Good technical writing aims to inform with clarity and precision. There are a number of conventions for technical writing and some of the most common are outlined below.

1. Language and style

Aim to Inform

Scientific or technical writing is different from literary writing in a number of ways. Primarily, the aim of technical writing is to inform rather than to entertain. Hence, the style of writing adopted is generally simple and concise.

| An example of a literary sentence | The wind was blowing fiercely and the air outside was growing chilled. |
| An example of a scientific sentence | Onshore winds travelling at 45km per hour brought temperatures down to 15 degrees Celsius. |

As informing an audience is the primary aim of the scientific writer, emotive language is avoided. The scientific writer should try to transmit information as objectively as possible.

Be concise

Avoid too many long sentences. Sentences with four or more clauses, or parts, are confusing to read. Your text will probably read better if you consider making two sentences rather than one long sentence. If you want to include a qualification or an example then a long sentence is usually appropriate.

| An example of a long sentence | After consulting three manufacturers: Dribble Co., Sooky Ltd. and Bungle Pty, we have found that there are two types of vibration suppression devices for portable CD players and both are simple in design but have inherent drawbacks. |
| More concise sentence | Three manufacturers were consulted: Dribble and Co., Sooky Ltd. and Bungle Pty. We found two types of vibration suppression devices for portable CD players. Both are simple in design but have inherent drawbacks. |

Use words and expressions economically. If you can use one word instead of two or three, then chose the one word (get around = avoid).

Be clear

Avoid being unclear and ambiguous. This can happen when you do not specify what you are writing about and can even depend how you use words like 'it', 'this', 'thing', 'way', 'some' etc.

| An example of unclear expression | The way we did the experiment was not so successful. Some of what we needed wasn't there. |
| An example of clear expression | We were unable to complete the experiment. The glass tubing and tripods required for the experiment were not located in laboratory GO25. |

Do not use contractions of verbs and pronouns as these are ‘spoken forms’ (doesn't, can't, it's, they're). The formal writing you will do at university and in the workplace will require the full form (does not, can not, it is, they are).
Be correct

Check the spelling, punctuation and grammar of your sentences and make sure they are correct. If you use a computer spell checker, be careful. Make sure that you know which word to select. Many easily corrected errors in your written work will affect your presentation and your marks. Sometimes you can see errors more easily if you do not proofread your writing until a day or two after finishing writing. This is called 'the drawer treatment'. The Learning Centre has many resources on punctuation, grammar and spelling that you can use.

2. Jargon

Jargon is the technical terminology of any specialised field. Jargon is commonly used when communicating with others in your field. Communication problems can begin when jargon is used in communications aimed at a more general audience.

Jargon also includes sub-technical words. These have multiple meanings in general and technical contexts. For example the word 'fast' has very different meanings in medicine (resistant to), mining (a hard stratum under poorly constructed ground) and painting (colours not affected by light, heat, or damp). A specialist dictionary is required for learning technical and sub technical vocabulary. Your lecturer can recommend a good specialist dictionary.

Aim to write for your intended audience. If your report is for your supervisor or a colleague, then the use of jargon may be both appropriate and expected. If, however, you are writing a report for a general audience or an expert from another field, jargon should be avoided and simple, clear descriptions should be used instead.

3. Abbreviations and acronyms

In scientific and technical writing abbreviations and acronyms are commonly used. Abbreviations are pronounced as letters, e.g. UNSW, whereas acronyms are pronounced as words, e.g. LASER. The first time you use an abbreviation or acronym, you must spell out the full term followed by the abbreviation or acronym in brackets. Subsequent use of the term is then made by its abbreviation or acronym.

e.g.: The University of New South Wales (UNSW) is situated on Anzac Parade, Kensington. The best way to travel to UNSW is by public transport.

The use of an abbreviation is largely dictated by the number of times you are going to be using the term. If the term is only to be used three or four times, it may be better to use the full term each time. This will improve readability, especially if you are using a number of different abbreviations throughout your report.

4. Using ‘I’ in technical and scientific writing?

There is no single easy answer to this question—it depends. First we recommend that you check with your lecturer/ tutor if and when you can use ‘I’ in your writing.

Reasons for using ‘I’ include:

- The more practised a writer is, the more latitude the writer can have in being casual or creative.
- If a writer is an accomplished engineer/scientist/professional, then as an ‘expert’ in their field the writer can use ‘I’
- to give authority to their ideas.

Reasons for not using ‘I’ include:

When ‘I’ is used too often it can make your writing sound casual or spoken in style rather than formal and objective.

- Not using ‘I’ can make your writing more believable. The reader may interpret your use of ‘I’ to mean that you are not aware of formal writing conventions. By following conventions you show you are aware of the practices in your field. The reader may also interpret your use of ‘I’ to mean that you are not aware or clear about what other experts in the field have done or think, so instead you are making your own choice.
- In a student’s writing using ‘I’ can suggest absorption with the self or that the student does not recognise that their
work needs to stand up to scrutiny.

5. Where possible use active voice

What is different about these two sentences?

1. Male guppies advertise their attractiveness by displaying their colourful patterns (Active Voice)
2. Attractiveness is advertised by male guppies by displaying their colourful patterns. (Passive voice)

Using active voice in your writing creates a direct and concise message, which also makes your writing easier to read. While we encourage you to use the active voice, this does not mean that you cannot use passive voice, as it can be convenient and necessary. Most writing will have a mixture of active and passive clauses depending on what word is chosen for the subject of a sentence. Look at course related texts that you consider well written to notice how and when writers use active and passive voice.

6. Non-discriminatory language

The use of non-discriminatory language is a legal obligation for all writers. It aims for truthful reporting of the facts. You should avoid statements that suggest bias or prejudice towards any group. You should also avoid making unsupported statements about a person's age, economic class, national origin, political or religious beliefs, race or sex. For example, referring to all persons in an industry as 'he' can be inaccurate and misleading. It is best to name the profession using a non-sexist term (e.g.; police officer). (The Learning Centre has a handout 'A guide to non-discriminatory language').

See next: Links, further reading and acknowledgements