

# Course Outline

# **BABS2011**

**Current Trends in Biotechnology** 

School of Biotechnology and Biomolecular Sciences

Faculty of Science

Term 1, 2022

## 1. Staff

Position	Name	Email	Locations	Consultation Times
Course Convenor	A/Prof Kyle Hoehn	k.hoehn@unsw.edu.au	Room 420A, Biological Sciences Building North (D26). West wing	By appointment
Course Co- convenor	Dr Frances Byrne	frances.byrne@unsw.edu .au	Room 420B, Biological Sciences Building North (D26). West wing	By appointment
Course Co- convenor	Dr Lindsay Wu	lindsay.wu@unsw.edu.au	SoMS	By appointment

## 2. Course Information

Units of credit: 6

Pre-requisite(s): Level 1 Science

Teaching times and locations: http://timetable.unsw.edu.au/2022/BABS2011.html

# Due to COVID-19, this course has been made fully online.

Lectures will be provided both online live in most cases, but some may be prerecorded (e.g. international speakers, timing conflicts, or illness)

Quizzes will be held online at defined times that cannot be changed and attendance is required for quizzes and presentations (see course calendar).

# 2.1 Course Summary (Handbook entry)

Through lecture and case study presentations, students will be introduced to how biotechnology advances are impacting on society by solving problems in medicine (drugs), environment (biodegradable plastics), and agriculture (drought-resistance). Lectures discuss current analytical technologies that are enabling the performance of scientific fundamental and applied research. Through assignments, students will be provided with the opportunities to develop scientific expertise in a biotechnology targeted area of their interest and to develop the skills required to interpret scientific findings and report them to key technical and non-technical stakeholders involved in biotechnology commercialisation.

## 2.2 Course Aims

The course aims to provide students with:

- 1. Expertise to interpret and report scientific literature to both lay audiences (friends, high school classes, general public) and scientific audiences (investors, peers).
- 2. Knowledge of advanced technologies that enable biotechnology research
- 3. Skills in biotechnology commercialisation

# 2.3 Course learning outcomes (CLO)

At the completion of this course, students should be able to:

- 1. Define biotechnology in the context of its breadth and scope of diverse applications
- 2. Translate complex scientific reports into language comprehensible by key stakeholders involved in technology commercialisation.
- 3. Comprehensively analyse the literature to review biotechnology strategies for addressing market opportunities.
- 4. Identify and explain appropriate analytical technologies to be used in biotechnology-based research.
- 5. Develop insight into strategies for commercialising biotechnology-based opportunities.

# 2.4 Relationship between course and program learning outcomes and assessments

BABS2011 is a **required core course** for students undertaking the 3053 program and biotechnology BSc Major.

BABS2011 is a stage 2 course that follows from the Stage 1 course, BABS1202 Applied Biomolecular Sciences, though BABS1202 is not a prerequisite.

BABS2011 serves as an introduction to the stage 3 course BABS3071 Commercial Biotechnology.

BABS2011 is a suitable elective for students wishing to understand more about innovation in the biosciences and the pathways to commercialisation.

Course Learning Outcome (CLO)	LO Statement	Related Tasks & Assessment
CLO 1	Understand the diverse range of biotechnology applications in society.	Quiz 1
CLO 2	Translate complex scientific reports into language comprehensible by key stakeholders involved in technology commercialisation	Assignments and Projects

CLO 3	Comprehensively analyse the literature to review biotechnology strategies for addressing market opportunities.	Assignments
CLO 4	Identify and explain appropriate analytical technologies to be used in biotechnology-based research, and understand basis for case study commercialisation.	Quiz 2
CLO 5	Develop insight into strategies for seeking venture capital support and commercialising biotechnology opportunities.	Projects

# 3. Strategies and approaches to learning

# 3.1 Learning and teaching activities

Throughout the course, students are encouraged to develop problem-solving skills and to critically evaluate concepts, ideas and research results by participating in all activities including the lectures and tutorials. Online learning materials will be made available via Moodle.

Lectures serve to emphasize principles, provide an overview and connect the individual components of the course. They may also cover current ideas and research. The lectures provide a guide to the material needed to cover for the course. Students are encouraged to extend their knowledge by reading from a variety of sources. Lecture notes and recordings are also available on the course Moodle website.

Tutorials/reviews are designed to help students to revise the lecture materials, so that they can keep up to date with the content.

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 must attend the Thursday classes in weeks 4, 9, and 10 where presentations and quizzes are held.

All other classes are recorded will be uploaded for access.

If students have course-related questions, then they are encouraged to use discussion forums on the course's Moodle website where the entire class has access to the answered question. If more help is needed, students may send enquiries or requests for appointments from their UNSW email. When sending an email to the course coordinator, a student must state their name, student number and the course they are enrolled in.

# 4. Course schedule

		Monday Sessi 11am – 1pm Mondays W	<u>Thursday Lectures</u> - 3 hr block 3pm – 6pm (15:00 - 18:00) <u>Thursdays</u> Weeks 1-5, 7-10			Key dates		
		11 AM Lecture	12 PM Lecture	3 PM Lecture	4 PM Le	ecture	5 PM Lecture	
\go	Week 1 starts February 14	Kyle Hoehn (L) Course overview & SWOT analysis	Qiao Qiao (L) Commercial vs non- commercial biotech	Lindsay Wu (L)  Medical drug development  Commercial strategies for drug  development				
Biotechnology uses L	Week 2 starts February 21	Kyle Hoehn (L) Technology Brochure & RNA therapies	<u>Frances Byrne (L)</u> Natural products in cancer therapy	Megan Lenardon (L) Vaccines and antibodies	<u>Lindsay \</u> Due diligeno		<u>Lindsay Wu</u> (L)  Due diligence case study	
Biot	Week 3 starts February 28	Kyle Hoehn (L) Evan Taddeo (P) Investment thesis	<u>Jesse Goyette (L)</u> CAR-T cells	Brendan Burns (L) Environmental Biotech			Belinda Ferrari (L) Extreme bioprospecting	SWOT analysis due Friday Mar 4 by 5 PM
Ş	Week 4 starts March 7	LIVE REVIEW SESSION 1	Free time	Quiz 1 from 3:00-4:15pm Covers weeks 1-3 content			Quiz 1 Thursday @ 3 PM	
Case Studies	Week 5 starts March 14	<u>Frances Byrne (L)</u> Pitch presentation	Kyle Hoehn (L) Continuum Biosciences	Kevin Healey (L) International Animal Health Products P/L	<u>Brad Wa</u> Minomi		Mark Vanasten (L) Diagnostic Technology	Technical brochure due Friday Mar 18 by 5 PM
01	Week 6 starts March 21	NO LECTURES THIS WEEK				Peer review due Friday Mar 25 by 5 PM		
Methods	Week 7 starts March 28	Russell Pickford (L) Mass Spectrometry	Russell Pickford (L) Lipidomics & Metabolomics	Marc Wilkins (L) Bioinformatics and Systems Biology	<u>Valerie Was</u> Proteo		Kyle Hoehn (L) Stable and radioactive isotopes	Investment thesis due Friday April 1 by 5 PM
Met	Week 8 starts April 4	Helena Mangs (L) DNA sequencing	<u>Juanfang Ruan.(L)</u> Cryo-EM	Kate Michie (L) X-ray crystallography	<u>Dom Glo</u> Synthetic		Emma Johansson-Beve (L) Flow Cytometry	
	Week 9 starts April 11	LIVE REVIEW SESSION 2	Free time	Quiz 2 from 3:00-4:15pm Covers weeks 5-8				Quiz 2 Thursday @ 3 PM
	<b>Week 10</b> starts April 18	EASTER MONE	DAY – NO CLASS				Presentations uploaded by Weds @ 5 PM	

Peer review of presentations due Thurs 28 April by 5 PM

If you miss an quiz then the Supplemental quiz is on 25 May @12PM

- (L) = Live online lecture at the course time
- (P) = Pre-recorded lecture

## 5. Assessment

## 5.1 Assessment tasks

Assessment task and methods	Weighting (%)	Submission methods	Mark and feedback style	Week
Assignment 1: SWOT analysis Due 5pm March 4	10	Submit via Moodle/Turnitin	General feedback via class discussion	3
<b>Quiz 1:</b> 3 PM March 10	20	Online via moodle	Feedback on quizzes on individual basis	4
Project 1: Technical Brochure Brochure due 5 PM 18/3 Peer review scores due by 5 PM 25/3	15	Submit brochure via Moodle/Turnitin. Submit peer review score via moodle.	Peer and academics review - Feedback via class and Moodle with rubric comments	5 6
Assignment 2: Investment thesis Due by 5pm April 1	20	Submit via Moodle/Turnitin	General feedback via class discussion	7
Quiz 2: 3 PM April 14	20	Online via moodle	Feedback on quizzes on individual basis	9
Project 2: Pitch presentation Pre-recorded presentation due by 5 PM Weds April 20 Videos will be viewed live on Thursday April 21 @ 3 PM Peer review scores due Thursday April 28 @ 3 PM	15	Submit recorded presentation online, via CloudStor	Peer and academics review - feedback via class and Moodle with rubric comments	10

#### **Further information**

UNSW grading system: <a href="https://student.unsw.edu.au/grades">https://student.unsw.edu.au/grades</a>

UNSW assessment policy: <a href="https://student.unsw.edu.au/assessment">https://student.unsw.edu.au/assessment</a>

## 5.2 Assessment criteria and standards

The major learning components of this course includes content delivered through lectures and tutorials. Learning will be assessed by assignments and quizzes. More details on the assessments and how they will be graded (rubrics) will be provided during the course.

## 5.3 Submission of assessment tasks

#### Assignment submission

Refer to Moodle and the tables provided in section 4 and 5.1 for due dates and routes for submission.

<u>Late submissions</u> will incur a 5% deduction for the marks on that assignment for each 24 hour period beyond the deadline (5 minutes late receives a 5% deduction). Capped at 5 days late (120 hours), after which a student cannot submit the assessment and will receive a mark of zero.

Special consideration (see section 11 below)

## 5.4. Feedback on assessment

Students will receive constructive feedback on their assignments in a timely manner (within 2 weeks after submissions). 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 will be provided in the course manual and on the course Moodle site.

# 6. Academic integrity, referencing 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 <a href="https://student.unsw.edu.au/referencing">https://student.unsw.edu.au/referencing</a>

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

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

# 7. Readings and resources

#### Course Manual

This course manual is available through download via Moodle. Any additional resources will be provided online via Moodle.

Course Website

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

All students enrolled in courses offered at BABS automatically have access to the course Moodle site <a href="https://moodle.telt.unsw.edu.au">https://moodle.telt.unsw.edu.au</a>. This site will be used to distribute course notes and information and should be checked at regular intervals. This includes:

- Lecture handouts
- Tutorial notes
- · Assessments detailed information
  - marks
  - further information resulting from special consideration
- Information about examination arrangements

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Self-management resources

#### Resources

Literature Searching: <a href="http://www.ncbi.nlm.nih.gov/pubmed">http://www.ncbi.nlm.nih.gov/pubmed</a>

UNSW Library: <a href="http://www.library.unsw.edu.au">http://www.library.unsw.edu.au</a>

## 8. Administrative matters

#### **Biosciences Student Office**

Student Advisor (BABS) Email: <a href="mailto:BABStudent@unsw.edu.au">BABStudent@unsw.edu.au</a>

Tel: +61 (2) 9385 8047

#### **Student Grievance Officer**

Megan Lenardon (BABS) Email: m.lenardon@unsw.edu.au

#### School Contact (set up in progress)

Director of Teaching Email: <u>BABSteaching@unsw.edu.au</u>

#### **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

• MyUNSW: https://my.unsw.edu.au/

# 9. Additional support for students

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

# 10. Assessment guidelines

### **Assignment 1. SWOT** Analysis. Individual assessment. – 10% of overall marks for course

## SWOT Analysis: Novavax vaccine NVX-CoV2373

A SWOT (strengths, weaknesses, opportunities, and threats) analysis is a tool used to critically evaluate a biotechnology product in development. In this exercise you will create a SWOT analysis for a biotechnology product. More information will be provided in the first lecture, but brief guidelines include:

**Strengths**: Must have 3 bullet points and must cite published evidence on the biotechnology from clinical trials (you'll have to do some literature searching). Be specific, do not use generalized statements. For example, if you say that the vaccine is 93% effective at preventing hospitalization then you must cite the <u>primary</u> source (primary source is a published scientific journal article, a secondary source would be a news report or online press release).

**Weaknesses**: Must have 3 bullet points. Be specific, do not use generalized statements.

**Opportunities**: Must have 3 bullet points. Be specific, do not use generalized statements.

**Threats**: Must have 3 bullet points, one of which names companies with most direct competition. Be specific, do not use generalized statements.

**References:** At least two references must be cited.

Submit as a 2-page PDF with the SWOT on page 1 and references on page 2.

## **Project 1.** Technology brochure. Individual assessment. (15% final grade)

<u>Objective</u> Students will prepare a report suitable for a <u>lay audience</u> that covers a scientifically published scientific discovery that underpins a technology under development.

<u>Introduction.</u> The traditional means for communicating scientific discovery is through publishing in peer review journals. These reports contain highly technical jargon - meaning that only those with scientific expertise in the particular discipline will be in a position to read the reports and understand the content. Even those who are science-educated are likely to have difficulty understanding the content if they are unfamiliar with the field of study and its experimental design and language.

In the commercialisation of scientific discovery, a broad range of stakeholders need to be engaged in the process and top fulfil their roles they all need to understand the underlying concepts of the science and the problems it can solve i.e. the technology the science enables. Business people, managers, marketers, investors, etc. will not be able to gain this insight into the science by reading the scientific reports.

Your objective in this assignment is to develop the communication skills required by biotechnologists to translate scientific reports to something digestible by the educated lay community. These capabilities are not only required for industry-based scientists but also those in government funded research agencies that are seeking government funding (grants).

These skills will also become invaluable should you wish to become a science communicator (e.g. journalist), a school teacher, or a marketing copywriter for science-based products.

#### Source of journal articles

- 1. Pick your favourite specific unmet biotechnology need (pancreatic cancer, Parkinson's disease, antibiotic resistance, bioplastics, improving crop tolerance, or something else that excites you about biotechnology i.e. why are you in this class?)
- 2. Search for a paper with impact factor greater than 5 that is addressing this need.
  - a. For example, a lentiviral gene therapy to treat Parkinson's disease is described here: Dopamine gene therapy for Parkinson's disease in a nonhuman primate without associated dyskinesia. Jarraya et al. Science Translational Medicine. 2009 Oct 14;1(2):2ra4. doi: 10.1126/scitranslmed.3000130. You can search pubmed, google scholar, or biotech company websites.
- 3. Read it can you understand it?
  - a. No try reading whilst searching for explanations of technical/scientific terms (e.g. Wikipedia). If this proves too difficult then look for something that better suits your current scientific understanding.
  - b. Yes is it interesting to you, do the findings excite you to want to find out more? If so, then perhaps you have found the paper for your assignment. If not, continue searching.
- 4. Prepare a technology brochure

The technical brochure is intended to introduce the technology to a lay audience that is interested in how it works and why it is important.

- a. Strictly limited to two-pages (A4) and must be in colour and look professional
- b. Must have a background, introduction to the unmet need, proposed solution, and one data panel to demonstrate proof-of-concept. The data panel shown must be a figure from a publication you chose that has an impact factor greater than 5.

Examples of previous student efforts will be uploaded on Moodle.

For this project, your target audience is high school students. Your goal in the technology brochure is to encourage students to undertake further study/careers in the area that you have chosen.

Readability of your text should rank in the 7-12<sup>th</sup> grade range. Check readability here: https://readabilityformulas.com/freetests/six-readability-formulas.php

## Assignment 2. Investment thesis. Individual. (20% final grade).

Submitted on-line through Turnitin.

Write a four-page report for a <u>scientific audience</u> that describes your investment thesis for a company that will be chosen during the course.

#### Submission structure

A 4-page (not including bibliography) investment thesis should be written for a <u>scientifically-trained</u> audience, that 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.

Examples will be provided.

## Project 2. Recorded pitch presentation. Teams of 3-4. (15% final grade)

This is a group exercise designed to help you learn biotech commercialisation. Prepare a video presentation designed to request funding from investors. Key things you should clearly explain in the pitch include:

- Introduction to your company and the unmet need you are targeting
- Your product or service to address this unmet need
- Your team (make up fictitious roles (e.g. CEO, CSO) for each person on team)
- Competitive landscape and differentiation (i.e. how are you better)
- Market (what is size of the market, what % of the market can you capture, and when will you be profitable)
- Value proposition why would an end customer switch to your product?
- Intellectual property (e.g. composition of matter, method of use, trade secret keep it brief).
- Business model (what are your long-term plans how will investors get their money back will you seek buyout from big pharma or take it all the way e.g. list on the ASX/NYSE)
- Funding needed and use of proceeds explain at the end of the pitch how much you need and how you will wisely spend that money to get to a future goal, and why that goal matters

Each team will submit a video with 4 minutes max time in .mp4 format. Can be prepared in PowerPoint (or similar) with voiceover and video of each presenter (instructions on how to do this will be provided). Each team member should present for approximately a proportional amount of time (e.g. 1 minute each if 4 members on the team). The presentations will be uploaded on Moodle in Week 10.

Note: The assignment requirements and the grading rubrics will be discussed in further detail during the tutorial sessions.

Examples of previous presentations will be uploaded on Moodle

**Example topics - you company has developed:** a new treatment for COVID-19, a new treatment for pancreatic cancer, a new solution for global warming, a new process for degrading plastics, a new recycling process for solar panels and wind turbines.

## Quizzes

Two quizzes will be worth 20% each.

Quiz format may include multiple choice, true/false, and/or short answer questions.

# 11. Special consideration/further assessment - Term 1 2022

Students who believe that their performance, either during the session or in the end of session exams, 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, <a href="www.student.unsw.edu.au">www.student.unsw.edu.au</a>, particularly the section on "Special Consideration", for further information about general rules covering examinations, assessment, special consideration and other related matters. This is 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 <a href="https://nucleus.unsw.edu.au/">https://nucleus.unsw.edu.au/</a>

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

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 EXAMINATIONS:

The University does not give deferred examinations. However, further assessment exams may be given to those students who were absent from the final exams through illness or misadventure. Special Consideration applications for final 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.

For Term 1 2022, Supplementary Exams will be scheduled during the week of 23-27 May.

Further assessment exams will be offered during the Supplemental Exam times ONLY and failure to sit for the appropriate exam may result in a mark of zero for the exam. Further assessment will NOT be offered on any alternative dates.

# 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: <a href="https://student.unsw.edu.au/plagiarism">https://student.unsw.edu.au/plagiarism</a>

#### 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.
- 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.
- Piecing together sections of the work of others into a new whole.
- 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. Does anyone read this far, if so I hid a token in the stairwell near my office behind the fire escape chart on level four.

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.