COFA
UNSW

SCHOOL OF MEDIA ARTS

SOMA 9002

SOUND CONSTRUCTION 2

SESSION ONE, 2006

CONTENTS

Course Information

Units of Credit: 6

Hours per week: 3

Course Description

This course continues the examination of both the audio/visual relationships and sound/music genres, while expanding on the techniques and ideas taught in the previous semester. Both individual and group projects will be based around the development of sound design works that relate to screen based media, or stand alone works that explore the creative uses of sound in their own right. The relationship of sound to editing within other works within time based and interactive works will be examined. Technical knowledge of sound recording and editing will be refined, with a concentration on integrating the use of sound into the production and post production process. Further techniques such as MIDI composition and analogue synthesis will be explored.

Teaching Strategies

Lab-based teaching combines the technical, conceptual and structural elements of learning audio through a series of demonstrations, class exercises and project consultation. Students must also work on projects BETWEEN classes in either the F115 or CG-05 labs.

Assessment Tasks

Amount	Item	Date
10 %	PROJECT PLAN	Week 3
30%	MID-SESSION PRESENTATION	Week 9
10%	PROGRESS REPORT and FILE	Week 11
50%	FINAL PROJECT	Week 14

Assessment Task Descriptions

PROJECT PLAN – *Week 3 – March 16* - 10%

Minimum 1 x A4 page (typed). Given to the lecturer at the *start* of the Week 3 class, also an electronic copy in the class dropbox on the server.

While it is difficult to write "about" sound, the purpose of the outline is to help inform the lecturer as to your needs and interests in relation to this subject. *Things you might cover (not a comprehensive list)* : What have you done already to prepare ? What sounds have you collected already ? What have you done with them? What do you envisage as being the 'structure' of the piece , i.e. how will it change over time? What technical problems are you having? What do you need revision in?

Other material – audio files, roughly edited footage, drawings etc. are useful – it's about you preparing your lecturer so that you don't spend consultation times explaining. If your project is audiovisual, please give me as much information about the visual as the audio so that we can discuss the relationships.

It is understood and expected that many students radically change or completely replace their project during semester. In these circumstances, you are asked to re-submit a new project plan to the lecturer.

The Project Plan is graded simply : Delivery on time gets you the full 10%; late delivery gets you 0%. There is no negotiation around this, life is much too short. If you ask for an extension, your lecturer will point to the previous sentence. Prepare it BEFORE the due date. If you're ill, it must be emailed to the lecturer. If you're in hospital, get the nurses to email it for you ☺_

MID-SESSION PRESENTATION – *Week 9 – May 4 – 30%*

In-class presentation of your WORK-IN-PROGRESS.

This will be graded on the development of your initial ideas, the further exploration of possibilities around those ideas, ability to adapt to changed ideas, and your success in dealing with all aspects/levels of an audio or audio-visual work-in-progress (i.e. capacity to gather and work with sources, effort, attempt an overall structure *etc*)

You will also be graded on your ability to sensibly prepare for deadlines with work that involves computers – i.e. proper attention to file management, and not leaving things like mastering/mixing and file transfers until the day before or the day of the presentation, with resulting computer crashes and data loss.

PROGRESS REPORT AND FILE *Hand in week 11 - May 18* - 10%

Like the PROJECT PLAN, the PROGRESS REPORT is a written document that outlines your needs and ideas two weeks prior to the last set of consultation weeks. It will be graded in the same way as the PROJECT PLAN (in on time gets you the full 10% and must deal with the same concerns (see above).

In addition, you must submit an AUDIO FILE (Single-Stereo Sound Designer/AIFF/WAV, NOT MP3) or AUDIO-VISUAL OUTPUT (VHS, Quicktime or DVD, not mini-DV) of the entire work as it stands at that time. This will not be played in class but will be referred to by the lecturer in preparation for final consultation processes. The written component should refer to this file.

Assessment Task Descriptions - CONTINUED

FINAL PROJECT : *Due week 14 - June 8 -* 50%

The FINAL PROJECT is very open. It may be: a sound/music piece; a soundtrack/sound design to an audiovisual work; an installation including a sound component; or a performance including a sound component. The project will be presented to the lecturer and other students in the final class. It must be at least two minutes in length.

If your sound piece is to accompany a film/video that is being completed within the same semester for another class: as part of the "PROJECT PLAN" (see above) you MUST present a cohesive schedule, with dates, as to how you plan to do sound work prior to the film editing process – collection of atmospheres, experimentation with types of sounds in order to form a sound design, etc. If you cannot conceive of a way you can work on some of the sound for your film before the film is even shot, then it is inappropriate for this class, and you should choose a different project here. If your film sound is, for example, composed *only* of basic on-set sound recording (e.g. verite documentaries), then it is inappropriate for this class. Quick, ill-conceived soundtracks thrown together between the end of your edit in Week 13 and project presentation in Week 14 not only result in shockingly bad films, but may also result in failure in this class. Example of a *good* film sound design plan : make a separate sound piece that stands alone, using atmospheres and other elements that you MAY use in your film – then incorporate ideas from this when you come to your last-minute frantic edit. It works.

Assessment Notes / Choice of Projects

- As the use of sound varies significantly across various student practices in this course, a large part of your **grading** is based on your **development** of an initial idea and your **effort** towards the **progression** of your **skills and ideas**, i.e. your willingness to learn and experiment with something new over time, rather than producing something at the last minute using parameters that you are already comfortable with.

- As you will note in the COURSE SCHEDULE, **a wide range of art practices and technology** are introduced within this sound course, some within a single class. You will not pick up everything you need simply by attending classes, but will need to follow the strands (and instructions for them) that interest you outside of class time. You are not expected to learn **ALL** of the available software (apart from Protools) and techniques, nor should you necessarily try to. Your lecturer(s) do not have time for private tuition if you suddenly gain an interest in a synthesiser that you ignored in class a month before. You should take notes on everything.

- **In regards to Project 2 : Sampling/appropriation** of musical elements, fragments, breakbeats, other artworks etc. is allowed in projects, but the guideline will be an assessment of whether or not a majority of sound information (or the *effect* of the *sum* of the various parts that occur at the time of sampled fragments) can be considered to be "your" composition. Check with your lecturer at any time if in doubt about this, but as a rule, compare it to your own concepts of visual ownership when presenting work as "yours" in other classes. Constructing an IKEA bookshelf does not give you a degree in carpentry. Please also read the general COFA section below on **'Academic Honesty and Plagiarism'**. Where those generic UNSW guidelines appear to clash with this paragraph, this paragraph will prevail.

- **In regards to Project 2 : Proof of 'creative ownership'**. This follows on from the last section. Your lecturer, when consulting on or assessing your work, may ask for separate elements of any combined group of sounds to be provided, in order to ascertain the "degree of construction" you have undertaken in the work, particularly when sampled elements are involved. This is not about LEGAL ownership (if you wish to actually 'release' your work, you may deal with those concerns yourself), but is about the degree of 'creative ownership', which will be determined by the lecturer. Your lecturer may ask for this at any stage of the semester, however many times it is deemed necessary. If you are unable to satisfactorily provide this, your work may not be accepted for assessment. So if you're using sampled elements, keep track of your work and make a collection of files that "trace" your work. Please also read the general COFA section at the end of this document on **'Academic Honesty and Plagiarism'**. Where those generic UNSW guidelines appear to clash with this paragraph, this paragraph will prevail.

- **Other software systems**. Students working on projects predominantly outside the university, using software systems and platforms that are not compatible with those used at the university, are still required to provide work-in-progress sessions at the required times. This means separate tracks of audio, imported into a Protools session BEFORE your consultation/assessment. **A single exported audio file is NOT sufficient.** This is for both reasons of ascertaining "creative ownership" (see the above paragraph) and also enabling your lecturer to be able to give sufficient feedback. If you are unable to satisfactorily provide this, your work may not be accepted for assessment. If you don't adequately provide separate tracks of audio at consultation times, you **will** be graded down. You are also expected to gain an understanding of the Protools software.

COURSE SCHEDULE

PLEASE NOTE :

This course schedule will be updated and expanded over the course of the semester according to the direction that individual student projects take.

WEEKS 1-2   (March 2,9)   COURSE INTRO / UPDATES / REVISION

Readings :

cofa_PROTOOLS.pdf : Sections 1-7; Section 12.

SOUND_LINKS_2005.pdf

Both documents in : *Student – Classwork – Documentation – Audio*

Plug-ins_SUMMARY_03.pdf

Student – Classwork – Documentation – Audio – Audio Plug-ins manuals.

WEEK 3   (March 16)   CG-09, CG-15 studio / VOICE RECORDING

PROJECT PLAN due in Dropbox before class.

Class will meet in the CG-09 studio. CG-15 studio also briefly introduced.

Readings :

CG-09 studio.pdf, CG-15 studio documents

Student – Classwork – Documentation – Audio - COFA Studios/Equipment

RODE Classic 2 MIC.pdf

Student – Classwork – Documentation – Audio - COFA Studios/Equipment – CG-15 studio

WEEK 4   (March 23)   AUDIOVISUAL TECHNIQUES

Readings :

cofa_PROTOOLS.pdf : Section 8

Protools_FINALCUT.pdf

*Student – Classwork – Documentation – Audio - Audio Applications - * Protools*

WEEK 5   (March 30)   CONSULTATIONS

Grouped consultations on projects, venue TBAnnounced.

CONTINUES

WEEK 6   **(April 6)**   **LIVE RECORDING CG-15/17**

Use of the CG-15 / CG-17 studios and live recording. Meet in CG-15

Readings : **CG-15 studio.pdf**

Student – Classwork – Documentation – Audio - COFA Studios/Equipment – CG-15 studio

WEEK 7   **(April 13)**   **SURROUND SOUND / FOLEY**
Meet in CG-15 studio

Readings : **SURROUND_CG-15.pdf**

Student – Classwork – Documentation – Audio - COFA Studios/Equipment – CG-15 studio

TWO WEEK BREAK from classes:

April 17-21 is the COFA mid-session break

April 24-28 **(Week 8)** is "Research Week".

WEEK 9   **(May 4)**   **MID-SESSION PRESENTATIONS**

==MID-SESSION PRESENTATIONS== in class.

WEEK 10   **(May 11)**   **COMPRESSION / MASTERING**

Compression and final processes for audio mastering.

Readings : **cofa_PROTOOLS.pdf** : Sections 6; "Compressor / Limiter"

Mastering Software (folder)

Student – Classwork – Documentation – Audio - COFA Studios/Equipment

WEEK 11   **(May 18)**   **REAKTOR**

==PROGRESS REPORT & FILE== must be in the dropbox before the start of class.

Introduction to Reaktor software .

Readings : **IntroToREAKTOR4-Protools6.pdf, Reaktor_ENSEMBLES.pdf**

Student – Classwork – Documentation – Audio - Audio Applications – Reaktor

WEEKS 12-13 **(May 25, June 1)**   **PROJECT WORK**

Content to be determined according to direction of student projects.

WEEK 14   **(June 8)**   **ASSESSMENT**

==FINAL PROJECT== pieces must be put into the Class Dropbox before class.

Pieces will be played in class and feedback given. All to attend.

Simon Hunt s.hunt@unsw.edu.au

TECHNICAL QUESTIONS

Do not email the lecturer with technical questions, post them to the **Media Arts forum** at https://secure.cofa.unsw.edu.au/discussions/viewforum.php?f=1 where they will be answered by the lecturer or other helpful people.

TECHNICAL ASSISTANCE

C-block labs/studios : TBA technician's office (opposite the Resource Centre)
F-block labs: CSU help desk.

IT IS YOUR RESPONSIBILITY TO BACK UP ALL YOUR WORK.

By COFA regulations, extensions of time for assignments will not be granted to students who lose work through software/ hardware /operator error. Backup all work that is important to you at regular intervals.

Resources for Students

INSTRUCTIONS and SOUND SOURCES

- Various **audio instructions** in : *Student – Classwork – Documentation - Audio*

- Your '**textbook'** is : **"Sound_Links2005.pdf"** in the above location.

- COFA Library : **Sound effect CDs** in the audiovisual section of COFA library.

- COFA Library : "Future Music" and "Computer Music" – monthly magazine/CD containing **software and music samples**, CDs are kept in the **audio/visual section**, magazines are upstairs.

COFA RESOURCE CENTRE

- See their site at http://www.cofa.unsw.edu.au/units/resource/

- Keep the staff there happy by learning the names for various **CONNECTORS** : http://www.cofa.unsw.edu.au/units/resource/equipment_guide/av_connectors/connectors.shtml

- … and by learning the names for various **ADAPTORS** :
http://www.cofa.unsw.edu.au/units/resource/equipment_guide/av_connectors/adapters.shtml

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SOME LIBRARY JOURNALS

The Wire

an independent, monthly music magazine dedicated to "informed, intelligent coverage of a wide range of progressive, adventurous and non-mainstream musics."

Straight No Chaser

"Interplanetary Sounds : Ancient to Future". Journal documenting current and historical strands and events within African-derived forms of music such as jazz, hiphop, soul, funk, reggae, latin and brazilian forms.

Future Music / Computer Music

See above in 'Instructions and Sound Sources'.

For an extensive online collection of journal articles, see the document **"Sound_Links2005.pdf"** in *Student – Classwork – Documentation – Audio*

SOME LIBRARY BOOKS (not textbooks)

Brophy, Philip (Ed) *Cinesonic : experiencing the soundtrack*. Sydney,Aust AFTRS 2000; *Cinesonic : the world of sound in film, Sydney, Aust* AFTRS 1999

Kahn, Douglas: *Noise, Water, Meat : A History of sound in the arts* , Cambridge, Mass : MIT Press 1999

Chernoff, John Miller : *African Rhythm and African Sensibility ,* Uni Of Chicago Press, 1979

Kostalanetz, Richard: *Sound Art.*

Nyman, Michael : *Experimental Music: Cage and Beyond,* Studio Vista. 1974

Schaffer, Murray R.: *The Soundscape: Our Sonic Environment and the Tuning of the World* , Destiny Books, 1993

Toop, David : *Ocean Of Sound :ether talk, ambient sound and imaginary worlds*, London : Serpent's Tail , 1995.

Weis & Belton (ed.): *Theory and Practice of Film Sound*, Columbia Uni Press, 1985.

Administrative Matters (general BDM information for courses)

CONTACTS

Course Coordinator:	Simon Hunt
Room	G104
Phone	9385-0657
Email	s.hunt@unsw.edu.au

* In the first instance please contact **the tutor** for each component (sound, video, photo). Contact details to be supplied at commencement of course.

For program advice and assistance, contact the Head of the School of Media Art. For general inquiries, or to make appointments to see the Head of School contact the School Secretary, Duncan Fellows (phone 9385 0758).

For administrative inquiries and assistance (relating to enrolment, class lists, timetables etc.), contact the Faculty Student Centre [ground floor 'B' Block] (9385 0684)

COURSE REQUIREMENTS

ATTENDANCE
The minimum attendance requirement is 80% of all classes, including lectures and tutorials. **You are liable to fail the course if you miss 3 classes** [see remarks on Special Consideration below].

PARTICIPATION
You are required to prepare for, and actively participate in class activities.

COMPLETION OF SET WORK
You must complete all set work. You may fail the subject if you do not submit all set work.

COMPUTING REQUIREMENTS
It is strongly recommended that all BDM students purchase an external hard drive for use within the degree.

NOTES ON ASSESSMENT

LATE SUBMISSION

Late work may not be accepted or assessed, or may be penalised: the lecturer may deduct 2 marks per day, up to 7 days. Work that is submitted more than 7 days after the due date may not be accepted for assessment. If you have a good reason for being unable to submit your work on time, it is important that you let your tutor, or lecturer know promptly – and no later than the due date. There are two kinds of provisions made for students who have good reasons for late submission:

1. Extensions

Students who are late with assignments may apply to their lecturer or tutor for an extension.

You must apply for an extension before the due date. Extensions may be refused if you do not present documented medical or other evidence of illness or misadventure. An extension is only for a short period, usually no more than a week.

2. Special Consideration

Where a longer period is needed, you should apply for Special Consideration. For details about Special Consideration please go to this site

https://my.unsw.edu.au/student/atoz/SpecialConsideration.html

Please note that the application must be submitted no later than 3 days after the affected assessment is due. Also, where the web page talks about NewSouth Q, you should use the COFA Student Centre, Ground Floor B Block.

3. Review of results

For details about requesting a review of result see

https://my.unsw.edu.au/student/academiclife/assessment/AssessmentMainPage.html

 Please note that the application must be submitted no later than 15 days after the work has been returned. Also, where the web page talks about NewSouth Q, you should use the COFA Student Centre, Ground Floor B Block.

EMAIL POLICY

You must check email often enough so that you do not miss urgent messages. Typically every second day would be a minimum, unless you are away from the university. If you use an email account somewhere else, for example in your school or outside the University, you *must* arrange to forward your email from your official address to the email account you use. If you use free web-based email such as Hotmail, you must also regularly delete old messages to ensure you will have space to receive any new messages from the University. This is **your** responsibility!
If you know your UNIPASS, you can set this up yourself via the web. Go to the "do-it-yourself" page at http://www.diy.unsw.edu.au/ . If you don't know your UNIPASS (you should!), or you need help, contact DISConnect, who can arrange to provide your UNIPASS or set up the forwarding for you. The DISConnect desk is at the back of the Kensington campus Library and their phone number is 9385 1777. Either way, it takes five minutes.

ONLINE FORUM

Students are also required to check the **MEDIA ARTS forum** regularly, typically every second day. Information regarding enrolment, course requirements, technical issues, job opportunities and other relevant information will be regularly posted on the forum, which can be found at
http://discussions.cofa.unsw.edu.au/viewforum.php?f=1&sid=538e659f9f7810ba57eb9598f26b1307

SOLUTIONS TO PROBLEMS—TROUBLE-SHOOTERS

THE LEARNING CENTRE

The Learning Centre provides assistance for study-related problems. The COFA Learning Centre is staffed Monday 11am-3pm, Tuesday 10am-2pm, Thursday 12pm-4pm and Friday 11am-5pm. Call in for an appointment or phone 9385 0739. Check their web site on http://www.cofa.unsw.edu.au/start/currentstudents/services/default.php?n=141

STUDENT COUNSELLOR

The COFA Counseling Service offers counseling on any problems causing distress or concern. For an appointment, ring 9385 0733. (Appointments: Monday 9am-3pm, Tuesday 9am-5pm, Wednesday 12pm-3pm, Thursday 9am-4pm, Friday 9am-5pm.) Don't wait to contact the service until you need support for an application for Special Consideration: counseling is offered to assist you to resolve the problems that are affecting your work. Check their web site on http://www.cofa.unsw.edu.au/start/currentstudents/services/

FEES

If you need to pay fees or HECS it is important to realise that the university will not send you a statement or invoice. You will need to go into the Student Gateway to both get fee statements and to pay online. If you have elected to pay HECS upfront and don't pay on time you will be excluded from all classes and only be able to continue your enrolment for that semester by enrolling as a miscellaneous student, with the higher tuition fees that involves.

EQUITY AND DIVERSITY

Those students who have a disability that requires some adjustment in their teaching or learning environment are encouraged to discuss their study needs with the course convener prior to, or at the commencement of, their course, or with the Equity Officer (Disability) in the Equity and Diversity Unit (9385 4734 or www.equity.unsw.edu.au/disabil.html).

CONTINUAL COURSE IMPROVEMENT

Periodically student evaluative feedback on the course is gathered, using among other means, UNSW's Course and Teaching Evaluation and Improvement (CATEI) Process. Student feedback is taken seriously, and continual improvements are made to the course based in part on such feedback. Significant changes to the course will be communicated to subsequent cohorts of students taking the course

SAFETY INFORMATION

Emergencies and evacuation

In case of emergency you should follow the instructions on the emergency procedures displays, which are located on each level and notify security on 9385-6666.
During evacuations always follow the directions given by fire wardens and proceed to the emergency assembly area, which is in front of the campus art store (red oval on diagram).
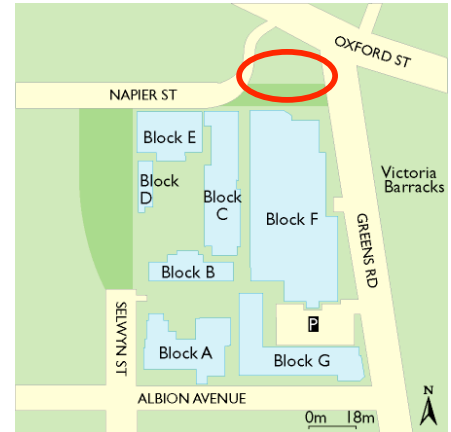
Students OHS responsibilities
Students are responsible for adhering to UNSW and COFA OHS policies and procedures, following instructions on safe work methods, promptly reporting hazards or accidents and ensuring that their conduct does not endanger others.

First aid information
If you are injured or are hurt in any way inform your supervisor. All accidents and incidents must be reported. The names and contact details of first aid officers on campus are displayed on the green and white first aid posters. Security staff are also trained first aid officers.

Electrical safety
Students should ensure that any portable electrical equipment they bring onto the campus (such as laptop computer power supplies) are tested and tagged. Such equipment will not be able to be used on campus if not tagged. Testing can be done at the Resource Centre.

Computer usage and ergonomics

Using computers for long periods has the potential to cause overuse injuries. These injuries can be minimised by correct set-up of your workstation. Advise on how to set-up your workstation correctly can be found at http://www.cofa.unsw.edu.au/units/csu/staffinfo/

When using **headphones**, students must **ALWAYS** play a short segment of sound **BEFORE** putting headphones on in order to avoid **hearing damage**.

Public Liability
The University has appropriate insurance cover whereby you, the student and the University are indemnified in the event of you, while on work experience, placement or assignment (including such things as film/video/photo shoots, off-site installations etc) become legally liable for any injury to any person or damage to property caused by your negligent act.

 A Letter of Indemnity Template is available for download from:
http://www.riskman.unsw.edu.au/insurance/indemnity.shtml

ADVICE AND INSTRUCTIONS TO STUDENTS REGARDING WORKSPLACE SAFETY AND HAZARDOUS SUBSTANCES:

Students should always follow instructions provided by the Lecturer to ensure a safe working environment for all students in the area. If you are unsure how to operate equipment, always seek advice from the Lecturer or Technical person before proceeding. Obtain and read Health and Safety handout with regard to use of Facilities and Equipment within the Photomedia Area & Time Based Art Area. They are also included within info on College - School of Media, BDM server.

14

Enclosed shoes must be worn at all times in the Photomedia Area and students will be asked to provide their own gloves for handling chemistry.

Students should be aware of their responsibility to avoid causing injuries to themselves or to others. These injuries could include; eyestrain, hearing damage, back, neck and repetitive strain injury (RSI), burns, chemical poisoning, inhalation damage, lacerations and the like. Students using, or planning to use, unorthodox materials, or materials/processes/performances in a potentially damaging manner in their class, or related work, ARE REQUIRED to complete a Risk Assessment Form. This form must be signed by the lecturer and lodged with the relevant Technical Officer or School Administrative Assistant. Unorthodox materials are considered to be material, solvents, chemicals, paints, electricity etc. not covered by standard practice or tuition within the area. All potentially dangerous materials MUST be used in consultation with the mandatory material safety data sheets (MSDS) available at the point of acquisition of such materials. It is UNSW policy that no bodily parts or fluids are used on any campus for any purpose.

Academic honesty and plagiarism

Penalties for academic dishonesty or plagiarism can be severe, and range from reduced marks, through failing the course, to exclusion from the University. Your responsibility is to understand what plagiarism is and take steps to avoid plagiarism in your assignments.

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 work, or knowingly permitting it to be copied. This includes 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.†

Submitting an assessment item that has already been submitted for academic credit elsewhere may also be considered plagiarism.

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

Students are reminded of their Rights and Responsibilities in respect of plagiarism, as set out in the University Undergraduate and Postgraduate Handbooks, and are encouraged to seek advice from academic staff whenever necessary to ensure they avoid plagiarism in all its forms.

The Learning Centre website is the central University online resource for staff and student information on plagiarism and academic honesty. It can be located at:

www.lc.unsw.edu.au/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.