Technical Report
Writing Guidelines
(Using IEEE referencing and formatting)

Learner and Academic Services

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Technical reports conform to guidelines that include requirements for content, formatting, and documentation of source material.

These guidelines are an agreed-upon, Learner and Academic Services specific standard for the writing of technical reports at an advanced level. The guidelines are based upon program accreditation requirements and standards.

Your instructor, technology, discipline, or employer may require a different standard or a modification of this standard.
Report Front Cover

- Create a report front cover made of cardstock or laminated paper.
- Include a protective cover made of clear plastic, if desired.
- Create a title that describes the type of report (e.g., Recommendation) and the topic that the report is about (e.g., New Roofing on the Newell Home). Capitalize the first letter of key words in the title, or use all capital letters for the entire title.
- Include the name(s) of the author(s) of the report and, if required, his/her/their position(s), department(s), and company. List the names alphabetically by surname.
- Source the information on the reverse side of the front cover when using an illustration. If you create your own illustration for the front cover, source information is not required. Any illustration on the front cover is NOT considered as a figure or a table, does not need to be numbered, and does not need to be included on the References page or on the List of Illustrations.

Inside Front Cover with Primary Photo

Inside Front Cover with Secondary Photo
General Report Guidelines

- Type your report with standard one-inch margins on all sides.
- Use Times New Roman font in size 14 for first level headings and size 12 for all other text.
- Left-justify all first level headings in the report.
- Single-space text within paragraphs and double space text between paragraphs. Do not indent the first line of paragraphs. Left-justify all paragraphs.
- Indent ½ inch on both sides of a block quote consisting of four or more lines.
- Keep at least two lines of text together on each side of the page break.

General Writing Guidelines

When writing, check for the following:

- Is present tense used when referring to the report?
- Are third-person pronouns used throughout the report?
- Is the tone of the writing professional and objective?
- Is your language free of clichés, slang, and redundancies?
- Is the writing style uniform and consistent among all authors?
- Is your language gender neutral?

Personal Communication Guidelines

Consult your instructor whether you are required to list interviews, emails, phone calls, and lectures as part of the References page. According to IEEE guidelines, they are not typically included in the list of references.

When citing personal communication within the text of the report, if you do not list the source in your references, then use the source’s full name and title in the report.

If you do list the source on the References page, use the number as you would any other source.

Do you use a numeral or a word?

Use a numeral (6) for:

- Page numbers
- Tables and figures
- Expressions of 11 or more
- Numbers expressed in three or more words
- First of two numbers together (14 three-room apartments)
- Expressions for discount rates, warranty periods, interest rates, and credit terms (5-year warranty)

Use a word (six) for:

- Expressions from zero to ten (seven building sites)
- Numbers that begin a sentence
MEMORANDUM

Date: 9 April 20XX
To: Marcia Williams, COMM Instructor
From: Jane Jones, Seamus O’Hara, and Amir Shadid, Construction Management Students
Subject: SUBMISSION OF RECOMMENDATION REPORT FOR NEW ROOFING ON THE NEWELL HOME

Mr. Hall:

Introduce the purpose of the memo/letter (to submit the report). State the reader’s original request and/or the reason for the report. You should express appreciation for the research opportunity, acknowledge help received, refer to a section of special interest, discuss any difficulties you may have overcome, provide an overview of the report, and/or advise of any follow-up needed. Be specific.

Paperclip the memo/letter to the front of the report.

Finish with an appropriate call to action.

Sincerely,

Jane Jones
Seamus O’Hara
Amir Shadid

Recommendation
for
New Roofing
on the
Newell Home

Prepared for
Chris Newell, Owner

Prepared by
Jane Jones, Seamus O’Hara, Amir Shadid
CVT Students
Construction Management Option
School of Construction
SAIT

Requested by
Bob Loblaw, CIVL Advisor
Marcia Williams, COMM Instructor
SAIT

9 April 20XX

Memo or Letter of Transmittal

- Write a separate and different memo/letter for each person receiving your report, or write the memo/letter to your primary reader and place your secondary readers’ names on a cc line.

- Use a letter for an external reader; use a memo for an internal reader.

- Keep your memo/letter to one page if possible.

- Paperclip the memo/letter to the front of the report.

- Do NOT give your memo/letter a page number.

- Write in first person (we, us, our).

- Write the introduction and conclusion as separate paragraphs; use as many paragraphs as needed for the body.

- Use a pen to sign your memo/letter.

Title Page

- Include the exact title that appears on the front cover.

- Indicate the name of the organization or person(s) the document was prepared for (the person(s) who can act on the recommendation(s) in the document(s). Include his/her/their position(s), department(s), and company if applicable.

- Include the name of the person(s) the document was prepared by (the author(s) of the document). Include his/her/their position(s), department(s), and company if applicable.

- Provide, if applicable, the name of the person(s) the document was requested by if the name differs from the person the report is written for. Include his/her/their position(s), department(s), and company if applicable.

- List groups of names alphabetically by surname.

- Include the date on which the document was submitted.
Executive Summary

- Provide a summarized version of the Introduction of the report.
- Explain the essence of each major section of the body.
- Provide a summarized version of the Conclusions and, if appropriate, Recommendations of the report.
- Ensure that your Executive Summary makes sense on its own.

How do we paginate the front matter?

- Use lower case Roman numerals to paginate the front matter (italics are customary, but not necessary).
- Paper clip the memo/letter to the front of the report. Do not give the memo/letter of transmittal a page number.
- Consider the title page as page i; however, do not include this numeral on the title page.
- Continue with this series of Roman numerals to the end of the front matter (ii, iii, iv,...).

How do we paginate the report proper and the References and Glossary of the end matter?

- Use Arabic numerals (1, 2, 3,...) to paginate the report proper and end matter (except the appendices).
- Begin this pagination on the first page of the report proper.
- Continue with this series of Arabic numerals to the end of the report proper and through the References and Glossary in the end matter.

How do we paginate appendices?

- Start new pagination for each appendix.
- Begin each page number with the letter of the appendix. A1, A2, A3,... B1, B2, B3,...
- Do not alter the source pagination if an appendix is secondary material with its own pagination. Paginate only the title page of the appendix.

How do we paginate an appendix that is a digital storage media device?

- Paginate with letters and numbers if the content of a device has been produced by the report authors, (C1, C2, C3,...).
- Do not alter the source pagination if the content of the device is secondary material.
- Identify in the Table of Contents the type of digital storage media device in place of a page number. (See the Table of Contents in the thumbnail report.)
Table of Contents

- Do not include the front cover, memo/letter, the title page, or the Table of Contents in the listing.

- Show all other headings found in the report. List first-, second-, and third-level headings in the order that they appear in the report.

  NOTE: “Body” is never used as a heading.

- Use exactly the same wording in the Table of Contents as is used in the report.

- Utilize all capital letters for each letter of the headings, or capitalize the first letter of key words in the headings (title case).

- Use formatting to clearly distinguish between levels of headings.

- Include the page numbers that indicate where each heading appears in the report.

- Use leader lines to connect the section headings to the page numbers. Ensure that the page numbers are aligned.
Introduction

- Begin by writing your report title as one sentence (e.g., “This report is a recommendation for a new roof for the Newell home.”).
- State the purpose of your report. Why is this report being written? Who is the target audience (the person(s) who could act on the information found in this report)? What does the report accomplish for the target audience? How will it address the audience’s needs?
- Provide necessary background information specific to this project. What exists? What is the current situation? What does your audience need to know to understand this report?
- Provide definitions in the Introduction for three or fewer key terms. For more than three key terms, advise the reader within the Introduction to refer to the Glossary. Inform the reader that bolded or italicized terms (choose one style) are defined in the Glossary.
- State the scope and limitations of your project. What was investigated within the boundaries of your project? What was included and excluded and why? For example, your report may include the design of X but exclude the cost of X because the information about cost was confidential.
- Indicate the methods you used to complete your project. Where did you get your data? What data did you get? What did you do with your data? Convince your reader that your data is current, relevant, thorough, and accurate.
- Preview your report by rewriting your Table of Contents (not including the Introduction) as a series of sentences. What does your report cover?

Note: Check with your instructor to see whether or not subheadings (Purpose, Background, Scope, Methods, and Preview) are required.
CURRENT ROOF CONDITION

One study shows that … xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx xxxxxxxxxxxxxxxxxxxxxx [2].

xxxxxxxxxxxxxxxxxxxxx. Xxxxxxxxxxxxxxxxxxxxx xxxxxxxxxxxxxxxxxxxxxx xxxxxxxxxxxxxxxxxxxxx (Figure 1).

Figure 1: Present Roof
Source: Primary

xxxxxxxxxxxxxxxxxxxxx. Xxxxxxxxxxxxxxxxxxxxx xxxxxxxxxxxxxxxxxxxxxx xxxxxxxxxxxxxxxxxxxxx.

xxxxxxxxxxxxxxxxxxxxx. Xxxxxxxxxxxxxxxxxxxxx xxxxxxxxxxxxxxxxxxxxxx xxxxxxxxxxxxxxxxxxxxx.

PROPOSED ROOFING SOLUTION

Xxxxxxxxxxxxxxxxxxx. Xxxxxxxxxxxxxxxxxxxxx xxxxxxxxxxxxxxxxxxxxxxx xxxxxxxxxxxxxxxxxxxxx.

Xxxxxxxxxxxxxxxxxxxxxx. Xxxxxxxxxxxxxxxxxxxxx xxxxxxxxxxxxxxxxxxxxxx xxxxxxxxxxxxxxxxxxxxx.

Xxxxxxxxxxxxxxxxxxxxxx. Xxxxxxxxxxxxxxxxxxxxx xxxxxxxxxxxxxxxxxxxxxx xxxxxxxxxxxxxxxxxxxxx. Figure 2 shows xxxxxxxxxxxxxx.

Figure 2: Proposed Roof
Source: Adapted from [3]

Recently reported in xxxxxxxxxxxxxxxxxxxxxxxxxxx [4].

xxxxxxxxxxxxxxxxxxxxx. Xxxxxxxxxxxxxxxxxxxxx xxxxxxxxxxxxxxxxxxxxx. Xxxxxxxxxxxxxxxxxxxxxx xxxxxxxxxxxxxxxxxxxxxx.

xxxxxxxxxxxxxxxxxxxxx. Xxxxxxxxxxxxxxxxxxxxx xxxxxxxxxxxxxxxxxxxxx xxxxxxxxxxxxxxxxxxxxx as shown in Appendix A.

How do we incorporate illustrations?

- Make each illustration professional.
- Give each illustration a title. (Capitalize the first letters of key words.)
- Number figures and tables separately.
- Label the key elements in each illustration when appropriate. 
- On a separate line, give the source of each illustration. Include the word Source.
- State the word “Primary” after “Source” if you create an illustration to acknowledge it is an original creation. (See page 2 of the thumbnail)
- If you modify the illustration in any way, (e.g., arrows or labels), write Source: Adapted from [#].
- Refer to and discuss each illustration in the preceding text.

Body: Content

- The body (the bulk of the information for your report) is made up of several major sections that reflect the preview of your report.
- The organization of the major sections helps your reader make sense of the information.
- The body provides relevant data that fulfills the purpose of your report.
- The body anticipates and answers any questions that your reader may have and avoids unnecessary discussion.
- The body provides verifiable evidence that leads your reader logically to your conclusions and recommendations.
- The body interprets (explains the significance of) the data you provide.
- The body shows an understanding of the situation and of the readers' needs.
- The body synthesizes information rather than simply summarizing one or two sources.
- The body may include illustrations (figures and/or tables) that clarify the data and/or supplement the text. An illustration cannot stand alone as a section.
- If illustrations are used, they should be relevant and properly incorporated. (See the box below: How do we incorporate illustrations?)
Report Proper: Body (continued)

According to [5] … xxxxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxx. Xxxxxxxxxxxxxxxxx xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx [2].

xxxxxxxxxxxxxxxxxxxxxx. Xxxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxxx. Xxxxxxxxxxxxxxxxxxxxxx x xxx xx
xxxxxxxxxxxxxxxxxx [1:16], [4], [6].

According to three experts, xxxxxxxxxxxxxxxxxxxxxx. Xxxxx
xxxxxxxxxxxxxxxxxxx x xxx x xxx
xxxxxxxxxxxxxxxxxx [1:16-18].

xx xxxxxxxxxxxxxxxxxxxxxxxxx. Xxxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxxx. Xxxxxxxxxxxxxxxxxxxxxx x xxx
xxxxxxxxxxxxxxxxxx xx xx xx xxxxxxxxxxxxx [1:16].

According to two experts, xxxxxxxxxxxxxxxxxxxxxx. Xxxxx
xxxxxxxxxxxxxxxxxxx x xxx x xxx
xxxxxxxxxxxxxxxxxx xx xx xx xxxxxxxxxxxxx [1:16].

According to three experts, xxxxxxxxxxxxxxxxxxxxxx. Xxxxx
xxxxxxxxxxxxxxxxxxx x xxx x xxx
xxxxxxxxxxxxxxxxxx xx xx xx xxxxxxxxxxxxx [1:16].

COSTS

Xxxxxxxxxxxxxxxxxxxxxxx. Xxxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxxx. Xxxxxxxxxxxxxxxxxxxxxx xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx.

Materials

Xxx. “xxxxxxxx xxxxxxx xxxxxxxxxxxxxxx xxxxxxx
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx” [7]. Xxxx xxxxxxx
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx x xxxxxxxxxxxxxxxxxxxxxxxxx organic mat x xxxxxxxxxxxxxxxxxxxxxxxxx. Xxxxxx
xxxxxxxxxxxxxxxxxxxxxx.

xxxxxxxxxxxxxxxxxxxxxx. Xxxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxxx. Xxxxxxxxxxxxxxxxxxxxxxx xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx.

Xxxxx, “xxxxxxxx xxxxxxx xxxxxxxxxxxxxxx xxxxxxx
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx (Appendix B).

Xxxxxxxxxxxxxxxxxxxxxxx. Xxxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxxx. Xxxxxxxxxxxxxxxxxxxxxxx xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx.

Body continued: Documentation

- Acknowledge sources of information (paraphrases, illustrations, and quotes) in your report by using a documentation style that includes in-text citations and a reference page.
- Introduce paraphrased material (your own wording of information taken from your research sources). Ensure that your reader knows where the paraphrasing begins and ends. Include an in-text citation that identifies the source of the paraphrase from your reference page. (See [5] on page 4 of the thumbnail report.)
- Sources which have page numbers are identified in the in-text citation for each referenced page.

    [1:16]
    [1:16-18]
- Place quoted material (the exact words of your original source) of four lines or fewer in quotation marks; include an in-text citation that identifies the source of the quote from your reference page. (See [7] on page 5 of the thumbnail.)
- Indent (from both the left and right margins) quoted material of more than four lines (block quote); include an in-text citation that identifies the source of the quote from your reference page. Single space longer quotes. Do not use quotation marks around longer quotes. (See [8] on page 5 of the thumbnail.)
- Use an ellipsis (three dots) to show omitted parts of a quote. (See [9] on page 5 of the thumbnail.)
- Insert square brackets to show that you have changed or added a word or words in a quote. (See [10] on page 5 of the thumbnail.)
- Ensure that you maintain the meaning of the original text when using ellipses and square brackets.
- Cite illustrations, using “Source” below the illustration. Provide an in-text citation that identifies the source of the illustration from your reference page. (See [3] below Figure 3 on page 9 of the thumbnail.)
XXxxxxxxxxx Xxxxxxxxxxxxxxxx Xxxx XXXxxxxx. Xxxxxxxxxxxxxxxxxxx XXXxxxxxxx shakes (wooden shingles) XXXxxxxxxx. XXXxxxxxxxxx XXXxxxxxxxxxx XXXxxxxxxx.


Labour


This method is explained in XXxxx, where it states that XXXxxxxxxxxxxxxx. XXXxxxxxxxxxxxxxxx XXXxxxxxxxxxxxxx. XXXxxxxxxxxxxxxx [1:25]. XXXxxxx.

According to XXxxx XXXxxxxx XXXxxx XXXx [10]. XXXxxxxxxxxxxxxxxx XXXxxxxxxxxxxxxxxx. XXXxxxxxxxxxxx XXXxxxxxxxxxxxxxxx.

XXxxx, “XXXXXXXX XXXxxxxx XXXxxxxxxxxxxxx XXXxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx XXXxxxxxxxxxxxxx” [4]. XXxxx XXXxxxxx XXXxxxxxxxxxxxxxxxxxxxxx XXXxxxxxxxxxxx organic mat XXXxxxxxxxxxxxxx. XXXxxxxx XXXxxxxxxxxxxxxx.

Maintenance
XXXxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx XXXxxx. XXXxxxxx rake edge XXXxxxxx XXXxxxxx XXXxxxxxxxxxxxx xxxxxxx XXXxxxxx. XXXxxxxx recommends XXXxxxxxxxxxxxx [11:45].


XXxxxxxxxxxxxxxxx XXXxxxxxx XXXxxxxxxxxxxxxxxx XXXxxxxxxxxxxxxx XXXxxxxxxxxxxxxx XXXxxxxxxx. XXXxxxxxxxxxxxxxxx XXXxxxxxxxxxxxxx.
Body continued: Headings

- Use headings to tell your reader what each major section of the body contains.
- Make your headings specific and precise. Do not use vague headings such as 'Body' and 'Discussion.' Make each heading unique; do not use the same heading more than once.
- Organize the Table of Contents to reflect the order of the headings as they appear in the report.
- Ensure that the preview from the Introduction accurately reflects the headings in order and in wording.
- Use formatting to differentiate heading levels.
- Use all capital letters for an entire heading or capitalize the first letter of key words in each heading (title case).
- Avoid punctuation (periods or colons) at the end of a heading; however, if the heading is a question, end with a question mark.
- Use parallel structure for headings of the same level within a section.
- Do not have only one lower-level heading under a higher-level heading; have two or more lower-level headings or have none at all. Each heading must be followed by at least one sentence in the section.

What are the rules for making tables?

- Place table titles above the table.
- Format the box headers differently from the data boxes (shading or font choice).
- Follow the rules for incorporating illustrations found on page 10 of this document.
- If possible, do not divide a table over two pages. If your table is too large to fit on one page, use one of the following options:
  - change the orientation to landscape,
  - reduce the font size, or
  - place the table in an appendix as a fold-out.
- If none of the above options apply:
  - write 'continued' at the point where the table divides, and
  - repeat the box headers where the table begins on the following page.
Conclusion

- State the outcome of each section of the report chronologically.
- Indicate the main finding of your report based on these outcomes.
- Ensure that your conclusion satisfactorily addresses the purpose of the report as stated in the Introduction.
- Do not introduce new material.
- Ensure conclusions are not opinion-based.
- Provide an introductory sentence followed by concise bullet points.

Recommendation(s)

- Include a Recommendation section only if the purpose of your report is to make a recommendation (or recommendations).
- Ensure that your recommendation(s) follow logically from the data and discussion in the body and from your conclusions.
- Write your recommendation(s) as actions that the reader could take.
- If appropriate, present your recommendations as a bulleted list or a numbered list when priority is important (e.g., the top three reasons in order of importance).
References

- Cite all illustrations, quotes, and paraphrased material within your report. FAILURE TO DO SO IS PLAGIARISM.
- Use the documentation style requested by your instructor, discipline, technology, or employer. The thumbnail report reflects an IEEE format.
- List numerically all the sources that you cited in your report (in the order in which they first appear in the report). Once a number is assigned to a source, that source is always referenced with the same number no matter where the source appears in the report.
- Use n.d. if a source does not have a date of publication.
- Consult the materials provided by your instructor for more details regarding referencing.

Glossary

- If you have more than three terms that require a definition, include them in a glossary.
- List the terms in the Glossary in alphabetical order. Ensure you have correctly cited definitions that are not your own.
- Place the term flush with the left margin; indent the definition of the term.
- Use a consistent writing style for each definition.
- Bold or italicize (choose one style) the terms when they appear in the report proper. Note: Acronyms are not included in the Glossary. Instead, use the full name the first time it appears in the text followed by the acronym in parentheses.
End Matter: Appendices

Appendices

- Use appendices for material that:
  a. is of interest only to certain readers;
  b. may be too large to fit easily into the report proper (e.g., a fold-out map).

- Give each appendix an identifying letter and a descriptive title.

- Place the letter and title on a page separate from the appendix material (as in Appendix A), or place the letter and title on the same page as the appendix material. Pick one style and use it throughout all the appendices.

- Letter the appendices in the order that they are first referred to in the text.

- Make reference in your report to each appendix by letter. (See pages 3 and 5 of the thumbnail report.)

- If an appendix is contained in a digital storage device (DVD or flash drive), ensure that the appendix letter and title, the report title, and the report authors’ names appear on the device. (See the illustration on page 17 of this document.)

Appendix A: TILE WARRANTY

Appendix B: CALCULATIONS OF ROOFING AREA

How do we orient a landscape illustration?

Rotate a landscape illustration (figure or table) so that the report binding is at the top of the illustration. (See page A2 of the thumbnail report.)

How do we paginate appendices?

- Start new pagination for each appendix.
- Start each page number with the letter of the appendix.
  A1, A2, A3, ...
  B1, B2, B3, ...
- If an appendix is secondary material with its own pagination, do not alter the source pagination. Paginate only the title page of the appendix.

How do we paginate an appendix that is a digital storage media device?

- If the content of the device is secondary material, do not alter the source pagination.
- In the Table of Contents, identify the type of digital storage media device in place of a page number. (See Table of Contents in the thumbnail report.)
Report Back Cover

- Choose hard-stock paper or plastic for the back cover of your report.
- Do not include any text or illustrations on the back cover.
- If your report includes a digital storage device, attach the device to the inside back cover on a hub or in a pocket.

Binding

Coil Binding

- Use a binding method that allows your report to lie flat when it is open.
- Do not use duo-tangs or three-ring binders.

Comb Binding

Where can we bind our report?

- SAIT Library
- XDOCS (G112 E.H. Crandell Building)
- Office and stationery supply stores

Label for an appendix on a DVD