Academic Skills Pocketbook

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A Library guide to success at university

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WESTERN SYDNEY UNIVERSITY
PENRITH

Contents

Part IV. Mathematics at University

Acknowledgment of Country

Acknowledgment of the Traditional Owners of Western Sydney University Land

Western Sydney University acknowledges the custodians of the lands in which we meet, work, learn and socialise. We pay respect to the peoples of the Darug, Eora, Dharawal (also referred to as Tharawal) and Wiradjuri nations where our campuses are located. We acknowledge that the teaching, learning and research undertaken across our campuses continues the teaching, learning and research that has occurred on these lands for tens of thousands of years. We acknowledge and pay our respect to the Elders past, present and emerging.

Introduction

About this book

There is so much to learn when you start university. This book will focus on the most important academic skills you'll need to get started, leaving sufficient 'room' for actual learning and reducing your cognitive load.

This book aims to give you a quick understanding of these skills which you can then apply within your area of study.

This book aligns to UN Sustainable Development Goal 4 – Quality Education.

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Supporting references

- Skulmowski, A., & Xu, K. M. (2021). Understanding cognitive load in digital and online learning: A new perspective on extraneous cognitive load. *Educational Psychology Review*, *34*(1), 171-196. https://doi.org/10.1007/s10648-021-09624-7

PART I

LIFE AT UNIVERSITY

1. Expectations at university

Graduation, Western Sydney University by Sally Tsoutsas is licensed under a CC BY-NC-SA 4.0 license

The purpose of a university is to develop new knowledge through original research and produce graduates that are professionally competent in their chosen field of study.

Attending university can be a very different experience to what you have known before. At first it can be challenging to navigate the academic expectations, social aspects and your own wellbeing.

You will meet people from all over the world with a range of different cultural backgrounds and belief systems. It is important that you recognise the diversity that is present at university and approach all situations with respect and integrity.

Academic culture

University is a place of inquiry and learning. Not only will you

learn new knowledge and skills, but you will also learn a new culture. These are some of the shared attitudes, values and ways of behaving at an Australian university:

- Knowledge is developed through discussion and debate.
- You are encouraged to question, challenge and evaluate points of view (critical thinking).
- Any claims made should be supported by credible evidence.
- You are expected to prepare for and meet you study commitments independently.

Expectations

It is expected that whilst at university you will:

- attend scheduled learning activities including lectures, tutorials, labs and practicals
- meet your study requirements e.g. submitting assessments by the due date
- comply with the conduct rules of the University including:
    - behaving ethically and honestly at all times (academic integrity)
    - treating those around you with respect and fairness and be treated the same way
    - following the guidelines for specialised spaces e.g. wearing the appropriate clothing in labs
    - looking after the campus environment and resources.
- regularly check your student email and keep on top of administration e.g. enrolment and class registration.

Upon graduation employers will expect you to:

- be able to express yourself and your ideas clearly and to a professional standard
- have a good grasp of your chosen discipline area and be able to apply it in a professional setting.

Goals

Some personal goals you might have when starting at university include:

- excelling at your studies
- making lifelong friendships
- learning new life or work skills
- getting a job in your chosen field.

Goals are achieved when you work on them. Set goals for yourself using the SMART method and work towards them. SMART (specific, measurable, attainable, realistic, time bound) goals help you to define and achieve what you want to accomplish one step at a time.

Strategies to succeed

Everyone approaches their studies in their own unique way but there are some common elements that will help you succeed:

- Active participation – engage with your teachers, classmates and the university community.
- Meet deadlines and turn up on time – reach out for help

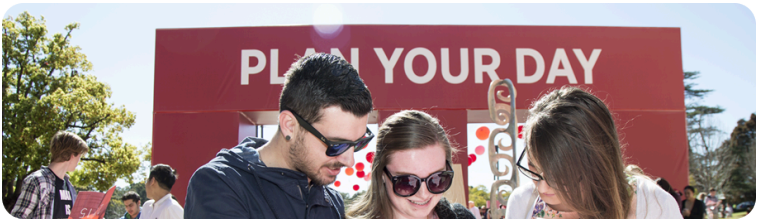
early if you are unsure or having difficulties.
- Take advantage of what's available to you – look into study services, facilities, clubs and activities.
- Ask for help when you need it – there is more support available than you might think.

Remember, the only measure of success that matters is how you feel about your own progress and achievements. Avoid comparing yourself to others.

Supporting references

- Brick, J., Herke, M., & Wong, D. (2020). *Academic culture: A student's guide to studying at university*(4th ed.). Red Globe Press.

2. Time management



At university, as in other areas of life, it is essential that you manage your time well. By arranging your different commitments strategically, you can ensure that you have enough time to study and to spend on other aspects of your life. This can be difficult with work and family commitments and many people feel they are not good at managing their time, but it is a skill that needs to be developed, not something that comes naturally.

Setting realistic goals when arranging your study time into your life will help you to achieve balance.

> **Remember** that you need to take care of yourself by allowing for enough sleep, exercise and leisure time.

Arranging your study schedule

It is important to keep in mind that most of your study time takes place outside of your classes or learning activities, so you will need to allow for this when planning your time. The first step however is to establish how long the semester is and when your assignments for each subject are due. This will form the basis of your planning.

From here, you can plan from a monthly perspective, down to weeks and then to days. We suggest taking a backwards approach and plan your time back from the due dates of each assignment. Include study time and all other elements of your normal routine so that your plan is realistic and takes advantage of when you are most productive (e.g.morning or night).

One way to backwards plan is to:

- put your assignment due dates, learning activities, work and regular family responsibilities into your calendar
- block out time to work on assessments before they are due
- block out time for studying e.g. reading, writing, preparing and revising.

Now that you have your calendar populated the next step is to follow your plan.

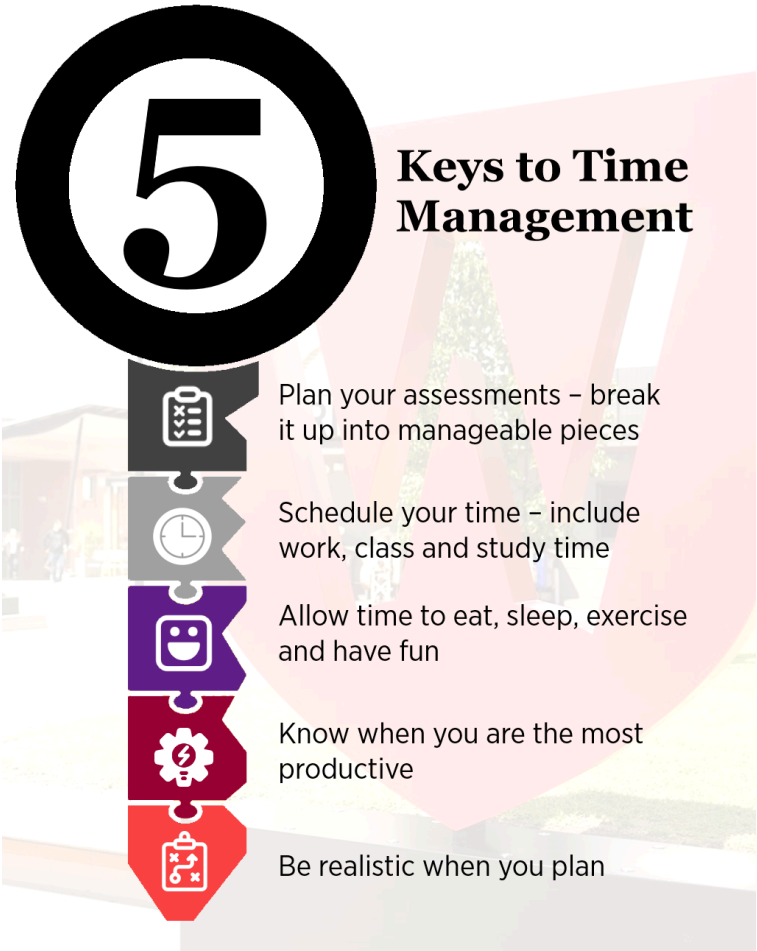
Dealing with procrastination

Often when a task is overwhelming or complex, you can end up avoiding it and procrastinating. An effective technique for dealing with procrastination is the Pomodoro Technique where you divide your work into manageable smaller chunks. With the Pomodoro technique, you set a timer for 25 minutes and you focus intently on a single task for 25 minutes. You then take a short break and continue in 25 minute increments.

Applying this technique is a good way to tackle a project that you are avoiding. Often, just starting an assignment or project is the most difficult hurdle.

Tools for time management

- Download the Western Sydney University Weekly and Semester Planners from the Counselling Service and use these to create a plan for your semester.
- Use the Western Sydney University Library Assignment Planner to plan your assignments, understand the steps involved, and how much time you should dedicate to each task.



3. Wellbeing

Group of People Sitting on White Mat on Grass Field by Helena Lopes is licensed under a Pexels license

Your university journey comes with a range of opportunities to experience new things, learn new ideas, meet new people and face challenges. Understandably, when commencing something new, it can be both an exciting and challenging experience. As well as relying on your existing supports and resources, we wanted you to know that there is also support available to you from the first day you start at WSU and throughout your journey with us. Research has shown a link between wellbeing and increased academic performance, so looking after your own wellbeing is important in helping you to achieve your academic goals.

Ways to look after your wellbeing can include:

- getting enough sleep, nutrition and exercise
- maintaining social connections such as spending time with your family or friends
- being active in the University community by joining a club or attending events on campus
- allowing yourself some free time to relax and pursue hobbies and interests.

There are many areas in life, work and study where working with others can assist you to maximise your success. Your health and wellbeing is particularly important as it influences all aspects of your life. How you feel about the people around you and the situations you experience is influenced by your health and wellbeing. There may be a time when seeking help is an effective way of managing your needs. Seeking help can be hard and there are many ways you can connect with support services including by phone, email or even having a look at the resources that are available online.

Watch these Survival Guide videos for ideas to help you manage anxiety and let go of the idea of being perfect.

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A transcript of this video is available in Appendix A.

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A transcript of this video is available in Appendix B.

Mindfulness-based interventions, such as mindful breathing

or meditation, are effective methods for managing stress and anxiety. You can practice a simple mindful breathing exercise by following the steps in this video:

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A transcript of this video is available in Appendix C.

Learn more

Explore the services, facilities and resources available at Western Sydney University in more detail below.

- Western Sydney University Counselling Quick Clips and Webinars
- Western Sydney University Mental Health & Wellbeing Resources
- Western Sydney University Services and Facilities
- Western Sydney University Student Wellbeing Services

Supporting references

- Egan, H., O'Hara, M., Cook, A., & Mantzios, M. (2022). Mindfulness, self-compassion, resiliency and wellbeing in higher education: A recipe to increase academic performance. *Journal of Further and Higher Education*, *46*(3), 301-311. https://doi.org/10.1080/0309877X.2021.1912306

4. Academic integrity

A Group of People Sitting while Having Conversation by Tima Miroshnichenko is licensed under a Pexels license

During your time at university you will find yourself faced with many decisions — about university, your career and your personal life. Many of these decisions will provide you with opportunities to grow your knowledge and skills, however sometimes they could tempt you to compromise your integrity.

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Academic misconduct

Misconduct is the term used to describe any behaviour that

undermines or compromises your integrity. Learn about the different forms of academic misconduct below.

Cheating

Cheating at university can include such behaviours as:

- using materials such as notes or devices without permission in an in-person or online exam
- copying from another student
- sharing your answers with another student
- having someone else sit an exam on your behalf.

Consider this scenario:

Aoife has been working long hours and doesn't feel prepared for her exam even though she has spent a lot of time studying and has a good grasp of the topic. Sheknows she can position her phone where the online software cannot detect her looking at answers her friend, who sat the exam the day before, has sent her instead of formulating her own. Aoife is cheating on her exam by trying to pass another student's work off as her own.

Contract cheating

The Australian Governments Tertiary Education Quality and Standards Agency or TEQSA defines contract cheating as:

"...when students outsource their assessments to a third party, whether that is a commercial provider, current or former student, family member or acquaintance. It includes the unauthorised use of file-sharing sites, as well as organising another person to take an examination"

(Definition from Good practice note: Addressing contract cheating to safeguard academic integrity by Tertiary Education Quality and Standards Agency available under a CC BY 3.0 license)

Paid contract cheating services are illegal in Australia. They include websites and individuals or groups that market or provide cheating services to students and file sharing sites.

Examples of contract cheating include:

- paying for an essay from a contract cheating website
- paying a friend, peer, or relative to complete an assignment for you
- asking someone to complete part of an assessment for you
- sharing University lecture notes on a contract cheating website for credits or financial gain.

Consider this scenario:

Maria & Aarushi are working on a group project. They have found it hard to meet to work on it and the deadline is getting very close. Maria has found an online service that will provide the finished assessment item, including presentation slides and notes. They suggest that the two group members split the cost for the service so that it will take the pressure off and get them both good marks. Maria is suggesting that both group members participate in

contract cheating to gain an advantage in their studies.

Plagiarism

Plagiarism is when you present someone else's ideas or work as your own. It could occur in writing, design, music, film, software code and many other situations. Some examples include:

- handing in someone else's work as your own
- copying words or ideas from someone else without giving them credit
- failing to use quotation marks when you quote someone's words
- giving incorrect information about the source of a quotation
- changing a few words in a sentence but leaving the rest of it the same, with or without crediting the source
- handing in work that you already used for another assignment (self-plagiarism).

An important part of academic writing is acknowledging the ideas and work of others. When you do this, it allows your own analysis, ideas, and voice to shine.

Consider this scenario:

Basheer finds study notes online that answer part of his assignment question. He copies the notes exactly and changes only a few words in the hopes that it won't get detected by plagiarism software or recognised by the marker. He is intentionally trying to pass off someone else's work as his own.

Collusion

Collusion is when two or more students act together to cheat, plagiarise or engage in academic misconduct, or encourage others to do so. Some examples include:

- sharing answers for an online quiz in a group chat or deliberately sharing answers in a physical exam room
- giving part or all of an assignment you have written to a friend so they can copy it
- planning or co-writing a response to an individual assignment with another student.

Be aware that leaving your work in an insecure place where other people could copy it (e.g. leaving your laptop open, forgetting to collect your printing) can lead to collusion even if you do not intend to share your work.

Consider this scenario:

Jamie is taking a subject that their sister Hannah completed last year. Jamie asks if they can look at Hannah's assignment because they aren't sure how to answer the question. Hannah sends Jamie her completed assignment. Even though Jamie promises not to copy it, they are obtaining an unfair advantage.

What can go wrong?

If you don't act with academic integrity, you are likely to face penalties which can include:

- facing the misconduct process of the university
- having to repeat and/or failing the assessment task or subject
- being suspended from your degree or subject for a period of time
- being expelled and/or losing your degree
- being denied entry into your chosen profession
- facing criminal charges.

Give yourself the best chance

The best way to avoid cheating is to be honest with yourself and do the work. Manage your time and be prepared.

- Read widely on your topic and collect the information for your assessment yourself.
- Analyse the information and write the assessment yourself.
- Speak to your lecturer before using any translation, artificial intelligence or other software or online tool to see if it acceptable for your studies.

If you are having difficulties with your studies, seek out help. You can speak to your lecturer or tutor, access Library services to help with your assessments, or reach out the University student support services.

PART II

ACADEMIC WRITING SKILLS

5. Finding information

Light person people by Tima Miroshnichenko is licensed under a Pexels license

For most of your assignments, you will need to find scholarly or peer reviewed information related to your topic in order to find out what researchers have said about it and develop your own ideas or perspectives.

Types of information

Different topic areas will require different types of information, such as scholarly and non scholarly sources. Each information source will serve a purpose for the assessment and topic area you are studying and needs to be assessed for quality and relevance.

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Searching

1. Before you begin, you need to identify or decide on the focus of your information search. What have you been asked to do?
2. Next identify words and phrases which best describe the information you want to find then create a search strategy.
3. Look at the help section of the database or search engine you are using for tips on how to get the most out the results.
4. You may need to adjust your strategy a few times (e.g. adding or changing search terms).

An interactive H5P element has been excluded from this version of the text. You can view it online here: https://westernsydney.pressbooks.pub/aspocketbook/?p=5#h5p-38

Tips for effective searching, Western Sydney University by Ashleigh Watson is licensed under a CC BY-NC-SA 4.0 license

See Appendix D for a full sized version.

Reference management

In your searching, you will come across many sources you want to use or keep and refer to later. Collecting and storing the references of your sources in a central location is good practice and can help you to be more efficient and avoid stressful situations (such as misplacing where a quote has come from).

Reference management tools such as EndNote, Zotero and Mendeley allow you to:

- organise your research and save time
- create a database of references
- automatically generate your in-text citations and references for assignments in a variety of styles.

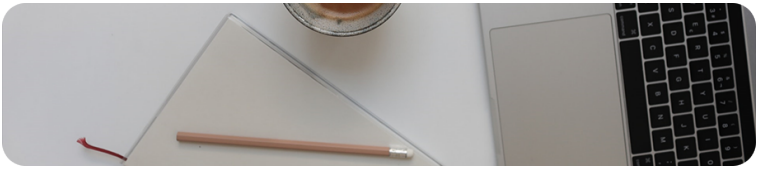
Note: websites, search engines and databases that

automatically generate citations and references are not always accurate. Always check and edit your references against the required referencing style guide available through the Library before submitting your assignment.

Learn more

- Western Sydney University Library Successful Searching Modules
- Western Sydney University Library Referencing and Citation Guides
- Western Sydney University Library EndNote
- Western Sydney University Library Other Referencing and Citation Tools

6. Note-taking



Laptop and coffee on white table by Cup of Couple is licensed under a Pexels license

Learning new information can be overwhelming. Taking notes can help you to organise your thoughts, the information you are studying and boost your ability to remember. This is even more valuable when you are studying more than one subject or learning more than one skill at the same time.

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Cornell notes activity

1. Read the passage below.
2. Take notes by clicking on the pencil icon to flip between the paragraph and the notes template.

An interactive H5P element has been excluded from this version of the text. You can view it online here: https://westernsydney.pressbooks.pub/aspocketbook/?p=36#h5p-3

Supporting references

- Morehead, K., Dunlosky, J., & Rawson, K. A. (2019). How much mightier is the pen than the keyboard for note-taking? A replication and extension of Mueller and Oppenheimer (2014). *Educational Psychology Review*, *31*(3), 753-780. https://doi.org/10.1007/s10648-019-09468-2

7. Critical thinking

Person holding water drop by Sindre Fs is licensed under a Pexels license

Is everything you read, see or hear factual? Does it come from a particular point of view that may be similar or different to your own?

Everything we read, see or hear contains elements that can and should be questioned – this is what it means to think critically. You need to be able to identify whether material is true, plausible, satirical or questionable. Some examples of questionable materials that you might be familiar with include:

- short quotes taken out of context so that they seem to mean something different
- photoshopped images
- deep fake video and audio bites
- statistical data which is manipulated to support a point of view
- fake news
- scam emails (e.g. phishing).

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https://westernsydney.pressbooks.pub/aspocketbook/?p=56#h5p-10

An evaluation framework can help remind you of the critical questions to ask for each source of information you find and decide if it is reliable and appropriate to use in an assignment. There are several frameworks which you can use. Below are just a few that exist.

An interactive H5P element has been excluded from this version of the text. You can view it online here:
https://westernsydney.pressbooks.pub/aspocketbook/?p=56#h5p-36

Supporting references

- Banasiewicz, A. D. (2019). *Evidence-based decision-making: How to leverage available data and avoid cognitive biases*. Routledge.

8. Writing fundamentals

Person Writing on Notebook by Julia M Cameron is licensed under a Pexels license

A lot of our daily language use is spoken. While speaking is important at university, most of your assignments will require writing, so developing your writing skills for the academic setting is essential.

Developing your academic writing skills at university will help you express yourself in the workplace as well.

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There are many different types of writing tasks at university. Even within a task type like essays there will be lots of variables that you will need to address. Pinpointing the assignment type as well as the direction words in the question will help you to succeed.

An interactive H5P element has been excluded from this version of the text. You can view it online here: https://westernsydney.pressbooks.pub/aspocketbook/?p=45#h5p-5

9. Sources and referencing

Photo Of Books On Brown Wooden Shelves by Polina Zimmerman is licensed under a Pexels license

When writing an assignment, you will need to support your ideas with information and evidence from reputable sources. The finding, reading and use of these sources is the 'research' element of an assignment.

Reading

Some subjects will provide a reading list for an assignment, though often you'll be expected to find sources on your own (see the Finding information chapter).

Many students find reading for academic purposes difficult. The language of an academic book or journal article is different to sources we read every day such as social media, emails, or news articles. While it might seem hard at first, there are strategies you can use to help you become a more effective reader.

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Referencing

You might notice when reading academic texts that the authors refer to other authors and sources in a particular way. This is called referencing or citing and it benefits everyone in the academic community.

- Referencing gives proper credit to the author.
- Referencing is evidence of your research.
- Referencing enables readers to find and read the sources you have used to learn more about the topic.
- Style conventions helpthe writer to include all the elements of a source when referencing (e.g. APA, Harvard, etc.)

An interactive H5P element has been excluded from this version of the text. You can view it online here: https://westernsydney.pressbooks.pub/aspocketbook/?p=50#h5p-34

Quoting, summarising and paraphrasing

At university, you are expected to think critically and analyse different viewpoints as we discussed in the Critical thinking chapter. You often need to have a position or thesis statement in your writing, but your ideas and arguments must be supported by reference to books, journals, experts' opinions and other reputable sources. For some assessments you may also be required to analyse factual data rather than present your own position on a topic.

An interactive H5P element has been excluded from this version of the text. You can view it online here: https://westernsydney.pressbooks.pub/aspocketbook/?p=50#h5p-35

Learn more

- Western Sydney University Library Referencing and Citation Guides

PART III

SPECIFIC ASSIGNMENT TYPES

10. Literature reviews

Black String on Top of an Open Book during Daytime by Pixabay is licensed under a CC0 license

Literature reviews can be an assessment item on their own or part of a larger project. They are a very common part of studying and researching at university. A literature review analyses the existing literature related to a particular topic or theme. The review is then used to provide evidence for a overview of current topic area or to identify future areas of study or research.

There are lots of different types of literature reviews but they all have some common elements.

Organising your information

When reviewing the literature, it can help to group the information you find to make it easier to analyse. Use the reading skills covered in the Sources and referencing chapter to guide your reading and note taking. Some areas to focus on are:

- important authors and works relevant to the subject
- flaws in previous research
- similarities and differences of opinion or findings
- themes in the research methodology, geographical

location or other areas.

Consider using a table, matrix or concept map to identify how the different sources relate to each other.

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11. Essays

Person Holding Orange Pen © lil artsy is licensed under a Pexels license

The purpose of an essay is to:

- present a coherent argument in response to a statement or question, and
- to persuade the reader that your position is credible (i.e. believable and reasonable).

In other words, you need to think about the task, research the topic, decide on your position, and then convince the reader by presenting a reasoned response supported by evidence from the sources that you have found.

Essays are structured into an **introduction**, **body**, **conclusion**and **reference list.**

Use the table below to find out more about the different parts of an essay and plan your own.

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12. Reports

Close-Up Photo of a Person Using a Pink Highlighter by Karolina Grabowska is licensed under a Pexels license

Reports are a common tool used in business and industry to convey information and making decisions. For these reasons, they are one of the most common types of writing in many workplaces, for example, a report may analyse the financial status of a company, a problem in a building project or equipment needed in a medical facility.

In academia and government settings, reports are also used to convey the latest findings or research to help make decision about policy or further research directions. You can find many examples online such as Royal Commission reports which examine things like bushfires, floods, epidemics, etc.

Unlike essays, where you're expected to argue a position, when you write a report you're generally required to define a situation or problem, analyse it, and make recommendations based on your analysis.

Reports contain distinct sections marked by headings, and often use a combination of paragraphs, bullet points, and visuals such as tables and images.

Most reports follow a similar structure to an essay with an **introduction**, **body**, **conclusion**, and **reference list** but contain additional elements to help step out the different aspects that are needed for analysis and decision making.

Some of these additional elements include a **title page**, **table of contents**, **executive summary**, **recommendations**, or **appendices**. Click on the headings below to understand different elements you may choose to include in a report.

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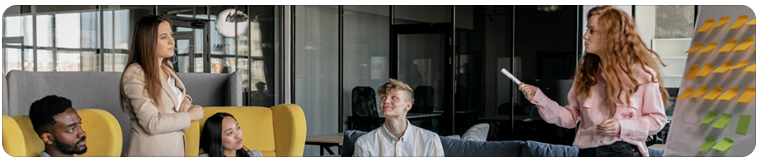
13. Presentations



People in a Meeting by Alena Darmel is licensed under a Pexels license

Learning how to deliver effective presentations is an essential skill used in study, work and life in general. You may find yourself presenting a project at university or your ideas in a business meeting with a client.

It's important to recognise that many people feel anxious about giving presentations. In fact, public speaking is one of the most common fears. If you are feeling nervous, there are strategies you can use to help you get up in front of people and present your work and ideas confidently.

Read the information below to find out how to make your presentation more interesting and engaging for both in-person and virtual audiences.

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https://westernsydney.pressbooks.pub/aspocketbook/?p=66#h5p-9

PART IV

MATHEMATICS AT UNIVERSITY

14. Using mathematics

Scientific calculator by Kaboompics is licensed under a CC0 license

If you're studying at university, you'll probably use mathematics somewhere in your course even if it doesn't appear to directly relate to mathematics.

At the minimum, most courses assume you're already competent in applying your numeracy and reasoning skills in various contexts. You will be expected to apply them in your academic studies even if this isn't mentioned in the University's handbook.

If you're wondering what level of numeracy and 'basic' maths you need for your course, now is a good time to ask yourself:

- What numeracy and maths skills do I need to know before I start my studies?
- What numeracy and maths skills do I already have from school and from everyday life?

An interactive H5P element has been excluded from this version of the text. You can view it online here: https://westernsydney.pressbooks.pub/aspocketbook/?p=70#h5p-14

Supporting references

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15. Subject specific mathematics

Blood Sugar Meter and Medication on the Blue Background by Nataliya Vaitkevich is licensed under a Pexels license

Some university courses or programs have assumed NSW HSC level knowledge in mathematics. However, even if it is not stated, most university programs assume students are competent in numeracy including basic maths and stats.

Assumed NSW HSC Mathematics for your program

Always check the University Handbook to see what additional mathematics is assumed knowledge in your subjects.

Look for headings such as 'Assumed knowledge' or 'Recommended studies' at both the program and subject level in the handbook. Check under the 'Admissions' tab.

Some schools or faculties will state the level of NSW HSC Mathematics required by your program or subject. For example, Engineering programs might mention Mathematics at Band 4 or above. This refers to the results received in the level of mathematics studied by students in Years 11 and 12 schools and examined in the NSW Higher School Certificate (HSC).

Some subjects will just state a broad area, for example ‘basic algebra’ but don’t detail what this means.

> **Remember**, at university, it’s assumed you are already competent in working and reasoning with numbers, even though this is not listed under ‘Assumed knowledge’ in the University’s handbook.

Year 11 and 12 Mathematics

Although the content covered in the NSW Year 7 to 10 Mathematics syllabus is sufficient for most non-STEM courses at university, most students find that studying Mathematics in Year 11 and 12 provides them with an opportunity to consolidate and strengthen those skills covered in Years 7 to 10, making them better prepared for the demands they meet in university subjects.

Many students studying STEM courses or subjects at university strongly benefit from having studied Mathematics Advanced or above at the NSW HSC level. Since they already have the necessary mathematics skills, they can focus on learning new content without having to refresh their maths at the same time.

What NSW Maths will help me succeed?

Use the table below to see what kind of mathematical background would benefit you in your course or area of interest.

Program by School	You are more likely to succeed if your mathematical background includes:
Engineering, Design and Built Environment • Architecture • Civil and Environmental • Construction Management • Electrical & Electronic • Industrial Design • Mechanical, Mechatronic & Robotics **Computer, Data and Mathematical Sciences** • Computing • Mathematics & Data Science	**NSW HSC Mathematics Extension 1 and above** View course content: • Mathematics Extension 1 (Band 3 or above) or • Mathematics Extension 2 (Band 3 or above)
Business • Accounting • Economics, Finance & Property • Human Resources & Management • Marketing, International Business, Hospitality & Sports Management **Science** • Agriculture & Food Sciences • Biological Sciences • Chemical & Forensic Sciences • Environment & Ecology • Medical Sciences • Physics • Zoological Sciences **Medicine** • Medicine	**NSW HSC Mathematics Advanced and above** View course content: • Mathematics Advanced (Band 4 or above) or • Mathematics Extension 1 (Band 3 or above) or • Mathematics Extension 2 (Band 3 or above)

Health Sciences • Allied Health • Public Health & Health Services • Sport, Health & Exercise Sciences	**Up to and including NSW Stage 4 (Years 7 to 8) Mathematics** • Number and Algebra • Measurement and Geometry • Statistics and Probability **NSW Stage 5 (Years 9 to 10) Mathematics*** • Number and Algebra ◦ Ratios and Rates 5.1, 5.2, 5.3 ◦ Indices 5.1 ◦ Equations 5.1, 5.2 ◦ Algebraic Techniques 5.1, 5.2 ◦ Linear Relationships 5.1, 5.2 • Measurement and Geometry ◦ Numbers of any magnitude 5.1 ◦ Right-Angled Triangles (Trigonometry) 5.1, 5.2 ◦ Properties of Geometrical figures 5.1 • Statistics and Probability ◦ Single Variable Data Analysis 5.1, 5.2, 5.3
Law • Laws (non-graduate entry) **Psychology** • Psychology **Education**** • Education	**NSW Stage 4 (Years 7 to 8) Mathematics** • Number and Algebra • Measurement and Geometry • Statistics and Probability **NSW Stage 5 (Year 9 to 10) Mathematics*** • Number and Algebra ◦ Ratios and Rates 5.1, 5.2, 5.3 ◦ Indices 5.1 ◦ Equations 5.1, 5.2 ◦ Algebraic Techniques 5.1, 5.2 ◦ Linear Relationships 5.1, 5.2 • Statistics and Probability ◦ Single Variable Data Analysis 5.1, 5.2, 5.3

Nursing and Midwifery • Nursing • Midwifery **Humanities and Communication Arts** • Communication and Media • Cultural Studies • Historical & Philosophical Inquiry • Languages & Linguistics • Literature & Creative Writing • Music & Music Therapy • Visual Communication **Social Sciences** • Anthropology • Arts Therapy & Counselling • Criminology • Geography • Social Work • Sociology	**NSW Stage 3 and 4 (Year 5 to 8) Mathematics** • Proficiency in Number and Measurement are particularly important **NSW Stage 4 (Years 7 to 8) Mathematics** • Proficiency in Number and Measurement **NSW Stage 5 (Years 9 to 10) Mathematics*** • Number and Algebra ◦ Ratios and Rates 5.1, 5.2, 5.3 • Statistics and Probability ◦ Single Variable Data Analysis 5.1, 5.2, 5.3

* 5.1, 5.2 and 5.3 are the three sub-stages of Stage 5 (Year 9 and 10). For more information, see Mathematics K–10 | NSW Education Standards Authority (and select Course Content).

** From 2023, some education degrees will have a mathematics prerequisite required by NSW Education Standards Authority (NESA). Please note that this is not a Western Sydney University prerequisite, and further information can be found on the NESA website.

Learn more

The Mathematics Education Support Hub (MESH) provides Western Sydney University students at all stages in their courses of study, with mathematics and statistics support. Explore the following resources for help with developing your maths skills:

- Western Sydney University MESH Disciplines Using Maths
- Western Sydney University MESH Support and Resources

Glossary

Academia – the higher education community which undertakes and publishes research e.g. universities and colleges.

Academic Integrity – to act honestly and ethically in an academic setting.

Academic register or tone – to write in a manner acceptable for an academic setting. This is generally formal, objective, and free from emotive language. Academic presentations may take on a slightly less formal tone.

Academic vocabulary – words which are acceptable for academic use.

Academic culture – the shared attitudes, values and behaviours in an academic setting.

Active and passive voice – The writing style that puts either a person/entity (active) or an action/thing (passive) as the focus of the sentence structure.

Analyse / analysis – to critically think about or investigate a topic.

APPEAL (author, purpose, publisher, evidence, audience, latest) – a framework for assessing the quality of sources (articles, websites and books).

Assessment / assignment / task / project – something you have been asked to complete as part of your studies in order to fulfil the requirements needed to obtain a mark/grade.

Bias – when personal beliefs, attitudes and interests influence decisions, often unfairly.

- **Bandwagon effect** – when people think or do something merely because others are doing it.
- **Cognitive bias** – thought processes that are not objective or open to change with new information.

- **Confirmation bias** – the tendency to seek out evidence to support your existing beliefs and ideas, effectively disregarding information that counters your existing knowledge.
- **Sunk cost fallacy** – to continue doing or thinking something that is not working or has been disproved because you have invested a lot of time and energy into that project or belief.
- **Vested interest** – an opinion that brings reputational or monetary value to the one who holds it e.g. companies are biased towards their own products and would like you to buy them as it makes them money.

Boolean searching – a technique used in searching that helps find relevant results.

Business / industry – an organisation which produces goods or services and may also undertake research activities.

Citation – the process of acknowledging sources in your writing. While it is generally used to describe the in-text element, it is often used interchangeably with 'referencing'.

Conclusion – a finishing statement or argument which is usually the last paragraph in a written work or presentation.

Cornell Note-Taking System – a widely adopted note taking system developed by Cornell University.

CRAAP (currency, reliability, authority, accuracy, purpose) – a framework for assessing the quality of sources (articles, websites & books).

Critical thinking – to question, analyse and evaluate information and the sources of that information.

Direction or task words – words that indicate what you need to do for your written task.

Discourse markers – words that help to manage the flow and structure of written or spoken communication, e.g. however, furthermore, moreover, finally.

Evidence – literature you have located and referenced to support your opinion or argument.

Findings – the results of research investigations or experiments.

Flow – writing with a logical structure to help guide a reader through a piece of writing and connect with the ideas expressed.

Marking criteria and rubric – a set of criteria that outline what needs to be included in an assignment to achieve a good grade or mark.

Matrix – a table that is used to map out or demonstrate the relationships between different elements of a topic or idea.

Methodology – the steps used to consistently and scientifically investigate a particular topic.

Non scholarly – not published by a reputable scholarly source, may be opinion based.

Paragraph – a short section in a piece of writing which express information about a single theme or idea. A structured paragraph includes a topic sentence, supporting details and a concluding sentence.

Peer reviewed – sources which go through a rigorous review process which is highly critical. This process is conducted by the author's peers (other experts in the field).

Phrase searching – using double quotation marks (" ") around a phrase when searching to improve the search results.

Qualifications – a level of study or competence that has been achieved, recognised and awarded by a higher education or industry organisation.

Recommendations – a course of action outlined in a report after critical evaluation of a problem.

Referencing – the process of acknowledging sources in your writing.

Reporting verbs – words which are used to talk about or report on what an author has said e.g. states, argues, claims.

Reputable – is generally accepted as being trustworthy.

Research – has a double meaning in academia. The finding, use and referencing of sources is known as the 'research' element of an assignment. However, it also refers to a process of inquiry which involves collecting and analysing data and information to create new theories, methods, models or knowledge.

Scholarly – researched or published by academia using a recognised and reputable methodology or publisher.

Search strategy – a systemic or logical way of searching for information to find relevant results.

Sentences

- **Simple** – simple sentences stand alone.
- **Compound** – two or more simple sentences joined by a coordinating conjunction (and, but, yet, nor, or, for, so).
- **Complex** – made up of an independent clause, which makes sense on its own and one or more dependent or subordinate clauses which will not make sense alone.
- **Fragments** – a sentence that is not complete and does not make sense on its own.
- **Run-on** – when two independent clauses are joined without a conjunction or punctuation.

SIFT (stop, investigate the source, find other coverage, trace the claims) – a framework for assessing the quality of resources (articles, websites and books).

Subject-verb agreement – a grammatical rule that requires that the elements used in a sentence are either all singular or all plurals.

TEEL paragraphs – A method for structuring a paragraph which stands for topic, explain/elaborate, examples, link.

Thesis statement – a short, single sentence, summary of the main point or argument in an essay or research report.

Tool / application / technology – an electronic item used to

complete a process or purpose e.g. computer program, mobile app or piece of electronic equipment.

TRAAP (timeliness, relevance, authority, accuracy, purpose) – a framework for assessing the quality of resources (articles, websites and books).

Truncation – a searching technique which uses an asterisk character to retrieve variations of the root word.

WHY (Who was the author? How was it edited? Why was this published?) – a framework for assessing the quality of resources (articles, websites and books).

Wildcards – a searching technique which uses special characters to find words that have variations such as spelling or plural forms.

Appendix A: Survival Guide Anxiety Video Transcript

Video: Survival Guide Anxiety

Text	Visual
Meet Jin like you, he's a student	Jin is standing outside smiling
Jin struggles with anxiety	Jin sighs and frowns. Thought bubbles appear with the words time waster, stupid, no one cares and failure
He feels worried, shaking and irritable	Jin is in an office, his face turns red and steam comes from his ears
Can't sleep Can't concentrate	Jin sighs and frowns. Thumbs down.
Then Jin learns...	Jin is saying Arrgh in frustration
He's not alone	Three other students appear smiling
He talks to friends... Friends: R U ok? Jin: A sad crying emoji Friend: I'm here for U I know where we can get help	A mobile phone shows a message exchange between Jin and his friend.
Jin meets a counsellor. He learns that everyone gets anxious at times and what he can do to cope (talking about it wasn't as scary as he thought)	A counsellor is talking and smiling.
Jin starts to... Exercise – regular activity reduced anxiety Breathe – slow breathing helps him feel calm Think positively – positive thinking reduces stress	A bike, a nose and a brain represent each of the techniques Jin uses
Jin feels calmer and back on track	Jin is type on a computer doing work and smiling. A person's hands are applauding him
Jin looks at vUWS for more info	A computer screen displays the words study money & life skills
Look how happy Jin is	Jin is smiling and a speech bubble shows him saying Wow
Student Services 1300 668 370 Explore more westernsydney.edu.au/counselling	A computer screen shows the Western Sydney University shield logo with Student Services and their phone number

Appendix B: Survival Guide Perfectionism Video Transcript

Video: Survival Guide Perfectionism

Text	Visual
Meet Jake like you, he's a student	Jake is standing and smiling
Jake struggles with perfectionism	Jake sighs and frowns. Thought bubbles appear with the words I should do better, don't be late, I can't make a mistake, and failure
Jake says But perfect is good... right?	Jake smiles
No!	Thumbs down
Perfectionism is awful for Jake	Jake is in an office surrounded by books and a laptop
A – he constantly rewrites assessments B – the pressure makes him procrastinate C – everything feels like a failure	
Jake is always disappointed Nothing seems good enough	A gauge chart which shows gargantuan failure, enormous failure, huge failure, failure, and almost success. The arrow is pointing to almost success
He won't submit assignments unless they're "perfect"	Jake sighs and frowns. Thumbs down
It's a vicious cycle.	A cycle starts with low self-esteem, setting impossible goals and then failing to meet goals
He seeks help Jake learns about perfectionism	
A – perfectionism is not the same as striving for excellence B – Perfectionism is not the key to success C – Perfectionism contributes to anxiety and depression	

Reevaluate standards How do other people do it? Are they still getting acceptable results?	A stack of documents with a green tick
Challenge perfectionist thoughts Are your underlying beliefs reasonable? Are they useful?	A thought bubble with a green tick
Try hypothesis testing Relax your standards a bit Were your worst fears realised?	An open book with a green tick
Expose yourself (not like that!!) Regularly confronting feared situations teach you that the consequences are usually ok	A stack of books with a green tick
Jake starts to practice self compassion	Jake is typing on a computer doing work, smiling. A person's hands are applauding him
Jake looks at vUWS for more info	A computer screen displays the words study money & life skills
Look how happy Jake is	Jake is smiling and a speech bubble shows him saying Wow
Student Services 1300 668 370 Explore more westernsydney.edu.au/counselling	A computer screen shows the Western Sydney University shield logo with Student Services and their phone number

Appendix C: Mindful Breathing Survival Guide Video Transcript

Video: Mindful Breathing Survival Guide

Narrator (audio): sitting comfortably take a big deep breath
in through the nose
out through the mouth
as you breathe in notice how the body expands
as you breathe out notice how the body softens
gently close the eyes or keep a soft focus
notice how the inhale is different from the exhale
notice the cool air as it enters the nose
warm air as it leaves
don't try to change the breath
observe without judgement
watch the gentle rise and fall of the stomach
with each breath in and out
allow thoughts to come and go...
and when you're ready gently open the eyes again

Appendix D: Tips for effective searching Infographic

This infographic provides a quick reminder of the techniques you can use to create an effective search.