problem occurs and **within three working days of the assessment to which it refers**. Students should consult the A-Z section of the “Student Guide 2016”, particularly the section on “Special Consideration”, for further information about general rules covering examinations, assessment, special consideration and other related matters. This information is published free in your UNSW Student Diary and is also available on the web at:

<https://student.unsw.edu.au/special-consideration>

HOW TO APPLY FOR SPECIAL CONSIDERATION

Applications must be made via Online Services in myUNSW. **You must obtain and attach Third Party documentation before submitting the application. Failure to do so will result in the application being rejected.** Log into **myUNSW** and go to **My Student Profile tab > My Student Services channel > Online Services > Special Consideration**. After applying online, students must also verify supporting their documentation by submitting to Student Central at <https://nucleus.unsw.edu.au/>

- Originals or certified copies of your supporting documentation. Visit <https://nucleus.unsw.edu.au/Studentadmin/special-consideration>. Student Central can certify your original documents), and/or
- A completed Professional Authority form which can be downloaded at <https://student.unsw.edu.au/sites/all/files/uploads/group47/forms/ProfessionalAuthority.pdf>

The supporting documentation must be submitted to Student Central for verification **within three working days** of the assessment or the period covered by the supporting documentation. Applications which are not verified will be rejected.

Students will be contacted via the online special consideration system as to the outcome of their application. Students will be notified via *their official university email once an outcome has been recorded.*

SUPPLEMENTARY ASSESSMENTS:

The University does not give deferred examinations. However, further assessments and/or exams may be given to those students who were absent from the final sessions through illness or misadventure. Special Consideration applications for final assessments/examinations and in-session tests will only be considered after the final examination period when lists of students sitting supplementary exams/tests for each course are determined at School Assessment Review Group Meetings. Students will be notified via the online special consideration system as to the outcome of their application. **It is the responsibility of all students to regularly consult their official student email accounts and myUNSW in order to ascertain whether or not they have been granted further assessment.**

12. UNSW Academic Honesty and Plagiarism

The University regards plagiarism as a form of academic misconduct and has very strict rules regarding plagiarism. For UNSW policies, penalties, and information to help you avoid plagiarism see: <https://student.unsw.edu.au/plagiarism>

What is Plagiarism? Plagiarism is the presentation of the thoughts or work of another as one's own. *Examples include:

- direct duplication of the thoughts or work of another, including by copying material, ideas or concepts from a book, article, report or other written document (whether published or unpublished), composition, artwork, design, drawing, circuitry, computer program or software, web site, Internet, other electronic resource, or another person's assignment without appropriate acknowledgement;
- paraphrasing another person's work with very minor changes keeping the meaning, form and/or progression of ideas of the original;
- piecing together sections of the work of others into a new whole;
- presenting an assessment item as independent work when it has been produced in whole or part in collusion with other people, for example, another student or a tutor; and
- claiming credit for a proportion a work contributed to a group assessment item that is greater than that actually contributed.†

For the purposes of this policy, submitting an assessment item that has already been submitted for academic credit elsewhere may be considered plagiarism.

Knowingly permitting your work to be copied by another student may also be considered to be plagiarism.

Note that an assessment item produced in oral, not written, form, or involving live presentation, may similarly contain plagiarised material.

The inclusion of the thoughts or work of another with attribution appropriate to the academic discipline does *not* amount to plagiarism.

The Learning Centre website is main repository for resources for staff and students on plagiarism and academic honesty. These resources can be located via:

<http://www.lc.unsw.edu.au/academic-integrity-plagiarism>

The Learning Centre also provides substantial educational written materials, workshops, and tutorials to aid students, for example, in:

- correct referencing practices;
- paraphrasing, summarising, essay writing, and time management;
- appropriate use of, and attribution for, a range of materials including text, images, formulae and concepts.

Individual assistance is available on request from The Learning Centre.

Students are also reminded that careful time management is an important part of study and one of the identified causes of plagiarism is poor time management. Students should allow sufficient time for research, drafting, and the proper referencing of sources in preparing all assessment items.

* Based on that proposed to the University of Newcastle by the St James Ethics Centre. Used with kind permission from the University of Newcastle

† Adapted with kind permission from the University of Melbourne.