



# Course Outline

BABS7020

Biotechnology Commercialisation Strategy in  
Australia and Asia

Graduate Certificate in Commercial Biotechnology

School of Biotechnology and Biomolecular Sciences  
Faculty of Science

Term 2, 2020

## 1. Staff

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Position	Name	Email	Locations	Consultation Times
Course Convenor	Lisa Selbie, PhD	<a href="mailto:l.selbie@unsw.edu.au">l.selbie@unsw.edu.au</a>		Online by appointment
Program Director	A/Prof Wallace Bridge	<a href="mailto:wj.bridge@unsw.edu.au">wj.bridge@unsw.edu.au</a>	Room 420C, Bioscience North Building	By appointment

## 2. Course information

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Units of credit: 6UOC

Core Course: Graduate Certificate in Commercial Biotechnology

Pre-requisite(s): None

Timetable details: tbc

### 2.1 Course summary (Handbook entry)

Through case studies, this course explores how scientific discovery is developed into intellectual property and how product and service opportunities based on this IP are identified and evaluated for commercial potential. Using real IP for platform technologies, students will identify, define, strategize and prioritise pipelines for commercialisation in the major markets of the US and Europe. The analysis will include a commercialisation strategy address Australasian and Asian markets.

### 2.2 Course aims

All biotechnology-based products have global markets and all biotechnology companies must plan to become global from start-up. Given, the long lead times in getting products to market (10-15 years from discovery) and the associated large capital expenditure without revenue, it is essential that biotechnology managers are capable of strategizing the commercialisation pathway to manage the financial, technical, regulatory risks.

Through completion of this course, students will gain an understanding and insight into how a biotechnology company originating in Australia or Asia can effectively identify, analyse and address all these risks in order to become a global success

## 2.3 Course learning outcomes (CLO)

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

1. Analyse the interplay and contribution of science, technology and business disciplines on the commercialisation process and optimise the impacts for commercial success.
2. Critique the role of intellectual property on innovation value and the translation of biotechnology opportunities in various global and regional markets.
3. Identify, evaluate and reflect on commercialisation strategies to translate biotechnology opportunities to sustainable and profitable products and services.
4. Develop a commercialisation strategy plan for a given technology, product or service in the Australian and Asian biotechnology markets that should maximise the potential for market success, meet organisational goals and objectives, and comply with the relevant legal, technical, ethical and regulatory frameworks.
5. Demonstrate effective teamwork skills through collaboration with peers, and by providing and receiving feedback.
6. Reflect on the learning experience and the feedback received for personal and professional development.

## 2.4 Relationship between course learning outcomes and assessments

Course Learning Outcome (CLO)	LO Statement	Related Tasks & Assessment
CLO 1	Analyse the interplay and contribution of science, technology and business disciplines on the commercialisation process and optimise the impacts for commercial success.	Lectures and discussions Assessments 1-4
CLO 2	Critique the role of intellectual property on innovation value and the translation of biotechnology opportunities in various global and regional markets.	Lectures and discussions Assessments 1-4
CLO 3	Identify, evaluate and reflect on commercialisation strategies to translate biotechnology opportunities to sustainable and profitable products and services.	Lectures and discussions Assessments 2-4
CLO 4	Develop a commercialisation strategy plan for a given technology, product or service in the Australian and Asian biotechnology markets that should maximise the potential for market success, meet organisational goals and objectives, and comply with the relevant legal, technical, ethical and regulatory frameworks.	Lectures and discussion Assessment 4
CLO 5	Demonstrate effective teamwork skills through collaboration with peers, and by providing and receiving feedback.	Assessment 4
CLO 6	Reflect on the learning experience and the feedback received for personal and professional development.	Assessment 4

## 3. Strategies and approaches to learning

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### 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 results by participating in all learning activities including the viewing lectures and videos, reading relevant articles and websites, participating in the discussion learning forums, completing online timed quizzes, and completing two assessment projects.

Lectures available on the course Moodle site serve to emphasize 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 (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 that might be of benefit to 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. Assessment**

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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).

### **4.1 Assessment tasks**

**1. Open Book Quizzes Test    Weighting 10%. Individual**

Description: Two online, 'open book', timed quizzes to assess the learning of basic concepts in the commercialisation process and intellectual property identification, valuation and translation.

**2      Class Discussion      Other 20%. Individual**

Description: Participation in two asynchronous class discussions to analyse and evaluate two case studies, which will be assessed on the quality and consistency of contributions process and optimise the impacts for commercial success.

**3      Case study report      Report 30%. Individual**

Description: This assessment task aims to develop the ability to evaluate the value of IP for a biotechnology opportunity and its market potential. Students are required to analyse the IP strategy employed by two global biotechnology-based companies. Students will conduct a SWOT analysis to evaluate, compare and contrast these strategies in terms of IP breadth, expense and value to the company.

**4      Commercialisation Strategy Plan 40%. Team**

Description: Teams (4 members) will prepare a Commercialisation strategy plan that identifies, assesses and develops an opportunity for a real local biotech start-up in the Australian and/or Asian biotechnology market. This plan will address the whole process of commercialisation, including IP strategy, funding, regulation and partnering. For assessment, students will submit the plan as a team effort. They will also be expected to participate in asynchronous team discussions on the project, writing the plan and using feedback from another team to improve their final submission. As a team, they will also be required to review the plan from another team and provide them with critical feedback.

(Breakdown of assessment: comprising of a team written plan – 25%, Individual contributions to their own team - 10%, and a team peer review of another group's written plan – 5%).

### **Further information**

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

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

## **4.2 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).

## **4.3 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.

## **4.4. 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.

## **5. Academic integrity, referencing and plagiarism**

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

**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.<sup>1</sup> 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 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>.

## 6. Readings and resources

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### 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>

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

## 7. Administrative matters

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### Biosciences Student Office

Student Advisor (BABS)

Email: [BABStudent@unsw.edu.au](mailto:BABStudent@unsw.edu.au)

Tel: +61 (2) 9385 8047

### School Contact (set up in progress)

Director of Teaching

Email: [BABSteaching@unsw.edu.au](mailto:BABSteaching@unsw.edu.au)

### Faculty Contact

Dr Gavin Edwards

Associate Dean (Academic Programs)

Email: [g.edwards@unsw.edu.au](mailto: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/>

## 8. Additional support for students

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- 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>



## 9. Special consideration/further assessment - Term 2 2020

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.**

## 10. 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.