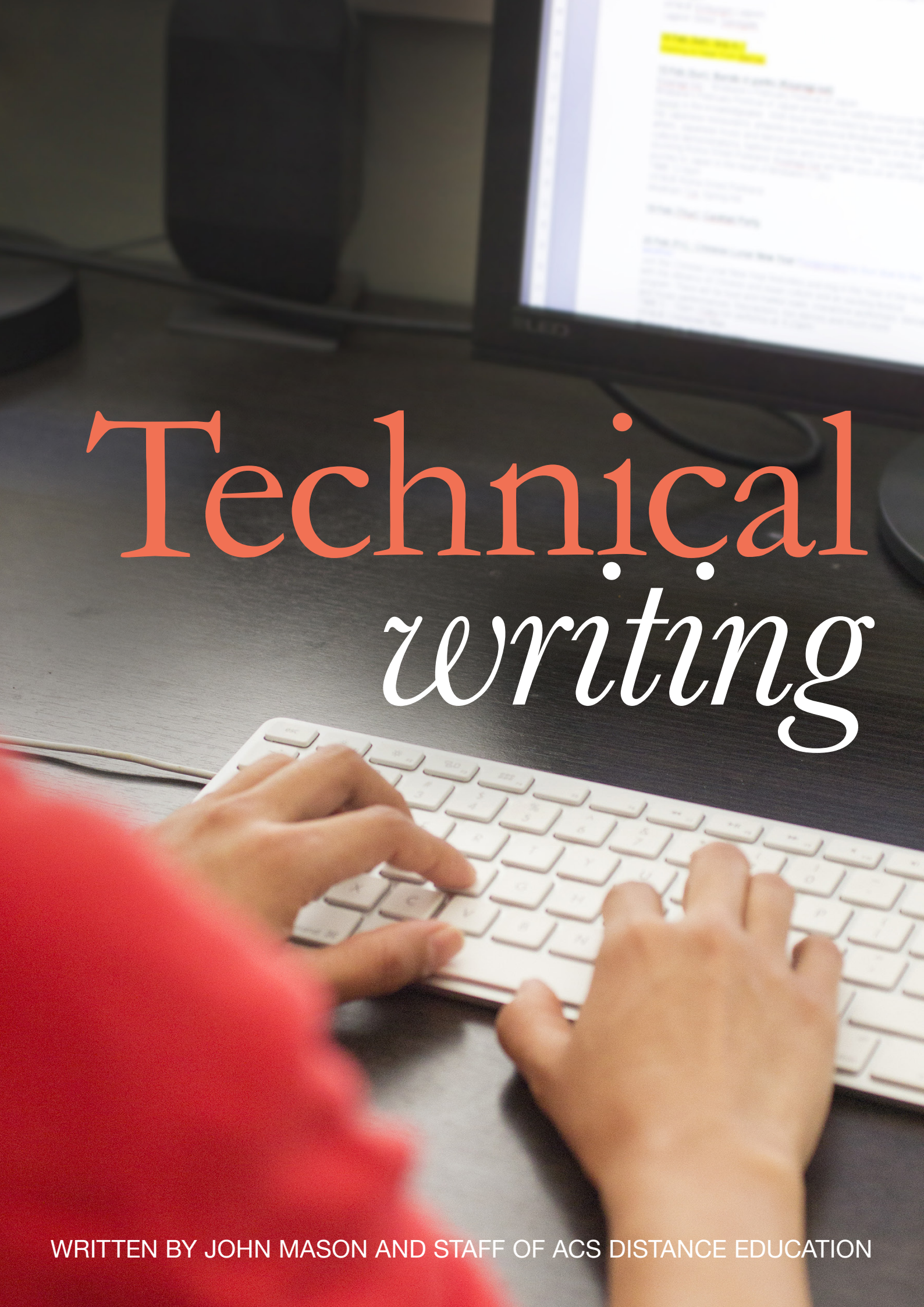

Technical writing

WRITTEN BY JOHN MASON AND STAFF OF ACS DISTANCE EDUCATION

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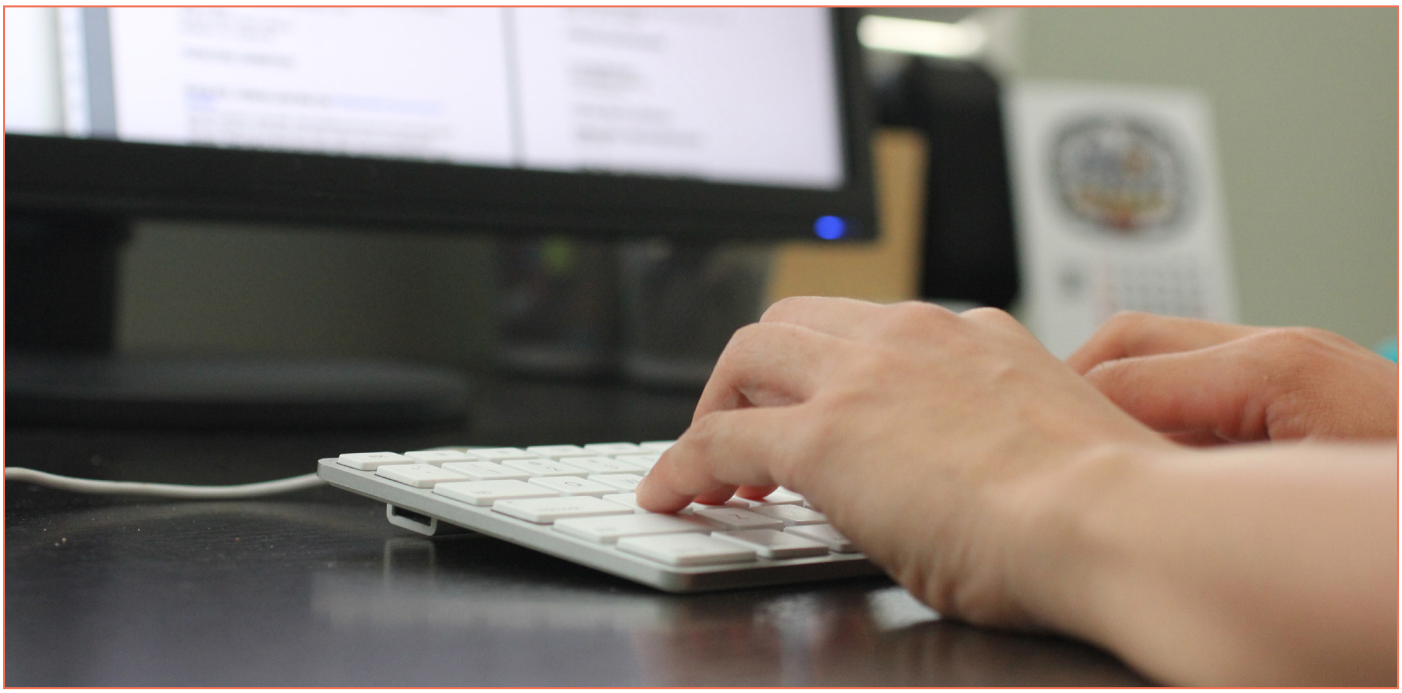
CHAPTER 1 SCOPE AND NATURE OF TECHNICAL WRITING

Technical writing is different to other forms of writing. Other writing may be primarily designed to tell a story or, in a broad sense, to entertain, inform, educate or communicate; technical writing is more about documenting information as a reference i.e. information that is designed to instruct, explain or direct in a clear and concise manner. The purpose of technical writing can be as diverse as preparing a document that can be used by the owners of a new machine or device, through to a report or thesis that records the results of a piece of academic research or to simplify more complex information.



What Is Involved?

You may think technical writing has to be about technical or scientific subjects, but that isn't necessarily so. Technical writing includes the writing of:

- **Manuals** - instruction manuals, procedures manuals, process manuals, user manuals, policy manuals.
- **Reports** - data and analysis reports; scientific reports; summarisations of larger reports that highlight and summarise key points and elements.
- **Leaflets and brochures** - simple instructions e.g. how to assemble something; OH&S (operational health and safety) instructions, how to use a product; how to operate a machine etc.

Other technical writing may be found in any of the following:

- Articles (e.g. magazine)
- Blogs
- Books
- Catalogues
- Conference presentations
- Contracts
- Course notes & study guides
- Course curriculum documentation
- Customer service text
- Demonstrations
- Educational handouts
- Frequently asked questions (FAQs)
- Journals
- Marketing material
- News bulletins
- Newspapers
- Newsletters
- Press releases
- Product packaging
- Product labels
- Product reviews
- Product user guidelines
- Production processes
- Progress reports
- Procedures (e.g. staff or quality manuals)
- Project reports
- Proposals
- Reference guides
- Research papers
- Sales material
- Scripts for film or radio
- Training material
- User manuals
- Warning labels
- Websites
- Work specifications

Examples of Technical Writing

Technical writing is widely used in training materials, guides, manuals, websites etc. Here are three examples of technical writing -

Example 1: CALCULATING A T-TEST IN EXCEL

The prime purpose for using a t-test is to determine whether the means of two groups show a statistically significant difference. The t-test may be applied to groups with independent members or to groups with dependant (matched) members such as pre and post events.

To calculate this in Excel you will need to install the Data Analysis Tool:

Go to Tools, select Add-ins and click on the box next to Analysis Took Pak. Click Ok. Your Data Analysis Tool Pak is installed.

To use the tool, go to Tools and select Data Analysis, a box will appear, you will need to select t-test Two Sample Assuming Equal Variances – this is an unpaired t-test. Enter the data ranges and set the Hypothesised Mean Difference to 0. Click on labels. Alpha is automatically set to 0.05. New worksheet will be also set by default, change this to: Output Range and set the output for $Axx (xx the cell which is suitable for your datasheet). Click OK and your spreadsheet should appear.

The results will differ slightly from those calculated by hand due to rounding.

Example 2: GUIDELINES FOR SAFETY WITH ELECTRICITY

- Remember electricity can kill!
- Don't let wires become exposed through insulated coverings
- Don't allow any parts of cables, plugs or electric machines to become loose
- Don't overload a circuit by putting too many double adaptors on the one plug
- Never use electric tools in wet conditions
- Never use electric tools when a lightning storm is threatening
- Don't pull the plug out by the cord – this can weaken the connections
- Don't let water (or wet hands) get near any electrical cord
- Don't switch a power tool on when it is partly dismantled
- Always switch the power off before disconnecting a power tool
- Don't work around live wires (e.g. connecting power to a building)
- Where appropriate, use an earth leakage safety plug.

Example 3: PROPERTIES OF LIGHT

For photographic purposes, light possesses several properties. The first is intensity, which will be discussed later. The second is colour, which in

photographic terms, is measured by colour temperature. This temperature scale is based upon the concept of a 'black body radiator'. In essence, this means that if we take, for example, a cold black iron bar and heat it, we will eventually reach the point where it begins to emit light. The temperature required to make this body emit light is measured in Kelvin degrees, the scale of which begins at absolute zero or minus 273 degrees C.

Consequently, the light emitted by a tungsten light source (for example, studio flood lights), is said to have a colour temperature of 3,200 degrees or the equivalent in light spectrum emission to a black body radiator heated to this temperature. The higher the temperature, the bluer and less red the light emitted until eventually, at very high temperatures, the light moves towards the violet end of the visible spectrum. Normal daylight is measured to be 5500K degrees.

BECOMING A TECHNICAL WRITER

To be a technical writer you must have a broad range of skills in order to secure employment or ongoing projects. To work successfully in this field you will need:

- Excellent communication skills – both written and verbal (you will be dealing with many and varied experts in their fields).
- Logic and precision – technical writing demands a precise approach. Your work must be backed with sound research. Your work should also be logical – research you have undertaken and the facts you have amassed should be presented in a logical form. For example, with an A-Z on how to assemble something you would start at 'a', not 'c'!
- Excellent word processing skills.
- To be able to manage projects: set up schedules, meet deadlines, be part of the review process.
- To work efficiently and independently.
- A solid, broad education.
- To constantly update your knowledge and skills.
- To network with your peers and industry.
- To build a portfolio of work to demonstrate your skills for future employment or work prospects.

- To develop advanced research skills and know how to gather information.
- To efficiently proofread and edit your work.
- To understand publishing and delivery processes.
- A professional approach to your work – you need to be reliable and also ethical. Your reputation will dictate the amount of work you get.

What Characterizes Good Technical Writing?

To be a good technical writer you must have the skills to simplify difficult tasks and to concisely and clearly explain complex pieces of information.

Irrelevant of the subject, the following is a guide to good technical writing:

- Know your subject - conduct extensive research, gather material from a range of sources and double check the accuracy of the information you have gathered.
- Know your audience - ensure your writing has the appropriate breadth and depth. Use a writing style that is relevant to your reader. Use technical language and abbreviations only if appropriate to your reader. Do not assume that your reader knows what this technical language or abbreviations mean, so always explain them.
- Good writing must be understood quickly and easily by a wide audience with different abilities of comprehension. If you are writing an academic textbook on nuclear fission, your readers will expect a certain level of technical difficulty. But if you are writing a book on nuclear fission for the general public to read, you will have to explain it in a clearer way. Look at scientific writers such as Stephen Hawking and Brian Cox. Both are able to work in a scientific, academic way, but both are able to present their knowledge in a way that is accessible to the lay person in an interesting and informative way.
- Write in a concise, clear, accurate and non-personal style. For example, you can use the third person perspective by using third person pronouns, such as, he, she, it, they, him, her, them, his, her, hers, its and theirs. Do not include personal opinions. Keep your writing simple and to the point. Descriptions should be detailed, but also clear and precise as you do not want to lose your reader.

Tips for Technical Writers:

- Stay abreast of new trends – read from a broad range of material. For example, newspapers, internet, books and any new material in the areas you are concentrating on.
- Build your knowledge and skills to suit the job: writing and communications skills, technical experience and your industry knowledge.
- Always proofread your writing – this allows you to alter mistakes or introduce new ideas to improve your writing.
- Always customise content to suit the audience.