

WRITING MANUAL AND STYLE GUIDE

12th Edition
2014

FACULTY OF NATURAL RESOURCES MANAGEMENT

**Lakehead University
Thunder Bay, Ontario**

PREFACE

Much of this manual was adopted from the Writing Manual and Style Guide (6th edition) by Yves Prévost and Anthea Kyle. The first version of a writing manual, which was accepted by the School of Forestry's Faculty Council in 1982, was prepared by N.J. Phillips, and was based on the third edition of *Format Requirements for Theses and Reports in the Faculty of Forestry, University of New Brunswick*.

The present edition has two purposes: 1) to provide a guideline for students in the Faculty of Natural Resources Management for the appropriate style and format requirements for course reports, essays and undergraduate theses and 2) to describe how students will be supported and evaluated in their writing through a Writing Across the Curriculum (WAC) program. If you have any comments about additions or corrections or requests for clarification, please contact Peggy Smith at pasmith@lakeheadu.ca.

ACKNOWLEDGEMENTS

Various people have worked on this manual over the years. We would like to acknowledge especially Dr. Yves Prévost, Anthea Kyle and Sandy Dunning who initially wrote and then worked to improve this manual. Peggy Smith has been the WAC co-ordinator since 2004, compiling Manual editions 6-9 and this edition. Jane Parker provided valuable input to the 2010 edition. She also provided extensive writing support for our students over a number of years. We thank the faculty and students who have made valuable suggestions for making the manual more user-friendly.

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If you have writing skills ..., come and talk to me because I probably have a summer job for you.

Peter Barynin, Forest Sector Competitiveness Secretariat
Ontario Ministry of Natural Resources, 2006

INTRODUCTION

This manual outlines the format to be followed by students in the Faculty of Natural Resources Management when they are submitting essays, technical reports, undergraduate and graduate theses. Term papers and written assignments should meet the standards set out in this manual. Use the checklist on the back inside cover to help you familiarize yourself with the basic format and style requirements.

Individual professors may indicate format and style preferences that they wish students to follow. If you are in doubt, check with the professor for whom you are preparing material, and follow the professor's preferred writing guidelines.

What is WAC?

In 1996, the Faculty initiated its Writing Across the Curriculum (WAC) program for its students. The intent of WAC is to improve communication skills by providing more and varied occasions in all natural resources management courses for students to write and speak publicly. Rather than having students take a first-year writing course offered by the English department, a writing consultant was hired to support students as they work to meet the communication needs identified by faculty and industry professionals. Working together, professors and the writing consultant design writing and speaking assignments to offer a more integrated program that addresses specific skills and offers increased feedback and support to students.

How Does WAC Affect the Student?

The Faculty applies the WAC approach in all of its courses; however, certain courses over the first three years of both the HBScF and HBEM programs are designated as WAC courses in which students must achieve a pass. By 4th year, students are expected to have reached a satisfactory writing level. The WAC courses are NRMT 0190, 0290 and 0390. All students must register in these courses. Student achievement (pass or fail) is assessed in the following courses for both programs:

- NRMT 0190, WAC I—NRMT 1010, Canadian Forest Plant Species
- NRMT 0290, WAC II—NRMT 2210, Forest Ecology & Silvics
- NRMT 0390, WAC III—NRMT 2054, Aboriginal Peoples & Natural Resources

Students are coached and assessed in writing skills by instructors of the Faculty of Natural Resources Management and a WAC Consultant.

The WAC Assessment Process

The writing consultant will assess each student's writing skills in designated assignments. If the writing skills are not at a passing level in an assignment, the student must complete the following upgrading process:

1. Sign up for an appointment on the sign-up sheet outside the WAC office (BB1017A) to schedule a conference with the writing consultant. The conference will review writing skills, create a personal proofreading checklist to use when writing future papers, practice careful editing, and set a deadline for resubmission.
2. Resubmit a polished, revised paper along with your original paper, clearly showing the changes you have made, and the original rubric.

3. If you do not receive a Pass on this resubmission, you will repeat step 1 and, for major problems, step 2.

Sample WAC Evaluation Rubric

UNSATISFACTORY	Major problems with format, grammatical correctness, and/or style impede reader comprehension.
DEVELOPING	The writer's message can be understood, but significant improvement is needed in format, grammatical correctness, and/or style.
PASS	Ideas are communicated fairly clearly, and the writer is approaching competency in format, grammatical correctness, and style.
PASS/PROFICIENT	The writer communicates ideas clearly, showing a mature style and a confident command of format and writing conventions.

WRITING SKILLS	Unsatisfactory	Developing	Pass	Pass/ Proficient
FORMAT¹ Report/essay components and organization Use of tables and figures Literature citations Scientific Writing conventions: abbreviations, acronyms, scientific nomenclature, etc.	Faculty Writing Manual is seldom used as a guide.	Faculty Writing Manual is sometimes used as a guide.	Faculty Writing Manual is used as a guide with only one or two lapses.	Faculty Writing Manual is consistently used as a guide.
GRAMMATICAL CORRECTNESS Spelling Apostrophe use Capitalization Punctuation Grammar and usage Sentence structure: Avoiding fragments and run-on sentences	Major errors impede comprehension.	Frequent errors lower the reader's confidence in the writer's competency.	Writer is approaching competency.	The conventions of the English language are used with confidence.
STYLE Precise diction (word choice) Clear syntax (arrangement of words) Organization: Ideas are developed around a clear sense of purpose or thesis statement Development of ideas with specific details Sense of audience: Use of a formal style for an academic audience. (Avoid contractions and colloquial language.)	Frequent lapses impede comprehension.	Extensive revision is essential.	Some revision is needed.	The writer has a mature, effective style.

¹See *Writing across the Curriculum Manual and Style Guide* for particulars

For writing assistance, see

Natural Resources Management Writing Consultant

Office: BB1017JA

REMEMBER TO E-MAIL YOUR MARKED PAPER; IT IS AN EXCELLENT LEARNING TOOL!

GENERAL DIRECTIONS

This Manual covers style, grammatical and formatting issues. However, writing a good paper is not just about getting the format right, as essential as this is. There are a myriad of resources to help you learn to write a good paper, including the Faculty Writing Consultant and Lakehead University's Writing Centre. Additionally, there are writing manuals available in the Library and sources online. A good example is *Teaching Academic Writing: A Toolkit for Higher Education* (Coffin et al. 2003). The book can be found online and includes a helpful diagram that summarizes the steps in the academic writing process.

FORMATTING

The following items are mandatory format details, and although they seem inflexible, they are typical of the requirements you would have to follow if you were to submit a paper for publication to a refereed journal. Get used to these few details; they are constants in your undergraduate documents. If an individual professor's preferences vary from what is presented here, follow the professor's preferred guidelines.

Not all formatting and grammar issues are addressed in this manual. You may want to consult other sources for further direction. Two recommended references are:

Canadian Journal of Forest Research. 2009. Instructions to authors. <http://pubs.nrc-cnrc.gc.ca/eng/journals/instructions/cjfr.html>. Sept. 5, 2009.

The Canadian Style: A Guide to Writing and Editing. 2nd Edition. 1997. Dundurn Press Ltd., Toronto, Ontario. 312 pp.

Style Manual Committee, Council of Biology Editors. 1999. *Scientific Style and Format. The CBE Manual for Authors, Editors and Publishers*. 6th Edition. Cambridge University Press, Cambridge, UK. 825 pp.

Most students use Microsoft Word software which has a “Styles” function under the “Home” tab. You can set up and save a template with this Manual’s formatting requirements so that the

WORD TIP: You can quickly set up a Word template by saving an already formatted Word document in the Template folder. See <http://wordprocessing.about.com/od/microsoftword2007/a/FastWord2007Templates.htm>.

software will automatically do the formatting. You will then be able to spend more time on the content of your assignments, rather than formatting. Word also allows you to mark text so that a Table of Contents will be automatically generated. Use the Help button in Word to find out more about the software features or see Shaun Kelly’s “Making the Most of Word in Your Business” at <http://shaunakelly.com/word>.

Typing, Paper and Spacing

- Essays and reports must be typewritten in plain typeface, such as Times New Roman or Arial, in a 12-point font.
- The bold function is generally not used at all, and underlining is used sparingly.
- A medium-weight bond paper, 21.5 by 28 cm in size, without punched holes, is to be used.
- Text is usually double-spaced, although single spacing should be used for quotations longer than three lines, for footnotes, in the Abstract, in some tables, in lists of tables and figures, in headings of

WORD TIP: Although there is still debate, because of the software, the common practice is to use one space following a period or colon (except in journal citations where there is no space following the colon after the volume/issue number and preceding the page numbers of the article).

WORD TIP: Word has 3 functions which help to control dangling text at the end of a page—widow/orphan control, keep text together and keep lines together. You will find these functions under the Paragraph tab.

more than one line, within Literature Cited entries, and in appendices.

- Print on one side of the paper only.
- Avoid “hanging headings” where the heading is at the bottom of the page.

Margins

Set up page margins for all papers as follows:

- Left margin: 4.0 cm (to allow room for binding)
- Top, bottom, right margins: 2.5 cm
- First order headings begin 4.0 cm from the top of the page; other headings and text begin at top margin (2.5 cm).

WORD TIP: Word Styles (found under the Home tab) allows you to modify a Heading style. For the 4.0 cm spacing for Order 1 Headings, right click on Heading 1, then select “modify”. Under the format button, click Paragraph, In the Spacing boxes, put 42.5 points before and 15 points after. Click OK.

Pagination

- All pages, except the title page and appendix divider, are to bear a number.
- Preliminary pages that occur before the first page of the text proper are to be numbered with lower-case Roman numerals (i.e., i, ii, iii), centred at the top of the page and without embellishments (e.g., dashes, periods, parentheses).
- Although the title page bears no number, it is considered to be page i. Pages in the text proper are numbered consecutively in Arabic numerals (i.e., 1, 2, 3). Numerals, also without embellishments, are centred in the top margin or header of each page, 1.27 cm from the top of the page.

WORD TIP: To change the page number format in Word, use a section break (under Page Layout, Page Setup, Breaks). This allows you to tell Word to change from Roman to Arabic numerals.

Capitalization

This manual describes requirements for capitalization in headings, tables, figures and literature cited. In the body of the text, many students unnecessarily capitalize. Capitals are required only to distinguish proper nouns from common ones.

Errors

Submitted written assignments are an indication of a student's academic skills and rigour, and it is the student's responsibility to ensure that submissions are professionally done. All assignments must be proofread for accuracy of data, adherence to assignment requirements and quality of writing.

PLAGIARISM

Understanding what constitutes plagiarism is the best way to ensure you have not plagiarized in your assignments. If you copy someone else's work or ideas without credit, you are plagiarizing. Plagiarism extends to sharing, word for word, the data or results of a partnered experiment in labs. To ensure that you are not plagiarizing your sources, keep careful notes when you are doing research. When writing, give credit for verbatim quotations or paraphrased ideas (ones that you have put into your own words) by citing the author and year in parentheses. When in doubt, choose the most cautious route, and cite your source. University regulations on plagiarism and its penalties are described in the University calendar.

FORMAT OF AN UNDERGRADUATE REPORT OR ESSAY

COVER

The first page of a technical report (which is optional) can be a cover that includes the title of the work and the author's name. Other than those two restrictions, the cover can be as creative as the writer wishes.

PRELIMINARY PAGES

Report

Most reports contain at least the following preliminary pages in the order given: a title page, an abstract, and a table of contents. Other pages following the table of contents are added as appropriate: tables, figures, acknowledgements.

Essay

Unless otherwise specified, essays should have a title page. Instructors might request other preliminary pages for an essay (i.e., cover page, table of contents, tables and figures), but ordinarily these are not required.

TITLE PAGE EXAMPLE

IMPACTS OF TIMBER HARVESTING ON WILDLIFE HABITAT

by

Courtenay Lavallée

NRMT 3219, Fish & Wildlife Habitat
Dr. Brian McLaren

Faculty of Natural Resources Management
Lakehead University

January 15, 2013

Guidelines for a Title Page

The following information must appear on an essay or report's title page:

- title, centred, single-spaced, in capital letters, in the upper half of the page;
- author's full name, centred, upper and lower case letters, just below title;
- course number, course title, and instructor's name; and
- date of submission, centred, 8 cm from the bottom of the page.

ABSTRACT EXAMPLE

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ABSTRACT

Drennan, D.J. 1999. Forest engineering manual for assessing areas with terrain stability concerns in coastal British Columbia. 28 pp.

Keywords: cohesion, shear strength, shear stress, slope failure, slope movement, slope stability, superficial material, terrain stability assessment, texture

Terrain stability assessments are an integral part of forest planning in British Columbia. The purpose of assessments is to identify areas of instability and make prescriptions to prevent damage to forest resources. Factors that influence slope stability, types of slope movements common to coastal British Columbia, and the effects of forestry practices on slope stability are reviewed. A manual that describes the factors influencing slope stability--soil properties, geology and geomorphology, bedrock, vegetation and hydrology--is included. Diagnostic keys to determine landslide hazard rating and type of slope movement are provided. An actual terrain stability assessment report for a proposed harvest operation by MacMillan Bloedel on southwest Vancouver Island is discussed. The results of the assessment are compared with the procedure presented in the manual section. Comparisons between the manual diagnostic keys and the example report indicated results of the landslide hazard ratings were similar.

Guidelines for an Abstract

An abstract is an information summary of a report or thesis designed to give the reader a clear idea of the scope and contents of the longer work. Because requests from outside agencies for copies of the report are made on the basis of the abstract alone, the information must be complete yet concise.

- An abstract includes:
 1. a full citation (author, title, date and number of pages);
 2. keywords in alphabetical order; and

3. a concise summary of the contents of the report, following the sequence of the report itself: problem/scope, methods, results, discussion, and conclusion.
- In an abstract, avoid general, non-specific statements such as "The implications of the results were discussed."
 - The first order heading, ABSTRACT, is to be capitalized and centred, 4.0 cm below the top margin.
 - The citation of the abstract should begin 1.5 cm below the heading.
 - The abstract itself may be single-spaced and should occupy no more than one page; an abstract for an undergraduate report will usually be one paragraph, or approximately 600 words. A length guideline used by journals recommends that you use one line of abstract text for each page of text.
 - Follow these specific rules when writing abstracts:
 1. Single space the full citation, with a hanging indent of 1.27 cm on the second line.
 2. Skip one line.
 3. Include at least three keywords in alphabetical order; single space if keywords take up more than one line.
 4. Skip two lines.
 5. Single space the text of the abstract (double space if text is brief).
 6. Keep abstract to one page in length. Distance from the top of the first line of the title to the bottom of the last line of the text must not exceed 16.5 cm.

A Note on Keywords

Many journals and institutions require the author(s) to provide keywords or descriptions and, in formal reports, you will also be required to submit an abstract with a full citation and keywords. The use of keywords helps the abstractor or reader catalogue the report under the proper subject areas.

- The following subject areas are often included as keywords:
 1. the science or area of the report (e.g., tree biology, forest genetics);
 2. special techniques employed or developed in the report (e.g., vegetative inoculum, root regeneration potential); and
 3. the name(s) of the organisms used in the study; include the common name and the scientific name—white pine (*Pinus strobus* L.)—or the geographical region, if it is important (e.g., northwestern Ontario).
- Terms of more than one word (e.g., vegetative inoculum) are considered as one keyword.
- These keywords, usually numbering between five and ten, are listed alphabetically, in lower case, except for proper nouns, and are separated by commas.

TABLE OF CONTENTS EXAMPLE

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Guidelines for a Table of Contents

- The table of contents sets forth all the subdivisions of the work.
- The table of contents is titled CONTENTS.
- Begin the list of headings 4.0 cm below the top of the page.
- Justify page numbers corresponding to each subdivision along the right margin.
- When appendices are used, the titles appear in sequence using Roman numerals.
- The cover, title page, contents page and appendix divider page are not listed in the table of contents.

WORD TIP: Word will automatically generate your Contents if you use Styles to mark your headings. Use References, Table of Contents to generate the Contents section.

LIST OF TABLES EXAMPLE

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TABLES

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1. Coefficients of determination with and without I/A included among the variables	9
2. Coefficients of determination for breast height growth regressions with 5 estimators	10
3. Best 5-X regression equations for breast height growth	12
4. Coefficients of determination for growth regressions with 5 and 6 estimators	15

Guidelines for a List of Tables

- The list of tables is titled Tables. It starts on a new page, with the title centred and 4.0 cm below the margin.
- List the full headings of the numbered tables used in the text.
- List the table headings in sequence, by number. Place the page on which each table occurs (or begins) along the right margin.
- Table captions may be single-spaced, but a double space must be left between titles.
- If you include a table in an appendix, it should not be included in the Tables.
- For short reports that have few tables, you may list the tables in the sequence in which they appear in the Table of Contents.

LIST OF FIGURES EXAMPLE

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FIGURES

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2. Different particle shapes	4
3. Basic types of slope configuration	7
4. Key for determining hazard rating of slopes with past activity	13
5. Key for determining hazard rating of slopes with fine textured material	14
6. Key for determining hazard rating of slopes with coarse textured material	17

Guidelines for a List of Figures

- A list of figures is titled FIGURES. The title is centered 4.0 cm below the top margin.
- The figures listed must contain the complete caption (or a summary of a caption where the complete caption contains extensive explanatory material).
- The page number on which each illustration occurs (or begins) appears on the right margin.
- Titles may be single-spaced, but double space between titles.
- A figure in an appendix should not be included in the Figures.
- For short reports that have few figures, the figures may be listed in the sequence they appear in the table of Contents.

BODY OF THE REPORT OR ESSAY

Each major section of the technical report or essay following the introduction should be more or less complete in itself, and should convey a whole message on the intended subject matter. The section's scope should be outlined in a paragraph or two, and should be brought to a conclusion so that the subject matter is presented completely. Headings must be chosen with care, and sections must contain meaningful material that warrants their separation. Headings do not replace text; they are signposts only, and the work must read coherently without the titles.

Reports

Divisions:

Most reports have four divisions:

1. introductory material, which includes the necessary background and a hypothesis or purpose of the investigation;
2. the methods used to complete the investigation;
3. an account of the investigation and its results; and
4. discussion, conclusion and recommendations (if any are made).

The organization and distribution of content should follow a logical sequence so that each subsection represents an important division of the subject investigated and discussed. Headings used will reflect the category of material discussed.

Introduction

- The introduction provides background information about the subject and states the goals of the investigation.
- Normally, an introduction briefly answers five of six “journalist’s questions”: What? When? Who? Where? and Why? The goal of the investigation (why) is often the last statement of the introduction.
- As well, you may be required to have a literature review in your introduction.
- Presentation of methods and results should not be included in this section.

Methods

- The sixth journalist’s question, How?, is developed in the Methods section, and it describes in detail the equipment and techniques used to complete the investigation.
- Write in your own words, but use the third person; care must be taken that no first or second person pronouns appear. Instead, choose a passive construction to

eliminate a subject; e.g., “Measurements were taken of each sample and recorded.”

- If any of the work involves mathematical calculations, explain where the equations come from, including sample calculations in your work. You must show that you have understood what you have done in the lab.

Results

- Do not begin the results section with a table or figure. Each table or figure must be referred to in the text before it appears in the report.
- The results section contains objective descriptions of what was discovered through investigation. Essentially, you are answering the question: “What do the data show?”
- Begin the results section with an introductory passage that tells readers what they will find in the section. Summarize briefly what the tables and figures will show, then proceed with detailed explanations and tables and/or figures.
- You should not comment on the results; simply report them, in paragraph form, using explanatory text and tables and/or figures.
- Tables and figures are used to support, not replace, the text. Table and figure contents must be summarized as needed for clarity.
- Ordinarily, the results section is written in the past tense.

Discussion

- The discussion section explains the significance of the results and contains insights into the thesis or data presented.

- Typically, a discussion looks at questions such as: “How do the results relate to the problem or hypothesis presented in the assignment?” or “What are the practical applications that can be drawn from the results?” In addition, deficiencies that have come to light in the report are discussed.
- Your conclusions must be supported by your results.

Conclusion

- A conclusion is a final, brief summary of what can be drawn from the results.
- Major points might be restated and conclusions or solutions summarized.
- When appropriate, recommendations are made.

Essays

An essay usually includes three sections: an introduction, the body, and a conclusion.

Introduction

- Identify the subject, including background material relevant to the topic.
- State your thesis (the controlling idea).
- Define key terms where necessary.
- State your organizational plan. Since the introduction acts as a blueprint, you need to indicate the structure your essay will follow. Often you can indicate your organizational plan with a statement of the major points (or subtopics) you will discuss.
- Sometimes a literature review is included as part of an introduction.

The Body

- The body of the essay moves through the subject matter in the sequence described in the introduction.
- Each major point (or subtopic) is identified and discussed. All major points in the essay should support the thesis claim made, and supporting information should relate directly to both the major points and the thesis.
- When you introduce each major point (or subtopic), include a topic sentence which repeats key words for your thesis. These key words will help your reader follow your argument.
- Include sufficient supporting evidence, using in-text literature citations. (See the section on In-Text Citations for details.)

The Conclusion

- The conclusion might summarize the essay, articulate the significance of the subject matter, or make recommendations based on the essay's findings. A well-written conclusion leaves the impression that the subject has been adequately discussed and any questions or "holes" have been covered.

HEADINGS

In Technical Reports

If the essay is of sufficient length and complexity, headings are useful signposts for the reader and can be a valuable organizational device for the writer. However, they are not necessary and should be used sparingly as they tend to disrupt the flow of the writing. Check with your instructor about specific preferences regarding format.

In technical reports, headings are used for subdivisions of subject matter within the text; thus they serve to break up a mass of text into meaningful sections and act as signposts to aid reader comprehension.

In Essays

Headings are less frequently used in essays, but can be useful if the information you are presenting is detailed or particularly complex. Spacing, capitalization and font are used to distinguish the six levels/orders of headings.

Specific instructions when using headings

Heading Placement

- Centre first order headings and place them 4.0 cm below the top of the page; other headings are placed 2.5 cm below the top of the page and 1.5 cm after previous text. (Word also uses points as a measurement. One centimetre = 28.3 points; therefore 1.5 cm = 42.5 points, 2.5 cm = 71 points and 4 cm = 113 points. See Word Tip on p. 5 for setting 1st order headings.)
- Place second and third order headings along the left margin.
- Indent fourth order headings .7 cm (six spaces) from the left margin.
- Indent fifth and sixth order headings tab space (1 cm) from the left margin.
- Place second to sixth order headings 1.5 cm after previous line of text.
- Begin the next line of text 1.5 cm after the heading after first, second, third and fourth order headings.
- When using fifth and sixth order headings, continue text two spaces after the period which ends the heading

- Headings requiring more than one line are single spaced.

Heading sequence

- Heading sequence depends on the number of orders of headings required in the work, but you should always begin with level one and move through in order. For example, if you need five types of headings, choose first, second, third, fourth and fifth.
- Typical first order headings include CONTENTS, LIST OF TABLES, LIST OF FIGURES, INTRODUCTION, METHODS, RESULTS, DISCUSSION, CONCLUSION(S) and LITERATURE CITED.

Other Heading Requirements

- Headings are extras to the text, and should be removable without affecting the coherence or completeness of the text.
 - No references to the headings should appear in the text of the report or essay.
- Note that in the following heading orders, bold and italic functions are not used.
- First and second order headings appear in uppercase letters; third, fourth and fifth orders have initial capitals on key words; and sixth order headings have only the first word of the heading capitalized. Third, fourth, fifth and sixth order headings are underlined.

- The system of headings to be used is as follows:

1 st Order	CENTRED, CAPITALS AND NOT UNDERLINED
2 nd Order	CAPITALS, ALONG LEFT MARGIN AND NOT UNDERLINED
3 rd Order	<u>Initial Capitals on Key Words, Along Left Margin, Underlined</u>
4 th Order	<u>Initial Capitals on Key Words, Indented Six Spaces, Underlined</u>
5 th Order	<u>Initial Capitals on Key Words, Indented One Tab, Underlined, Ends with a Period.</u>
6 th Order	<u>First word capitalized, indented one tab, underlined, ends with a period.</u>

WORD TIP: When using Styles to format headings, modify to put in capitals and underlining for various orders of headings under the Format, Font section.

TABLE EXAMPLE

... no significant difference in number of tree per plot between irrigated (4 species/ plot) and non-irrigated (5 species/plot) areas (Table 1). Tree density in the non-irrigated area (531 stems/ha) was significantly different from the irrigated area (355 stems/ ha). The non-irrigated area had more aspen (*Populus sp.*) than the irrigated area.

Table 1. Mean^a overstory (≥ 11 cm in diameter) number of species per 0.04 ha plot, density, basal area, and stocking for tree, shrub, and total species in irrigated and non-irrigated areas (Larrick and Bowersox 1999).

Species group area	Number of species	Density	Basal area	Stocking
	Per plot	Stems/ha	m ² /ha	Percent
Tree				
Irrigated	4 a	355 b	19 b	73 b
Non-irrigated	5 a	531 a	27 a	100 a
Shrub				
Irrigated	<1 a	6 a	<1 a	-
Non-irrigated	<1 a	5 a	<1 a	-
Total				
Irrigated	5 a	361 b	20 b	73 b
Non-irrigated	5 a	536 a	27 a	100 a

^a Means with the same letter are not significantly different ($\alpha = 0.05$).

The irrigated area had more ash (*Fraxinus sp.*) and mockernut hickory (*Carya tomentosa* Lam. Ex Poir) stems than the non-irrigated area, but the numbers of ash and hickory were low for both areas.

Guidelines for a Table

A simple array of facts can be suitably presented in the text of the report or essay, either following a colon or in tabular form. However, most data are best presented in a formal table. The purpose of the table is to clarify, not confuse. Complicated data should be divided into two tables. Tables also help readers to compare factual or numerical information. Data which add to the overall presentation, but which are not necessary to an understanding of the points being made, should be included in an appendix which then is referred to in the text.

In-text Reference to Tables and Figures

- Before you present data in a table or figure, you must introduce the table, briefly explaining the data in sentence form.
- For the reader's convenience, each table and figure is numbered, using Arabic numbers that begin the caption.
- Tables and figures are referred to by number (not title) in the text.
- Tables or figures are placed as close to the reference as possible; no table or figure should be continued from one page to the next unless it is unavoidable.

Fitting Tables into Text

- To fit onto one page, a table can be reduced in size, placed in landscape orientation, or presented as a foldout.
- If the table appears alone on the page, it should be centred vertically and horizontally.

- A table should not extend into the normal margins of the page.
- Pagination continues normally on pages with tables.
- If a table has more than one part, each part is designated by a capital letter and sub-heading (which is not to be listed in the table of contents).

Long Tables

- Very long tables can be presented on more than one page; in this case, the word “Table,” the table number, a period and the word “Continued” in parentheses (e.g., “Table 1.2. (continued)” should be placed in the table heading position).
- Headings within the table must be repeated in full on each subsequent page. However, the bottom horizontal line is inserted only at the end of the table, not at the bottom of each page. This convention serves to tell the reader that the table is not yet complete.
- If data are summed for each page, the subtotal should appear at the end of the row or column on the page, and subtotals should appear at the beginning of the row or column on the subsequent page.

Table Headings

- A table heading/caption should concisely convey the nature and scope of the data presented without being long-winded.
- Punctuation can be used to help convey the message (colons can be particularly useful).

- Table headings are placed **above** the table. The heading begins along the left margin with the word “Table”, followed by the Arabic number, a period and one space.
- The first word in the table caption begins with a capital, but no other words, except proper nouns, are capitalized.
- \The caption ends with a period.

Table Sources

A table source should be acknowledged. If the table uses data from another author’s work, the source is indicated in a parenthetical reference (e.g., (Smith 1997)) at the end of the caption. The reference does not form part of the heading caption in the List of Tables. A table source can also be referenced at the bottom of the table itself.

Table Lines and Spacing

- Tables should be presented in the most reader-friendly way possible. Neatness, spacing, quantity and quality of information are important considerations for the writer.
- A table is to be separated from the text by a solid horizontal line, typed one single space below the last line of the heading.
- The bottom of the table is indicated by a solid horizontal line that is placed one single space below the last item in the table.
- Use white space, not lines, to separate material in the table, leaving enough space between lines and columns so that data can be easily read. Judicious use of horizontal lines and spaces within and between the columns of data should

clearly indicate how the table should be read. Avoid the use of solid (or partial) lines between the columns and rows. Vertical rulings should be avoided where the table content can be effectively presented without them.

Table Capitalization and Fonts

- The following words are capitalized: “Table”; the first word in the caption; and proper nouns. No other words in the title/caption are capitalized. The initial letter of the first words in column and row headings and sub-headings should be capitalized.
- Text font should be of sufficient size to be easily read. For uniform appearance, use the same font as that of the report. Avoid using bold and italics.

Table Footnotes

- Use superscript lower case letters (e.g., 20.6^a) to refer to footnotes for a table. If letters cause confusion (e.g., when equations are presented), asterisks, daggers or minute numerals may be used instead; however, the recognized use of asterisks to indicate statistical significance must be respected.
- Footnote references appear serially from left to right, line to line, within each table. The footnote itself (and other explanatory notes if required) should be placed a double space below the bottom solid horizontal line of the table.
- Each letter or other footnote designation is to be indented five spaces from the table margin and is followed by explanatory text.
- Footnotes of more than one line should be single spaced. A double space separates two different footnotes for the same table.

- If a table is longer than one page, the footnote is placed at the end of the table, not at the bottom of the page where the footnote has been designated.

FIGURE EXAMPLE

The study results support the hypothesis that the height of Douglas-fir (*Pseudotsuga menziessi* Mirb.) exceeds the height of paper birch (*Betula papyrifera* Marsh.) at an earlier age at the coastal site than at the interior site. However, it does not mean that the paper birch will die out quickly once Douglas fir grows higher. In fact, a few paper birch trees survive for a relatively long period (40 years after the height curves crossover) in a Douglas-fir stand at the coastal site. The almost parallel height growth curves observed in this study reflect this phenomenon (Figure 4).

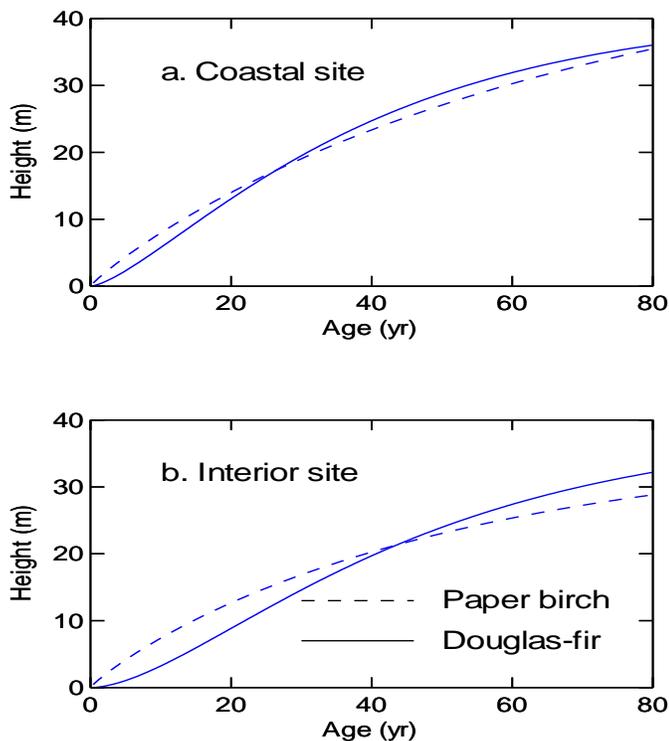


Figure 4. Comparison of functional plots of paper birch and Douglas-fir height growth at

the coastal and interior sites in British Columbia (Wang and Kimmins 2002).

Guidelines for a Figure

Any illustration, such as a photograph, map, drawing, chart or graph that is used in the body of the report or essay is a figure. Figures are used to graphically support the information presented. The purpose of the figure is to enhance the reader's understanding, not to decorate the page, and gratuitous use of figures should be avoided. Figures can help readers to visualize or compare data. However, as with tables, a figure that is not necessary to an understanding of the points being made should be included in an appendix which then is referred to in the text.

In-text Reference to a Figure

- Before presenting a figure, briefly introduce the information contained in a figure in sentence form in the text of your report.
- Like tables, each figure is numbered, using Arabic numerals which begin the figure's caption.
- Figures are referred to by number (not title) in the text of the report.
- The figure is placed as close to the reference as possible.

Fitting Figures into Text

- The rules governing use of figures are similar to those regarding tables, so use your common sense when including figures in a report.
- To fit onto one page, a figure can be reduced in size, placed in a landscape orientation, or presented as a foldout.

- If the figure appears alone on the page, it should be centred vertically and horizontally.
- A figure should not extend into the normal margins of the page. Pagination continues normally on pages occupied by figures.
- If a figure has more than one part, each part is designated by a capital letter and sub-heading (which is not to be listed in the table of contents).
- Set figures off from the text with white space; borders are not necessary.

Figure Captions

- A figure caption should concisely convey the nature and scope of the data presented without being long-winded.
- If it is necessary that the caption contain a legend or extensive explanatory material, then the first part of the caption is to be sufficiently descriptive to act as a title. Only the title portion of the caption is to be included in the List of Figures.
- Punctuation can be used to help convey the message. (Colons can be particularly useful).
- Figure headings are placed below the figure. The heading begins along the left margin with the word "Figure," followed by the Arabic number, a period and one space.
- The first word in the caption begins with a capital, but no other words, except proper nouns, are capitalized.
- The caption ends with a period.

- A figure uses the same font as in the text. Avoid using bold and italics in figure captions.

Figure Sources

If the figure has been redrawn from the work of another author/illustrator, the source is to be indicated in a parenthetical reference [e.g., (Jones 1997)] at the end of the caption. The reference does not form part of the heading caption in the list of figures.

Illustration of Figures

- Consider the appearance of a diagram, chart, graph or drawing you wish to include as a figure in your report. The type of information and the quality of the graphic are important considerations for the writer. Therefore, font size and type should be similar to that of the report or essay. If you are using a smaller font size, make sure it is easily reproduced and read.
- If photographs are not presented electronically, they must be permanently mounted on the page, either using glue or dry mounting tissue. Do not tape photographs to the page.
- Letters and symbols not on your key can be hand-lettered or stencilled.
- Parts of figures (A, B, etc.) must be clearly identified and the parts placed in sequence for ease of reader reference, with a caption placed below each part of the figure.
- If a figure, because of its length, is continued on a second (or more) page, the word "Figure," the figure number, a period, and the word "Continued" in

parentheses, are to be placed in the figure caption portion of each page where the continuation occurs.

IN-TEXT LITERATURE CITATIONS

Most of the reports you write while at university require that you refer to existing literature related to the subject you are studying. Proper use of literature is therefore an integral part of your submissions. Citing the work of others is accepted academic practice, and is done to indicate that the literature used: 1) conveys background material about a subject; 2) indicates how other work is related to the topic; 3) presents a model or method used in the work being reported; 4) substantiates a point/opinion you are expressing; and (5) provides additional information about a point. As the writer, you use the work of others to justify information/work presented, interpret results or data presented, and support ideas in the text.

Using the actual words and ideas of another without crediting the source constitutes plagiarism.

Therefore, it is vital that proper citation is used.

WORD TIP: Word allows you to mark your in-text citations to automatically generate a bibliography. Use References, Citations & Bibliography.

Author-Year System

- Use the author-year system for in-text citations (e.g., (Prévost 2001)).
- There is **no comma** between the author and year.
- In-text citations, which denote sources, are parenthetical and are made immediately after the material appears in the essay or report.
- When citing information from long works (i.e., in excess of 50 pages), include appropriate page number(s) after the year of publication to indicate where the

information was located in the text (e.g., Ross 1995:247). Some journals require this practice for all citations.

- When citing information from online sources, follow the same author-year format.
- A citation in parentheses made at the end of a sentence must have a period after it because the parenthetical reference is considered part of the sentence. In this case, omit the period at the end of the quotation or paraphrase that precedes the beginning of the parenthetical reference.

Referring to a Source

- A source is referred to in one of two ways: either by quoting directly or indirectly.
- Direct quotations are verbatim (exactly as written/said) copying of another's work, and the words are enclosed in quotation marks. Quoting directly from another is sometimes unavoidable, but it is not encouraged, especially in scientific papers (e.g., lab reports).
- The preferred method of using a source is to summarize or paraphrase, in your own words, the author's ideas or findings. Paraphrasing is preferred over direct quotation because it indicates that you have interpreted the outside source correctly and therefore have completed worthwhile research. As well, a paraphrase written in your own words makes for a seamless writing style that is more appealing to the reader.
- A paraphrase is always followed by an in-text citation.

Paraphrasing

- Learning to summarize or paraphrase well is vital to your academic writing so that you can support your ideas and indicate to the reader you are presenting thoughtful, researched material.
- Any summary of material from another source ends with an in-text citation using the author-year method. When an in-text citation occurs at the end of a sentence, the period comes after the in-text citation. For example: “Forest management models could be derived from binary search and simulation (Davis 1987).”

Direct Quotations

- When quoting directly, be careful to use only the material relevant to your point.
- Generally, avoid using quotations to end an essay. If you do use a quotation as part of a conclusion, comment on what the author has said to bring your essay to a close.

Setting off Direct Quotations from the Text

- Quotation marks are used to enclose any direct quotation or each part of a direct quotation if the quotation itself is interrupted by text.
- Quotations of fewer than four lines, or any quotation used as part of a sentence, should be treated as part of the paragraph in which they occur, and are simply set off from the rest of the text by quotation marks.
- A quotation used as part of a sentence, other than at the start, does not begin with a capital letter (although it might be capitalized in the original) unless it forms a complete statement.

- Place commas and periods **within** closing quotation marks, whether or not they were included in the original material. For example: Ross and Smith (2002) contend that “tenure reform, and the discarding of sustained yield as the core principle of forest policies, is key to achieving these new objectives of sustainability.”
- Long quotations are set off from the text by single-spacing and indenting five spaces (1 cm) from both the left and right margins. In long quotations, quotation marks are not used; the indentations and single-spacing replace quotation marks. The Council of Biology editors (1999) describe excerpts and quotations as follows:

Short passages taken from another text are usually efficiently presented as quotations with relevant punctuation in the line of the text quoting them; such quotations are sometimes called “run-in quotations”. Long passages may be more effectively presented as excerpts distinguished from the text into which they are inserted by special typographical devices.

Use of [sic]

- Direct quotations must be made exactly, except where you have modified a capital letter beginning a partial quotation that is used as part of a sentence.
- If an error occurs in the original quotation (for example, in spelling, grammar or data), recognize the error by inserting [sic] after the error.
- The word “sic” means “thus” or “so” in Latin, and you use it to indicate to the reader that you recognize an error has occurred in the original.

Use of Ellipsis

- If you omit portions of a quotation less than one paragraph in length, use an ellipsis, three periods with no space between (...), but with a space before and

after the ellipsis. When the omission occurs at the end of the sentence, use a period before the ellipsis.

Examples of In-Text Citations

NOTE: There is no comma between the author and the date.

1. In its simplest form, the citation is placed at the end of a sentence.
Example: ... which is a major cause of earthworm distribution (Reynolds 1977).
NOTE: The period to end the sentence goes after the in-text citation.
2. When you name the author in the sentence, the citation includes only the date, which appears immediately after the author's name.
Examples: Meyer (1994) analyzed the effects on fire ...
... the character of these plots was examined by Barnes (1998).
NOTE: Use this method sparingly to keep the focus on the topic, not an author.
3. Two joint authors:
Examples: ... a second study (Carmean and Hahn 1983) indicated ...
Parker and Bohm (1979) have introduced ...
4. More than two joint authors:
Examples: ... show the annual growth (Smith et al. 2000).
Brown et al. (1997) reported ...
NOTE: Use a period after et al. because it is an abbreviation.
NOTE: Use et al. in the text, but write out the complete list of authors in the Literature Cited section.
5. Two separate articles by two different authors with similar information cited.
Example: ... juvenile period is passed (Meyer 1945; Reynolds 1976).
6. Corporate author:
Examples: ... the Ontario Ministry of Natural Resources has published a new forest management planning manual (OMNR 2006).
The Canadian Forest Service publishes an annual State of Canada's Forests report. This year's report (CFS 2013) explores ...
7. For a book of more than 50 pages, page number(s) should be included:
Example: ... under the circumstances (Ross 1995:247).
NOTE: After the date, add a colon and the page number or numbers (247-248).
8. Authors' initials are used with last name when two well-known authors are in the same field, or where two authors having the same surname are cited in work.

Example: ... number of tree species (W.H. Meyer 1945). W.A. Meyer (1942) gave the number of ...

9. One specific article and additional unspecified material.
Example: Especially noteworthy is the work of Michaelsen, Stephenson, Gates and their followers (Reynolds and Reinecke 1976 and many others).
10. More than one cited article by the same author in the same year.
Example: ... against biomass per acre (Reynolds 1976c).
11. Two separate articles by two different authors with similar information cited:
Example: ... juvenile period is passed (Meyer 1945; Jones 1976).
12. Several articles:
Example: Other presentations by Gates (1972), Reynolds (1972, 1976a, 1976b) and Reynolds and Cook (1977) have shown that ...
13. Corporate author:
Example: ... the 2013 State of Canada's Forest report (CFS 2013) ...
14. Corporate author as subject of a sentence:
Example: The Ontario Ministry of Natural Resources (2006) released a revised version of the provincial forest management planning manual.
15. Author(s) of a chapter within a book edited by another or a symposium article:
Examples: ... described by Prévost and Laing (1986) ...
16. References in another work, original not read:
Cite original author and date in text. In Literature Cited, include author who cited the work. For an example see the Literature Cited examples.
17. Neither the author nor the corporate author is known.
Example: ... as it was described earlier (Anon 1887).
NOTE: Use Anon in the in-text citation, but use Anonymous in the Literature Cited page.
18. Direct quotations fewer than four lines are included within the sentence in the text:
As this manual states: "Quotations of fewer than four lines or any quotation used as part of a sentence should be treated as part of the paragraph in which they occur, and are simply set off from the rest of the text by the quotation marks" (Smith 2008). The citation should be placed outside the quotation marks, but before a period indicating the end of the sentence.
19. Direct quotations of more than four lines, referred to as block quotations, are set off through single spacing and indenting 1.27 cm from both the left and right margins. No quotation marks are used.

NOTE: For a block quotation, the citation is placed **outside** the closing punctuation.
Example:

Forestry has generally developed only after a period of exploitation that has created actual or potential future timber shortages. The earliest stages of forestry usually involve the institution of regulations designed to meet certain objectives. Characteristically, these regulations are based on administrative, short-term economic or strategic dictates and reflect little or no knowledge of the ecological nature and variability of the forest. As a consequence, such early attempts at forestry rarely succeed in solving the problems that were their genesis. (Kimmins 1987)

20. Online sources follow the same author-text format. Example: Vaughan (2013) in his Environment Blog, notes that in the past 10 years more than 130,000 hectares of forest have been lost.

FOOTNOTES IN THE TEXT

- Footnotes are not used for literature citations.
- Use footnotes sparingly. Footnotes may be used for explanatory material that is not of sufficient length or importance to include in the text proper or as an appendix. However, in many cases, the explanatory material can be placed in parentheses in the text rather than in a footnote.
- When a footnote is required, it should be designated with a superscript Arabic numeral without parentheses.¹
- The footnote itself occurs at the bottom of the page that contains the material to be footnoted.
- The footnote is single-spaced and its last line of text should conform to the bottom margin width.
- A double space is to be left between different footnotes on the same page.²

¹ Such numerals should be placed immediately after the word or statement that is being explained.

² WORD TIP: Word automatically generates and formats footnotes. Use References, Insert Footnotes.

LITERATURE CITED PAGE EXAMPLE

 LITERATURE CITED

- Assmann, E. 1970. *The Principles of Forest Yield Study*. Pergamon Press, New York. 371 pp.
- Gustafson, E.J., S.M. Lietz and J.L. Wright. 2003. Predicting the spatial distribution of aspen growth potential in the Upper Great Lakes Region. *Forest Science* 49(4):499–508 (online).
- Larsen, D.R. and J.A. Kershaw Jr. 1996. Influence of canopy structure assumptions on predictions from Beer's Law: A comparison of deterministic and stochastic simulations. *Agric. Meteorol.* 81:61–77.
- Ontario Ministry of Natural Resources. 2002. Status Summary of Ontario's Forest Management Guides (review dates and consolidation details for new guide series). <http://ontariosforests.mnr.gov.on.ca/>. Dec. 14, 2003.
- Smith, F.D. 1995a. Management oriented yield tables for loblolly pine in the Georgia Piedmont region. USDA Gen. Tech. Bull. NC-161. 63 pp.
- Smith, F.D. 1995b. Compatible systems for estimation of tree and stand volumes. *For. Chron.* 70(3):15–16 (online).
- Smith, P., G. Scott and G. Merkel. 1995. *Aboriginal Forest Land Management Guidelines: A Community Approach*. National Aboriginal Forestry Association, Ottawa, ON.
- Wagner, R.G., G.H. Mohammed and T.L. Noland. 1999. Critical period of interspecific competition for northern conifers associated with herbaceous vegetation. *Can. J. For. Res.* 29(7):890–897 (online).
- Wang, J.R. and J.P. Kimmins. 2002. Height growth and competitive relationship between paper birch and Douglas-fir in coast and interior of British Columbia. *For. Ecol. Manage.* 165:285–293.
- Xu, M. 1997. Growth efficiency of individual loblolly pine (*Pinus taeda* L.) as affected by crown morphology, stand characteristics and microenvironment. PhD. thesis, University of Georgia, Athens. 286 pp.

Guidelines for a Literature Cited Page

- The Literature Cited section begins on a separate page located at the end of the text of the report or essay (before any appendices).
- The Literature Cited section contains only the sources you have cited within the text of your essay or report. It is not a bibliography, so omit any works you might have researched, but did not refer to in your submission.
- The purpose of a Literature Cited entry is to give readers the information they need to identify and retrieve the sources you have used to prepare your document. The credibility and accuracy of your sources are therefore vital to the overall integrity of your essay or report.
- Citations are listed in alphabetical order and are not numbered.
- The first line begins at the left margin; subsequent lines of the entry are indented one tab.
- Brackets, (), are used to enclose English translations of non-English works when translations are known.
- All non-English words must be completed with accents, umlauts, etc., as in the original source.
- The format for the information required in an entry is summarized below:

WORD TIP: Use the Word ruler to format a hanging indent.

GENERAL FORMAT FOR JOURNAL ARTICLES: Author(s). Year. Article title. Journal title volume number (issue number):inclusive page numbers. Note that for journal article titles, only the first word (and other proper nouns) is capitalized. The name of the journal is capitalized.

GENERAL FORMAT FOR BOOKS: Author(s) [or editor(s)]. Year. Title. Publisher, place of publication. Number of pages. Note that for titles of books, all words are capitalized except for articles (*a*, *an*, and *the*) and prepositions with fewer than five letters.)

GENERAL FORMAT FOR **CHAPTERS IN BOOKS**: Author(s) of the part. Year. Title inclusive pages. *in* Author(s) [ed(s)]. Title of the book. Publisher, place of publication. Number of pages.

GENERAL FORMAT FOR **INTERNET CITATIONS**: As above, with the addition of the URL or website address and date viewed. For popular sources (as opposed to academic peer-reviewed sources), indicate the type of internet citation, e.g., Web Log Post (for blog), Video File (for youtube, etc.), Facebook Post and the day, month and year of the post. For journal articles retrieved from the internet, omit URL and instead put “online” in brackets following inclusive page numbers.

- The first line begins along the left margin, with subsequent lines of an entry indented 1.27 cm (a “hanging indent”).
- Entries are always listed alphabetically by the authors’ last names—they are never numbered.
- Each entry must be complete and contain information about the author and year the work was published, as well as the title and publication details needed for the retrieval of the specific text. Include the following items in any Literature Cited entry:
 - Author’s last name, separated with a comma from the author’s initials, followed by a period and one space (i.e., for single author, Smith, P. and for multiple authors, Smith, P., G. Scott and G. Merkel.).
 - Year of publication, followed by a period and one space (i.e., 2003.).
 - For books: Complete title of the work, with significant words capitalized, not italicized or underlined, followed by a period and one space (i.e., Forest Ecology).
 - For other printed matter, including journal articles: Complete title of the work, with only the initial word and proper nouns capitalized, not italicized

or underlined, followed by a period and one space (i.e., Tradable land-use rights for cumulative environmental effects management.).

- Publication information: name of publisher, name of journal or longer work (if source is a chapter), or title of website page; place of publication, journal volume and number; or internet address (i.e., for book, MacMillan Publishing Co., New York, and for journal, Canadian Public Policy 28(4):581–593.).
- Number of pages in the book, page references for article in a longer work, or date of retrieval for an internet source.
- **Personal communications are not listed in a Literature Cited section.**

Instead, the reference is included in the text of the report or essay. As with other citations, include the name of the author, the date the communication occurred and information on the nature of the source; e.g., lecture notes, in literature, an email, or as a personal (oral) communication. You might choose to introduce the name of the source in the sentence itself.

Examples: Parker (in lecture NRMT 1010, Nov. 28, 2013) stated ...

Barnes (pers. comm., May 7, 2013) indicated that ...

You can further highlight an individual's personal communications contributions in the Acknowledgements section.

Examples of Literature Cited entries

There is such a variety of source material that it is best you learn and understand the purpose of a literature citation rather than try to memorize all the different examples. Scan journals for other possible examples. If you are in doubt about what information to

include, keep in mind that it is better to include more rather than less information. Put yourself in your reader's shoes—what information do they need to easily find the source? As well, while proofreading, check to make sure that names and dates of your in-text citations match what is in the literature cited.

1. *Single author, article:*

Smith, P. 1998. Aboriginal and treaty rights and Aboriginal participation: Essential elements of sustainable forest management. *Forestry Chronicle* 74(3):327–333.

Pulkki, R. 1984. A spatial database-heuristic programming system for aiding decision-making in long-distance transport of wood. *Seloste: Sijaintitietokanta – heuristinen ohjelmointijärjestelmä puutavaran kaukikuljetuksen päätöksenteossa. Acta For. Fenn.* 188:1–89.

2. *Single author, book:*

Manion, P.D. 1982. *Tree Disease Concepts*. Prentice-Hall, Inc., Englewood Cliffs, New Jersey. 399 pp.

NOTE: Initial word, significant words and proper nouns are capitalized in book titles, but only initial words and proper nouns are capitalized in other publications.

3. *Two or more publications by the same author* (notice sequence by year, with earliest publication date first):

Farmer, R.E. Jr. 1963. Effect of light intensity on growth of *Populus tremuloides* cuttings under two temperature regimes. *Ecology* 44(2):409–411.

Farmer, R.E. Jr. 1964. Sex ratio and sex-related characteristics in eastern cottonwood. *Silvae Genet.* 13:116–118.

4. *Two or more works by an author published in the same year* (small letters distinguish each publication; placed in the order cited in the text):

Reynolds, J.W. 1976a. The distribution and ecology of the earthworms of Nova Scotia. *Megadrilogica* 2:1–7.

Reynolds, J.W. 1976b. Catalogue et clef d'identification des lombricides du Québec. *Nat. Can.* 103:21–27.

Reynolds, J.W. 1976c. Die Biogeografie van Niirde-Amerikaanse Erdwurms (*Oligochaeta*) Noorde van Meksiko. II. *Indikator* 8:6–20.

5. *Publication by one author and with co-authors* (repeat name):

Reynolds, J.W. 1978. The whole earthworm catalogue. *Horticulture* 56:41–48.

Reynolds, J.W. and A.J. Reinecke. 1976. A preliminary survey of the earthworms of the Kruger National Park, South Africa. *Wet. Bydraes, P.U. vir C.H.O. (B)*, No. 89. 19 pp.

6. *Multiple authors:*

Grant, G.G., Y.H. Prévost, K.N. Slessor, G.G.S. King and R.J. West. 1987. Identification of the sex pheromone of the spruce coneworm, *Dioryctria reniculelloides* (*Lepidoptera: Pyralidae*). *Environ. Entomol.* 16:905–909.

Schnekenburger, F., K.M. Brown and J.E. Barker. 1985. Effects of nitrogen fertilization and low thinning on snow damage in jack pine. *For. Sci.* 31:52–56.

Yang, K.C. and G. Hazenberg. 1987. Geographical variation in wood properties of *Larix laricina* juvenile wood in northern Ontario. *Can. J. For. Res.* 17:648–653.

7. *Publication in press:*

Dickinson, T.A., P. Knowles and W.H. Parker. 1988. Data set congruence in northern Ontario tamarack (*Larix laricina*, *Pinaceae*) *Syst. Bot.* (in press).

8. *Publication by an institute:*

Reynolds, J.W. 1977. The earthworms (*Lumbricidae* and *Sparganophilidae*) of Ontario. *Life Sci. Misc. Publ., Roy. Ont. Mus., Toronto.* x + 141 pp.
NOTE: x = 10 pages of separately paged prefaces.

Reynolds, J.W. and D.G. Cook. 1977. *Nomenclatura oligochaetologica*, a catalogue of names, descriptions and type specimens of the *Oligochaeta*. University of New Brunswick, Fredericton. x + 217 pp.

9. *Thesis manuscript:*

Prévost, Y.H. 1986. The relationship between the development of cones of black spruce, *Picea mariana* (Mill.) B.S.P. and their insect fauna. Ph.D. dissertation, Environmental Biology, Univ. of Guelph, ON. 96 pp.

Dunai, A. 1998. Factors predisposing urban trees to insect defoliations in Richmond Hill Ontario. B.Sc.F. thesis, Faculty of Forestry, Lakehead University, Thunder Bay, ON. 68 pp.

10. *Article in a published symposium, conference proceedings or a chapter in a book with an editor(s):*

Turner, N. 2001. "Keeping it living": Applications and relevance of traditional plant management in British Columbia to sustainable harvesting of non-timber forest products pp. 66-77 in Davidson-Hunt, I., L.C. Duchesne and J.C. Zasada (eds.) *Forest Communities in the Third Millennium: Linking Research, Business, and Policy toward a Sustainable Nontimber Forest Product Sector*; Proceedings of the meeting held in Kenora, Ontario, Canada, October 1-4, 1999. Gen. Tech. Rep. NC-217. U.S. Dept. of Agric., For. Serv., N. Central Res. Stn., St. Paul, MN. 151 pp.

NOTE: There is no period after page numbers or before *in*.

Hayter, R. and J. Holmes. 2001. The Canadian forest industry: The impacts of globalization and technological change pp. 127-156 *in* Howlett, M. (ed.) Canadian Forest Policy: Adapting to Change. University of Toronto Press, Toronto, ON. 446 pp.

11. *Bulletin:*

Reynolds, J.W. 1972. The activity and distribution of earthworms in tulip poplar stands in the Great Smoky Mountains National Park, Sevier County, Tennessee. Bull. Tall Timbers Res. Stn., No. 11, pp. 41–54.

NOTE: If the article had been a bulletin all by itself: No. 11, 54 pp.

12. *Book review:*

Reynolds, J.W. 1973. Review of Gates, G.E. 1972. Burmese earthworms: An introduction to the systematics and biology of *Megadrile oligochaetes* with special references to southeast Asia. Syst. Zool. 22:197–199.

13. *Unpublished duplicated material:*

Van Slyke, A.L. 1967. Crown measures as indicators of tree growth in red spruce. Paper read at Mensuration Sessions, Joint CIF-SAF Annual Meeting. October 19, 1967, Ottawa. 18 pp. (mimeographed).

14. *Unpublished manuscript:*

Carmean, W.H. and D.J. Lenthall. 1988. Height growth and site index curves for jack pine in north central Ontario. Unpublished manuscript.

15. *Abstract:*

Laing, J.E. and Y.H. Prévost. 1986. Seed and cone insects of black spruce. p. 23 *in* Ontario Renewable Resources Seminar Abstracts Jan. 30–31, 1986 22 pp. (abstract).

Parker, W.H. 1984. Flavanoid variation in Yukon populations of *Abies lasiocarpa*. Am. J. Bot. 71, part 2:182–183 (abstract).

16. *Publications in microfilm:*

Reynolds, J.W. 1973. The Lumbricidae (*Ammelida: Oligochaeta*) of Tennessee. Ph.D. dissertation, University of Tennessee, Knoxville. xii + 302 pp. (microfilm).

NOTE: This entry differs slightly from example 13 because the original or a Xeroxed typed copy of the original document was not consulted.

17. *Corporate publications, author(s) known:*

[OMNR] Ontario Ministry of Natural Resources. 2001. Forest Management Guide for Natural Disturbance Pattern Emulation. Version 3.1. Ont. Min. Nat. Res., Queen's Printer for Ontario, Toronto. 40 pp.

NOTE: This would be cited in text as OMNR (2001) or (OMNR 2001).

18. *Corporate publications, corporation unknown, such as unauthored, independent publications such as maps:*

Anonymous. 1957. Honey and beeswax. Stat. Rept. Serv. No. 388. 10 pp.

NOTE: Use n.d. (no date) if date cannot be determined.

19. *Atlas:*

Bartholomew, J. (ed.). 1957. The Times atlas of the world: Mid-century edition. Vol 5. The American Times Publ. Co., Ltd., London. 57 pp. 120 plates.

NOTE: Enter under person or corporate body responsible, i.e., cartographer, editor, publisher, government bureau, society, or institution. If responsibility cannot be determined, enter under title.

20. *Map:*

Leppard, H. M. (ed.). 1961. Goode base map series. No. 202. North America. Dept. Geography, Univ. Chicago.

NOTE: Enter in the sequence of person(s) or corporate body stated in the title, cartographer, engraver, publisher, and copyright claimant. If responsibility cannot be determined, enter under title.

21. *Foreign language publication: in original language but with English abstract and/or summary:*

Reynolds, J.W. 1976. Un aperçu des vers de terre dans les forêts nord-américaines, leurs activités et leurs répartitions. *Megadrilogica* 2:1–11. (In French; English, French, German and Spanish summaries).

22. *Foreign language publication; no translation, summary or other-wise, or translator given:*

Reynolds, J.W. 1976. Die Biogeografie van Noorde-Amerikaanse Erdwurms (*Oligochaeta*) Noorde van Meksiko. II. *Indikator* 8:6–20 (in Afrikaans).

23. *Foreign language publication; translation when English title not given:*

Zuraiq, Q. 1948. Ma na an-Nakba [The meaning of disaster]. Dar al-Ilm lil-Malayin, Beirut. 88 pp. (in Arabic).

24. *Foreign language publication; English title given in original:*

Frederiks, G.N. 1926. Table for determination of the genera of the family Spiriferidae King. *Izv. Akad. Naul, USSR*. 20:393–423 (in Russian).

25. *Legislation or Acts of Parliament.*

Federal:

Combines Investigation Act, R.S.C. 1970, c. C-23, s.2.

NOTE: R.S.C. = Revised Statute of Canada.

Provincial:

Liquor Control Act, R.S.N.B. 1970, c. L-10, s. 13(1).

NOTE: R.S.N.B. = Revised Statute of New Brunswick.

26. *House of Commons Debates (Hansard):*

Angus, C. 2013. Statement on Economic Action Plan 2013 Act No. 2. Canada. Parliament. Edited Hansard 147(009):1335. 41st Parliament, 2nd session.

<http://www.parl.gc.ca/HousePublications/Publication.aspx?Language=E&Mode=1&Parl=41&Ses=2&DocId=6270979#TOC-TS-1335>. Dec. 30, 2013.

27. *Examples of the various types of Canadian Forest Service, Natural Resources Canada publications:*

NOTE: The names of government departments change over time; your citation should use the name of the department at the time of publication.

i) *Leaflet:*

Wile, B.C. n.d. Balsam fir. Can For. Serv. MFRC. 12 pp.

ii) *Unauthored, independent, map-like publications:*

Anonymous. n.d. Common pests of ornamental hardwoods in Maritime Provinces. Can. For. Serv. MFRC.

iii) *Information reports:*

Groot, A. 2001. User's manual for "PC-Seed". Can. For. Serv. Great Lakes For. Cent. Nat. Resour. Can. Inf. Rep. GLC-X-4. 18 pp.

iv) *Tree pest control leaflet:*

Humble, L.M. and A.J. Stewart. 1994. Gypsy moth. Can. For. Serv. Pacific For. Cent. Nat. Resour. Can. Forest Pest Leaflet 75, co-published by the BC Ministry of Forests.

v) *Internal report:*

Renault, T.R. 1968. An illustrated key to arboreal spiders (Araneae) in the fir-spruce forests of New Brunswick. Can. For. Serv. MFRC Int. Rept. M-39. 41 pp.

vi) *Local irregular publications:*

Anonymous. 1978. The budworm's point of view. Pith to Periderm. Can. For. Serv. MFRC. 12:8-14.

Magasi, L. 1978. Forest insect and disease survey highlights (summer 1978). The Green Chain, pp. 15-17. (Cab, For. Serv. MFRC).

vii) *Co-operative reports:*

Anonymous. 1978. Nashwaak Experimental Watershed Project, Annual Report 1976-77. Can For. Serv. MFRC. 23 pp.

viii) *Abbreviations for laboratories of Environment Canada, Canadian Forestry Service:*

[Envi. Can. Can. For. Serv.] (before 1985); Forestry Canada [For. Can.] (after 1985); and Natural Resources Canada, Canadian Forest Service, [Nat. Resour. Can. Can. For. Serv.] (after 1993).

	Before 1985	after 1985	after 1993
Newfoundland and Labrador Region	NeFRC	NeFC	Nfld. Lab. Reg.

Maritimes Region	MFRC	MFC	Marit. Reg.
Quebec Region	LFRC	LFC	Que. Reg.
Ontario Region	GLFRC	CLFC	Ont. Reg.
Northwestern Region	NoFRC	NoFC	NW Reg.
Pacific and Yukon Region	PFRC	PFC	Pac. Yuk. Reg.

28. *Citing an author quoted in an article by another author.*

Duges, A. 1837. Nouvelles observations sur la zoologie et l'anatomie des Annelides abranchedes setigeres. Ann. Sci. Nat. 8:15–35. (Cited in Reynolds 1983b.)

29. *Television broadcast:*

Reynolds, J. 1976. Interviewed by Peter Gzowski on "90 Minutes Live." CBC Television, Dec. 22, 1976.

30. *Radio broadcast:*

Prévost, Y.H. and Z Valdmanis. 2001. Interview by Gerald Graham on the "Voyage North Show." CBQ Radio, Thunder Bay, Dec. 3, 2001.

31. *Lecture:*

See Personal Communication on page 43 of this manual.

32. *Film or filmstrip:*

Fueter, H. 1968. Waste: The penalty of affluence. Condor Film, on behalf of World Wildlife Fund. Colour, 18 minutes.

Discovery Channel. n.d. Extreme Loggers, Ice Logging, Episode 3, Part 1/3. Video File. Posted on youtube.com by gustavopcastro, Oct. 16, 2013.

<http://www.youtube.com/watch?v=JHrOlX6CgBo>. Dec. 30, 2013.

33. *Newspaper article:*

Prévost, Y.H. 2001. Urban forester benefits outweigh salary. The Chronicle Journal, Thunder Bay, ON. Dec. 12, 2001, p. A6.

Canadian Press. 2003. Ban on spring bear hunt here to stay. Toronto Star, Toronto, ON. Dec. 17, 2003. www.torontostar.com. Dec. 17, 2003.

34. *Record or tape:*

Ramsey, F. Jr. 1958. John Henry from Jazz, vol.1. Folkway Records, Toronto. FJ 2801. Side 1, cut 4.

35. *Internet source:* Author. Year. Title. Publisher. URL. Date viewed.

NOTE: Internet sources should be in the same format as the citations above, with the addition of the website address (URL) and date viewed. For online journals, omit the URL, date viewed and simply note "(online)" following the volume, issue, page number information. If there is no specific author cited for the source, use the corporate author format, citing the organization hosting the website. Dates are often unclear on websites; if the date is not clear at the top of the page, use the "last

updated” date usually listed at the bottom of websites or n.d. (no date).

Canadian Forest Service. 2003. Guide to Tree Diseases of Ontario. Can. For. Serv. Great Lakes For. Cent. Nat. Resour. Can.
http://www.glfrc.cfs.nrcan.gc.ca/treedisease/index_e.html. Dec. 17, 2003.

Le Guerrier, C., D.J. Marceau, A. Bouchard and J. Brisson. 2003. A modelling approach to assess the long-term impact of beech bark disease in northern hardwood forest. *Can. J. of For. Res.* 33(12):2416–2425 (online).

i) Blog Post: Last name, initial. Year. Title of post. Web Log Post, Month, day, year. Url. Date viewed.

Pacheco, P., K. Obidzinski and G. Schoneveld. 2013. Biofuels and forests: Revisiting the debate. Web Log Post. CIFOR Forests News, Oct. 17, 2013.
http://blog.cifor.org/19515/biofuels-and-forests-revisiting-the-debate#.UrhDa_RDsXs. Dec. 23, 2013.

ii) You Tube Video: Last name, initial. Year. Title of video. Video File, Month, day, year. Url. Date viewed.

Pitt, D. 2010. Harvesting practices in the boreal forest. Video File, Nov. 24, 2010. Ottawa: Natural Resources Canada.
<http://www.youtube.com/watch?v=2OA7FB2vrM>. Dec. 23, 2013.

iii) Facebook Post: Username. Year. Title of post. Facebook Post, Month, day, year. Url. Date viewed.

Rachel Chalot. 2013. Learn about the work of IFRI researchers and affiliated groups. Facebook Post, Dec. 16, 2013.
<https://www.facebook.com/groups/IFRIresearch/>. Dec. 23, 2013.

36. *Student record of unpublished data gathered at a summer job:*
 Ontario Ministry of Natural Resources, 2002. Unpublished data.

37. *Legal cases:* Case name, neutral citation as given by court.
 Mikisew Cree First Nation v. Canada (Minister of Canadian Heritage), 2005 SCC 69.

APPENDICES

- An appendix contains material that is not integral to the report (or thesis), such as tabular or graphical material, a very long quotation, original documents and raw material. You might also include supplementary information that is too long to include in the text of the report. Indicate the inclusion of an appendix in text, e.g., “A table of raw data is presented in Appendix II.”

- The appendix section is preceded by a divider page which has the word APPENDIX (if you only have one appendix) or APPENDICES (if you have more than one), centered 10.0 cm from the top of the new page. The divider page itself is counted, but not numbered (similar to a title or cover page).
- If more than one type of material is to be placed in the section, each type should be given a new section designation and its own title.
- Each appendix should begin on a new page, with the appendix number (usually upper case Roman numerals—e.g., I, II,—or capital letters—e.g., A, B) centred 4.0 cm from the top of the page.
- The appendix designation should be centred on the first line of text, followed by a double space, then the title in uppercase, also centred on a second line of text.
- Leave 1.5 cm between the appendix title and the beginning of the appendix. You might find this process time-consuming, but the appearance is much improved over hand-lettered titles.

STYLE EXPECTATIONS

The Faculty of Natural Resources Management requires that students write for different purposes and occasions. By the end of your program, you will be skilled in journal, essay and technical report writing. You will have submitted both informal and formal works, you will have written alone and with others, and you will have presented your findings verbally. The different assignments will have different format and style expectations and although standards of grammar, spelling and punctuation are consistent, wording and organization of the material conform to either essay or technical report writing styles.

GENERAL GUIDELINES FOR REPORTS

Reports (for example, lab, technical, recommendation) require that the writing style follow the conventions of scientific writing: they are objective and specific in content. To achieve these requirements, reports generally adhere to the following guidelines:

- When reporting your own findings, use the past tense, but when discussing the findings of others, write in the present tense.
- The Abstract, Materials and Methods and Results sections are written in the past tense; the Introduction and Discussion are in the present tense.
- General truths are also stated in the present tense, but specific conclusions that are not yet considered general truths are written in the past tense.
- Until the Discussion/Conclusion, the writing is descriptive; a writer's opinion or conjecture does not occur until the objective evaluation of the findings.

- Generally, the Methods section is written in the passive voice so that the writer can avoid using *I* or *we*.
- It is preferable to use the word *data* as a plural; you might find it easier to remember this if you substitute the word *findings* for *data*.
- Avoid using conversational, informal language, contractions (i.e., use “it is” rather than “it’s”) or colloquialisms (slang) in formal writing unless the expression is a direct quotation from another author.
- Finally, remember that your submissions are public documents: edit out what you do not think others would appreciate/understand, write for your audience, not yourself, and include only information that pertains to the subject of the report.

GENERAL GUIDELINES FOR ESSAYS

Although you have had experience in writing essays, many of you will find the level of analysis expected at university exceeds your experience. Therefore, it is important that you are able to not only describe your subject or source, but also analyze or interpret the material you are presenting.

- A scientific essay often starts with an opinion/thesis that is then proven or explained by looking at evidence.
- Most often, the evidence is taken from the work of others. Your ability to summarize the work of others and apply it to your central thesis is crucial to the readability and academic worth of any writing you submit.
- An essay that is without peer-reviewed, academic, referenced sources is not an academic piece of writing.

The following guidelines might be useful reminders:

- Think about and clearly articulate your thesis. What is the central idea of your essay? Avoid choosing a topic that is too large or too small for the length of the work.
- Make sure that you understand the requirements of the essay: due date, format, structure and acceptable topics.
- Before beginning to write, use a point form outline to organize your material in a hierarchical fashion: the thesis/central idea is supported by main points which are explained by supporting details.
- Keep references organized: use file cards or notes with complete citations of your sources clearly marked, and then organize the material by point, topic, etc.
- Spend time as soon as you get the assignment to make a work plan and jot down notes; the more you do early on, the less you will have to do at 4:00 in the morning of the due date.
- Get an outside reader (two are better!) to proofread your work; others will pick up errors you miss.

Writing Concisely

In all technical writing, conciseness is a virtue. However, if you lack confidence in your researching or writing ability, you might try to compensate by over explaining or repeating your points. This type of redundancy makes for tedious reading. As well, a disadvantage of composing on a computer is that your writing tends to become unnecessarily long-winded. Watch out for “filler” constructions, language that does not contribute to understanding the topic (e.g., *in other words*, *at this point in time*, *basically*,

due to the fact that). The following list, adopted from editing guidelines in *The Journal of Wildlife Management*, gives sensible alternatives for rambling expressions:

WORDY CONSTRUCTIONS

the purpose of this study was to test the hypothesis
 in this study we assessed
 we demonstrated that there was a direct
 Were responsible for
 played the role of
 on the basis of evidence available to date
 in order to provide a basis for comparing
 in order to
 as a result of
 for the following reasons
 the reason is because; due to the fact that
 during the course of this experiment
 during the process of
 during periods when
 the nature of
 a large (or small or limited) number of
 conspicuous numbers of
 a substantial quantity of
 a majority
 a single
 seedlings, irrespective of species
 all of the species
 various lines of evidence
 they do not themselves possess
 were still present
 the analysis presented in this paper
 indicating the presence of
 despite the presence of
 checked for the presence of
 in the absence of
 a series of observations
 may be the mechanism responsible for
 it is reasonable to assume that
 in a single period of a few hours
 occur in areas of North America
 in the vicinity
 the present-day population
 this particular point in time
 their subsequent fate
 whether or not
 summer (winter, etc.) months

SUGGESTED SUBSTITUTES

I (or we) hypothesized
 we assessed
 we demonstrated direct
 caused
 were
 consequently
 to compare
 to
 through, by
 because, since, as
 because
 during the experiment
 during
 when
 (omit completely)
 many (or few)
 many
 much
 most
 one
 all seedlings
 all species
 evidence
 they lack
 persisted, survived
 our analysis
 indicating
 despite
 checked for
 without
 observations
 may have caused
 with
 in a few hours
 occur in North America
 nearby
 the population
 now
 their fate
 whether
 summer (winter)

are not uncommon
showed a tendency to
devastated with drought-induced desiccation

may be
tended to
killed by drought

If you are prone to terseness (being too concise), have someone else read your work and comment on the thoroughness of your explanations.

ABBREVIATIONS AND ACRONYMS

Abbreviations and acronyms can improve the readability of a work, but overuse can frustrate the reader.

- Avoid using abbreviations and acronyms unnecessarily or if you are using the term only once.
- Avoid using similar terms in close proximity.
- No sentence should begin with abbreviations, symbols, acronyms or numerals; neither should they be used in headings.
- When you use an abbreviated form throughout a work, on first use give the full term, followed by the abbreviation in parentheses. Then use the abbreviation throughout the text.
- If you are using units of measurement that are preceded by a number, you may use the abbreviated form at first usage. Note that there is no period following abbreviated metric units of measurement.
- Dimensional units not preceded by a number must be written in full; e.g., "... measured in litres per second."

- Acronyms are words formed by the combination of initial letters or syllables in a series of words: for example, Writing Across the Curriculum (WAC), and the Ontario Ministry of Natural Resources (OMNR).
- Notice that most acronyms leave out the periods between letters.
- On first use of an acronym, the full name should be given at with the acronym following in parentheses. Subsequently, the acronym can be used throughout the text.

INTERNATIONAL SYSTEM OF UNITS (SI)

The *Système Internationale d'Unités* (SI) is the form of the metric system advocated by the Canadian Standards Association (CSA). SI is the official system of measurement in Canada, and all other metric units are considered by the CSA to be obsolete.

- Seven fundamental units exist in SI: metre (m), kilogram (kg), second (s), ampere (A), Kelvin (K), candela (cd) and mole (mol). All other units are derived from these. It is important to use the units, the spelling of their names, and their symbols exactly as given.
- Note that the Canadian spelling is *metre*, and although your spell checker will want to change it to *meter*, the *-re* ending is preferred.
- Note that “metric” and “decimal” are not synonymous. “Decimal” relates to tenth or tens whereas “metric” refers to the measurement system based on the metre. Thus, half a litre is metric but not decimal; 0.5 quart is decimal but not metric; 0.5 L is decimal and metric.

Form and Format for SI Units

- a) When the names of SI units are written out in full, the initial letter of the name (with the exception of Celsius) is not capitalized, except at the beginning of a sentence.
- b) A derived unit formed by division has “per” between the units; e.g., kilometre per hour, not kilometre/hour.
- c) A symbol represents a unit name and is the same in all languages.
- d) The symbols do not change in the plural; e.g., 10 kilometres = 10 km
- e) The symbols are never followed by a period except at the end of a sentence.
- f) The symbol of a derived unit formed by division may be shown by using an oblique line (/) between the symbols in the numerator and those in the denominator (50 kg/m²) or by the use of symbols with negative exponents (50 kg.m⁻²); e.g., km/h, not kmph or k.p.h.
- g) A space must be left between the numerals and the first letter of the symbol; e.g., 320 lm, not 320lm for 320 lumens.
- h) Do not use symbols to begin a sentence. As with numbers, write out the full name.
- i) ° with °C but not with K; for example, 37°C = 310 k (approx.), not 37°C = 310°K.

Form and Format for Numerals

- a) In text, if a numerical value is less than one, a zero should precede the decimal point. In tables, when several or all values in a column or columns are less than one, only the first (topmost) value in the column needs to have a zero preceding the decimal point.
- b) Although some countries use a comma as a decimal marker, the practice in Britain and North America is to use the period as a decimal marker.

- c) To avoid confusion, use spaces instead of commas to divide a long row of digits into easily readable blocks of three, in both directions, from the decimal point: 3 244 453.246 07.
- d) A dot should not be used as the multiplication symbol in conjunction with numerals, although the dot is permitted with symbols.

Use of Prefixes with SI Units

- a) Prefix symbols are printed in upright type without spacing between the prefix symbol and the unit symbol.
- b) Only one prefix symbol is applied at one time to a given unit; e.g., nanometre (nm), not millimicrometre (mum).
- c) In the case of the kilogram, the root name to which the prefix is applied is “gram” as only one prefix should be used; e.g., milligram (mg), not microkilogram (mkg).
- d) The prefix symbol is considered to be combined with the unit symbol that it immediately precedes, forming a new symbol. The new symbol can then be converted to a positive or negative power and can be combined with other symbols to form a compound symbol; e.g., $1 \text{ mm}^2/\text{s} = 1 (\text{mm})^2/\text{s} = (10^{-3}\text{m})^2/\text{s} = 10^{-6} \text{ m}^2 \text{ s}^{-1}$.
- e) It is recommended that only one prefix be used in forming decimal multiples or sub-multiples of a derived SI unit. This prefix should be attached to the unit in the numerator. An exception to this occurs when the base unit, kilogram, appears in the denominator; e.g., m /m, not /km but J/kg (the exception).
- f) The choice of the appropriate multiple of an SI unit is governed by convenience, the multiple chosen for a particular application being the one that will lead to numerical values within a practical range. The use of prefixes representing 10 raised to a power

that is a multiple of 3 is recommended. The multiple can usually be chosen so that the numerical values will be between 0.1 and 1 000; e.g., 3.94 mm for 0.003 94 m.

Prefixes Forming Decimal Multiples and Sub-multiples of SI Units

Multiplying Factor	Prefix	Symbol
1 000 000 000 000 000 000 = 10^{18}	Exa	E
1 000 000 000 000 000 = 10^{15}	Peta	P
1 000 000 000 000 = 10^{12}	Tera	T
1 000 000 000 = 10^9	Giga	G
1 000 000 = 10^6	Mega	M
1 000 = 10^3	kilo	k
100 = 10^2	hecto	h
10 = 10	deca	da
0.1 = 10^{-1}	deci	d
0.01 = 10^{-2}	centi	c
0.001 = 10^{-3}	milli	m
0.000 001 = 10^{-6}	micro	μ
0.000 000 001 = 10^{-9}	nano	n
0.000 000 000 001 = 10^{-12}	pico	p
0.000 000 000 000 001 = 10^{-15}	femto	f
0.000 000 000 000 000 001 = 10^{-18}	atto	a

Metric Conversion Table

If you know	multiply by	to get
miles	1.609 34	km
chains	20.116 8	m
yards	0.914 4	m
feet	0.304 8	m
inches	2.54	cm
acres	0.040 5	ha
1 mil-acre	4.046 9	m^2
square feet	0.092 9	m^2
square inches	6.451 6	cm^2
square miles	2.59	km^2
square yards	0.836 1	m^2
cords	3.624 6	m^3
cubic feet	0.028 3	m^3
cubic yards	0.764 6	m^3

cunits	2.831 7	m ³
gallons	4.546 1	L
ounces	28.349 5	g
pounds	0.453 6	kg
tons	0.907 2	t
cords per acre	8.956 5	m ³ /ha
cubic feet per acre	0.07	m ³ /ha
pounds per cubic foot	16.018 5	kg/m ³
square feet per acre	0.229 6	m ² /ha
tons per acre	0.241 7	t/ha

HYPHENATION

Hyphens are used as structural grammatical elements and also as a publishing convention. As a structural element, the hyphen (or short dash) is used as follows:

- between words in any phrase that functions as a single adjective before a noun; for example, "... a 30-m-long, 10,000-kg prototype ...";
- after the first part of a compound when the second part is to be inferred from its occurrence in a following compound in the same grammatical unit; for example, "We never used anything brighter than a 40- or 60-watt light bulb"; and
- between the parts of spelled-out fractions and numbers from twenty-one to ninety-nine, as in "one-third of the seedlings".

As a publishing convention, the hyphen is used to:

- represent a missing part of a word; for example, "She could never spell beyond *Pseudo-* in *Pseudotsuga menziesii*";
- indicate a syllable break at the end of a line of text;
- demonstrate a letter-by-letter spelling of a word, as in "The instructor spelled the word: m-e-t-r-e"; and

- separate a prefix from the rest of the word when the prefix might cause confusion; for example, “semi-integrated, non-Canadian”.

DASHES

The long dash (“em” dash) is used as a substitute for the colon, semicolon or comma, designed to give more emphasis in the sentence; for example, “ a number of formatting styles are unique to the Faculty of Natural Resources Management—in-text citations, scientific nomenclature and headings. The “en” dash is used to indicate a time period between two inclusive dates, as in “from November 12–16, 1999” or to indicate a range between two values: “Readings were from 0–500 Kohms.”

NUMBERS

- Write out all numbers that begin sentences.
- Usually, numbers less than ten are written out in full regardless of their position in the sentence, unless they are part of an expression of measurement, as in decimals and SI units.
- Spelled-out and non-spelled-out numbers are not mixed in the same phrase except to avoid confusion, as in “five 10-kg bags and fifteen 20-kg bags.
- Approximate numbers should be expressed in words.
- Large numbers, such as those in the millions, should be written out, but the number of millions may be given in numerals (e.g., 20 million).
- Dollar amounts in different currencies should be designated if the origin of the currency is unclear and may change the meaning of the amount used; for example

CAD\$20 for Canadian dollars; USD\$20 for United States currency, AUD\$20 for Australian dollars and EURO\$20 for European Union.

- When writing out percentages, there is no hard and fast rule, but do be consistent. You can write 60% or 60 per cent. (Two words, per cent, is preferred British and Canadian spelling; one word, percent, is preferred in the U.S. Again, be consistent in your choice.)

NUMBERED AND BULLETED LISTS

In consideration of the reader, a series of statements or points may be separated by numbers or bullets.

- If the material is in a single paragraph, the numbers are to be enclosed in a single parenthesis without a period.

Example: An introduction includes: 1) background material to introduce the topic, 2) a thesis statement, and 3) a statement of the organizational plan.

- When the enumeration is by long statements or in paragraphs, then each paragraph is to bear a number, not in parentheses, followed by a period. A similar format is to be followed when a series of short items is set off from the text by a numbered list or a series of bullets.
- Whatever the case, remember that point-form lists and numbered items are not satisfactory substitutes for proper English sentences. Numbered and bulleted lists are more appropriately used in how-to manuals, and are almost never used in essays. Even in reports they should be used sparingly.

SCIENTIFIC NOMENCLATURE

- The first mention of a common name must be followed by the scientific name and authority of a species enclosed in round brackets.

Example: choke cherry (*Prunus virginiana* L.)

Where:

1. choke cherry is the common name;
2. *Prunus virginiana* is the scientific name, which is a Latin binomial consisting of the genus name (*Prunus*) followed by the specific epithet (*virginiana*); and\
3. L. is the authority, i.e., the abbreviated name of the original author.

Here L. is an abbreviation of Linnaeus.

- After the scientific name and authority has been stated once, the common name may be used alone. This rule applies to all flora and fauna mentioned in a work, including genus names. If the first mention of a species is in a heading or a table caption, give the full scientific reference after the first mention of the common name in the text.
- When the original authority has been corrected, the original authority is put in parentheses.

Example: black spruce (*Picea mariana* (Mill.) BSP)

- Common names are not capitalized unless proper nouns are involved; for example, black spruce (*Picea mariana* (Mill.) BSP), but Norway spruce (*Picea abies* (L.) Karst.).

- The Latin words used in genus and species names are written in italics (or underlined if written in longhand).
- The genus name is capitalized, but the species name is not.
- Acceptable abbreviations can be found in an appropriate taxonomic text.
- In some works, it is preferable to use scientific names only. Then, the authorities must be given at first mention, but need not be included thereafter.
- Generic names occurring more than once in a single paragraph may be abbreviated at the second and subsequent mentions within the paragraph to the initial capital letter, in italics or underlined.

Example: *P. marinana* and *P. abies* were ...

However, do not use abbreviations where confusion between different genera with the same initial letter could occur, as with *Pinus* and *Picea* used in the same paragraph.

EQUATIONS, CHEMICAL REACTIONS AND FORMULAE

- When an equation is very brief, well-known, and used as an addition within a sentence that is grammatically correct without it, you may place the equation in round brackets within the text.

Example:

Albert Einstein, Nobel Laureate, and Mick Jones, guitarist and singer of The Clash, have at least one thing in common. The famous equation ($E = mc^2$) is both the title of a song and one of the basic concepts of the General Theory of Relativity.

- Longer, more complex equations are to be typed on a separate line or lines, not run into the text. Note that the equation remains a part of the text for purposes of punctuation.
- Where equations do not include fractions, use the standard Word program to write them out.

Example:

$$Y = b_0 + b_1V_1 + b_2V_2 \qquad \text{Equation (1)}$$

where Y is the dependant variable, such as tree height; b_0 , b_1 and b_2 are constants; and V_1 and V_2 are explanatory factors that contribute to the value of Y (e.g., age and diameter at breast height).

- Where equations are more complex, it is best to use specific software, such as Microsoft Equation Editor.

Example of use with text:

Honer's equation was used to determine total stem volume:

$$V = \frac{0.0043891 \times (DBH)^2 \times (1 - 0.04365 \times b)^2}{c_1 + 0.3048 \times \frac{c_2}{H}} \qquad \text{Equation (2)}$$

where V = the volume of a tree (m^3), DBH = diameter at breast height (cm), H = total height of the tree (m), and b , c_1 and c_2 are species specific constants.

Guidelines for Presenting Equations and Formulae

- Short equations are centred.
- Longer equations are begun flush at the left margin and continued (if necessary) on subsequent lines, indented two spaces.

- Leave sufficient white space above and below the equation to set it off from the rest of the text.
- If equations or formulae are numbered for subsequent reference, enclose the numbers in parentheses on the right margin, separated enough from the end of the equation to avoid confusion. When referring to an equation, use the term “Equation” and the parenthetical number, e.g., “Equation (7).”

USE OF "i.e." and "e.g."

Although often viewed as interchangeable, the terms “i.e.” and “e.g.” have distinct meanings. **Both are followed by a comma.**

- i.e. is an abbreviation of the Latin "*id est*". The abbreviation i.e. means "that is" or "in other words." Use i.e. when your example is the only one that applies in this case.

Example:

To compute the volume of the tree reported to be the largest in the world, i.e., the General Sherman Tree in Sequoia National Park, foresters used the practical equivalent of calculating the volume of an irregular cone.

(Note: There are many large trees, but The General Sherman Tree is the one reported to be the largest in the world; thus, "i.e." indicates that The General Sherman Tree is the only example that applies in this case.)

- “e.g.” is an abbreviation of the Latin *exempli gratia* meaning "for the sake of an example." Use e.g. to mean "including", indicating that you are not intending to list everything being discussed.

Example:

Some towns on Lake Superior, e.g., Nipigon and Red Rock, are working to improve tourist trade.

(Note: "e.g." indicates that Nipigon and Red Rock are only two examples of many northern towns trying to attract tourists.)

THE UNDERGRADUATE THESIS

Completion of an undergraduate thesis is a requirement for graduation from both the Honours Bachelor of Science in Forestry and Honours of Environmental Management programs. The thesis is completed through two courses—NRMT 4010 and 4030. NRMT 4010 introduces students to the manner in which knowledge is advanced and communicated through research. Lectures and assignments cover topics such as the scientific method, hypothesis testing, data collection, data analysis, defining a research topic, and writing a literature review. Students must complete a major literature review for the course. NRMT 4030 involves completion of the thesis designed in NRMT 4010.

A thesis presents the results of original research on a particular subject that has been approved by the student's faculty advisor. The process of selection and approval of the thesis subject matter should commence well before the end of the winter term in third year. In many instances, material for the thesis is gathered in the summer between third and fourth years. If summer employers agree to supply data, students should ensure employers understand why and how the data will be used. Any person supplying data should be made aware that a thesis is a public document and the material will not be confidential. All data (or other information) should be available by October of the academic year in which the thesis is to be prepared.

Tentative approval for a topic should be obtained before the end of third year. Students should secure approval of their topic and selection of advisors (major advisor and second reader) by the first Friday in October of the academic year when the thesis

is to be prepared. A title and complete plan for development, including sources, should be submitted by the third Friday in October (preferably sooner). The title and outline can then be fully discussed and, if acceptable, approved. For topics involving research with human subjects or animals, e.g., doing interviews with people, handling animals in the wild, students will have to prepare a proposal and seek approval of the Faculty Research Ethics Committee or the Animal Care Committee before commencing that part of the project.

The student's faculty advisor will set aside time when (s)he will be available for consultation about the thesis. Ultimately, students are responsible for informing advisors of the status of the work.

A completed first draft, done to the advisor's expectations, is to be submitted on an agreed date. A revision process continues upon the advice of the faculty advisor. Students are strongly encouraged to meet regularly with their advisor in order to understand his/her expectations for the thesis in terms of quality and quantity.

Students will verbally present their research findings twice: first, in a faculty seminar usually held the last week of classes in the Fall term (NRMT4010) and then in the term in which the thesis is due (NRMT4030). The final draft, typed and bound, is to be submitted by the second Friday following the end of classes. As deadlines may vary from year to year, students should consult with their advisors as early as possible in the year.

The Faculty of Natural Resources Management requires three (3) copies of the thesis that must be signed by the major advisor and second reader. These three copies (allcoated to the Thesis Advisor, the Faculty library and the University Library) must be submitted before a mark for NRMT 4030 can be awarded. Additional copies (i.e., for the

second reader, a community partner, or for the student) are the responsibility of the student. Printing, binding and distribution of thesis are also the student's responsibility.

Order of Thesis Sections

- 1) Cover page
- 2) Title page
- 3) Library Rights Statement
- 4) A Caution to the Reader
- 5) Major Advisor Comments
- 6) Abstract
- 7) Contents
- 8) Tables
- 9) Figures
- 10) Acknowledgements
- 11) Introduction
- 12) Literature Review
- 13) Methods and Materials
- 14) Results
- 15) Discussion
- 16) Conclusion
- 17) Literature Cited
- 18) Appendices

Thesis Cover

Every thesis will have a cover page. The required elements are: 1) the title, 2) Faculty of Natural Resources Management, Lakehead University, Thunder Bay Ontario and 3) the author's name. You may be creative and add some artwork. See example below.

Example of a Thesis Cover Page

INTEGRATION OF NON-TIMBER FOREST PRODUCT AND TIMBER MANAGEMENT: THE NEED FOR ABORIGINAL KNOWLEDGE AND PARTICIPATION

by

Sarah Allen



Source: Anonymous 2002.

Source: Natural Resources Canada 2009.

FACULTY OF NATURAL RESOURCES MANAGEMENT
LAKEHEAD UNIVERSITY
THUNDER BAY, ONTARIO

May 2011

Thesis Title Page

The following information must appear on an essay or report's title page:

- title, centred, in capital letters, in the upper half of the page;
- author's full name, centred, upper and lower case letters, just below title;
- the following statement, with information modified to suit the submission,
positioned at the middle point of the page, e.g.,
- An undergraduate thesis submitted in partial fulfillment
- of the requirements for the degree of
- Honours Bachelor of Environmental Management
- or
- An undergraduate thesis submitted in partial fulfillment
- of the requirements for the degree of
- Honours Bachelor of Science in Forestry
-
- the date of submission, centred, 8 cm from the bottom of the page.
- Other information could include the course number, course title and instructor's name.

Example of a Thesis Title Page

A VALIDATION OF THE STRATEGIC
FOREST MANAGEMENT MODEL

by

Taylor R. Chen

An Undergraduate Thesis Submitted in
Partial Fulfillment of the Requirements for the
Degree of Honours Bachelor of Science in Forestry
(or Degree of Honours Bachelor of Environmental Management)

Faculty of Natural Resources Management

Lakehead University

May 2012

Major Advisor

Second Reader

Library Rights and Caution to the Reader

A "Library Rights Statement" is required for all theses. It indicates the thesis is available for study, but that restrictions regarding copying of the material apply.

Example of a Library Rights Statement

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LIBRARY RIGHTS STATEMENT

In presenting this thesis in partial fulfillment of the requirements for the HBScF (or HBEM) degree at Lakehead University in Thunder Bay, I agree that the University will make it freely available for inspection.

This thesis is made available by my authority solely for the purpose of private study and research and may not be copied or reproduced in whole or in part (except as permitted by the Copyright Laws) without my written authority.

Signature: _____

Date: _____

A Caution to the Reader

The thesis advisor may also request that the student include “A Caution to the Reader,” which absolves the university and thesis advisors or readers of any responsibility for the opinions expressed by the writer.

Example of a Caution to the Reader

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A CAUTION TO THE READER

This HBScF (or HBEM) thesis has been through a semi-formal process of review and comment by at least two faculty members. It is made available for loan by the Faculty of Natural Resources Management for the purpose of advancing the practice of professional and scientific forestry.

The reader should be aware that opinions and conclusions expressed in this document are those of the student and do not necessarily reflect the opinions of the thesis supervisor, the faculty or Lakehead University.

Abstract

Follow the instructions for the writing of abstracts for the undergraduate report; however, make sure your thesis abstract does not exceed one page in length. The distance from the top of the first line of the title to the bottom of the last line of the text must not exceed 16.5 cm. Submit one unbound copy of your thesis abstract with your presentation copies for publication in Forestry Abstracts.

Contents

The Title Page, Major Advisor's Comments, Library Rights Statement, Reader Caution and Contents do not appear within the table of contents.

Figures and Tables

See section in Undergraduate Essay for more information.

Acknowledgements

In this section the authors recognizes those who have helped them substantially with the completion of the thesis through provision of data, advice and/or constructive feedback. As well, any source of funding is stated.

Introduction of the Thesis

The thesis introduction orients the reader to the study topic. It starts by some general statements that become progressively more specific. The introduction should be interesting. If you bore the reader here, then you are unlikely to revive their interest in the literature review or in the materials and methods section. For the first paragraph or two, tradition permits prose that is less dry than the scientific norm.

In the introduction the author introduces the importance of the research by stating the problem that needs studying. Establish the nature and scope of the problem as directly as possible. In many cases, the problem can be stated simply, for example, "A fundamental problem of forest growth and yield modeling is...." If you wish to open by setting the context for the problem, that is permissible, but do not ramble. Often, a single

paragraph of background information followed by a concise statement of the problem is all that is needed.

The introduction contains observations from the literature and from personal experiences that present the nature of the problem. In describing what others have done, your purpose is not to present a complete literature review. Instead, present the highlights of the work that is most directly pertinent to your own study. Save the details for the Literature Review chapter, which generally follows the Introduction.

The author also states how to study the problem. In describing your research methods in the Introduction, your purpose is not to divulge all of the details that are found in the later chapter on Methods and Materials. Instead, you should simply give the big picture—an overview—that is sufficient to give the reader a general sense of the material that follows. Many studies have a hypothesis statement that is the controlling idea of the research and helps the author focus on what work will be done. Other studies may not have a specific hypothesis but may be an exploratory study. In either case, the specifics of the how the author will study the question are laid out as objectives.

You may find it easier to write the Introduction after you have written well-edited drafts of the Literature Review, Methods and Materials, Results and Discussion chapters. It is hard to give an overview of these items before they have been written. You may also find it helpful to think of a progression from the title to the Abstract to the Introduction. The title gives the reader an extremely compact synopsis of the thesis, the Abstract expands on the title and the Introduction expands on the Abstract.

For additional reading on this topic, see Trelease (1958) and Day (1979). Also examine the pages of the well-edited journals in your discipline to see how others have handled the problem of writing an Introduction.

Day, R.A. 1998. How to Write and Publish a Scientific Paper. 5th Edition. Oryx Press, Phoenix, Arizona. 296 pp.

Trelease, S.F. 1958. How to Write Scientific and Technical Papers. MIT Press, Cambridge, MA. 185 pp.

Literature Review

A literature review is an examination of a body of literature relevant to your research question. The researcher becomes aware of the latest knowledge about a field of endeavour and examines strengths and weaknesses of techniques used in conducting that particular research. The literature review organizes information and synthesizes the information into what is known and what is not known, possibly identifying controversy and finally proposing research questions. The review should be done to a large extent before starting experiments or surveys. It is essential to consult what the experts in your field have to say.

Students often ask how long it should be. There is no recommended length; topics that have been well researched have long literature reviews. A point to remember is not to omit relevant papers by people who are likely to be your second reader. The literature review helps the researcher focus and think critically about the chosen topic, and guides the author to take the most fruitful direction. The two sources listed below offer further information on writing a literature review:

Hart, C. 1998. Doing a Literature Review: Releasing the Social Science Research Imagination. Sage Publications, London, England. 230 pp. Although focussed on social science research, this is a good general text on literature reviews.

Skeyne, A. n.d.. Writing a Literature Review. University of Toronto Writing Centre, Toronto, ON. <http://ctl.utsc.utoronto.ca/twc/sites/default/files/LitReview.pdf>. Nov. 8, 2013.

Here are some suggestions to help with your literature review:

Before going too far towards researching and writing your own literature review, study a few examples of successful literature reviews in the well-edited journals of your discipline. It is often helpful to see how others have tackled the problem you are about to engage.

- Be sure to report the results of others who have worked on a similar problem. For example, you may find that others have studied the same phenomenon but in a different species or they may have studied the same species but in a different geographic area.
- Consider working backwards as follows: 1) identify the major conclusions of your own work; 2) identify the experimental (or other data based) results you used to establish those conclusions; 3) identify the research methods you used to produce those critical results; and 4) identify the published work you must cite in order to document the research methods used and the lines of reasoning you followed to interpret your experimental results.

Binding

Following examination and acceptance of an undergraduate thesis, the original manuscript and several printed copies must be bound. Both a cover page and a title page are required for theses.

Thesis Guidelines

Responsibility for NRMT 4020 is shared by: 1) the Faculty Council of the Faculty of Natural Resources Management, 2) the faculty supervisor and 3) the second reader. The Faculty Council is responsible for setting general objectives, regulations and

evaluation procedures for the course. This document outlines these responsibilities. There is, however, room within the Faculty's general policy for faculty supervisors and second readers to express their individual discretion. This being the case, individual faculty (supervisors and, if appropriate, second readers) are responsible to prepare and make available to the student written information concerning his/her specific course requirements and evaluation procedures, and to file a copy of this information with the Chairs of the HBScF and HBEM programs depending in what program the student is registered in. The supervisor and the second reader should keep one another informed as to their individual requirements as well.

The objective of NRMT 4020 is to provide a vehicle for students to:

- increase their discipline knowledge of a subject area of special interest;
- develop learning skills associated with independent study;
- confront the problems associated with planning and managing a large project;
- and
- develop the organizational and communication skills associated with the preparation of a technical report (the thesis).

NRMT 4020 has the following requirements

- The undergraduate thesis is an original piece of work that may create new information or organize existing information in a new or otherwise unique manner.
- The thesis has a single author, although data may be shared by more than one student with the approval of all supervisors involved.
- The thesis project is under the direct supervision of a faculty member or adjunct professor. Second readers are usually other faculty or professionals in the field

(R.P.F., P.Eng., etc.). Check with the Chair if you have a question about supervisors or second readers.

- Students choose their own thesis topic of interest to them and their supervisor (within the limitations above); however, the supervisor must agree to the choice in both cases. In some cases a student may develop new interests or a thesis project does not materialize as expected. In these cases a student may change their thesis topic, supervisor and/or second reader with the approval of the supervisors involved and the Chair of their program. In these cases a revised Undergraduate Thesis Information Sheet must be submitted to the Chair. See Table 1 for a suggested schedule of submissions, deadlines and penalties for the written portions of the thesis.
- The thesis is presented in accordance with the formal specifications given in the Faculty of Natural Resources Management Writing Manual.
- The final draft of the thesis is graded by both the thesis supervisor and the second reader. These two marks will be averaged to determine the final mark. If the supervisor and the second reader are far apart in their evaluations of the thesis, the Chair may seek the advice of a third reader. The Chair will usually be able to mediate such disputes to the satisfaction of all involved. If not, the student may request a reappraisal of their mark as outlined in the University Calendar. See Table 2 for an example of a final mark calculation.
- Individual faculty have the option of reducing a student's final mark if the student fails to meet a specified schedule of deadlines (suggested below). The application of penalty points is at the discretion of the supervisor with the following exception.

The Chair will determine the penalty associated with the first deadline (submission of the Thesis Information Sheet). Students should discuss this matter with their supervisor early in the thesis process to ensure that both parties are familiar with and aware of the potential effect of late submissions.

- Three bound copies of the finished thesis, signed by the student, the supervisor and the second reader, and a copy of the abstract, must be submitted to the Chair. The copies will be distributed to the Chancellor Paterson Library, to the supervisor and to the Faculty of Natural Resources Management. Additional copies, for the second reader for example, are the responsibility of the student.

A student's NRMT 4020 final mark will not be submitted to the Registrar's Office until the signed, bound theses are submitted. Students are therefore advised that failure to meet the mid-April deadline may prevent them from graduating at Spring Convocation.

Table 1. Suggested schedule of submissions, deadlines and penalties for the thesis.

	Submission	Deadline	Max. penalty points
1	Thesis Information Sheet to the Chair	End of September	5
2	Thesis Proposal to Supervisor*	Mid-October	5
3	First Draft to Supervisor	Beginning of March	5
4	Three Bound Copies to the Chair	Mid-April	5

*NOTE: Individual faculty may wish to follow a different marking scheme from points 2-4 in the first column above. If so, they are responsible to prepare and make available to the student written information concerning his/her course requirements and evaluation

procedures, and to file a copy of this information with the Chairs of the appropriate program.

Table 2. Example of final mark calculation.

Item	Max. Marks	Obtained Marks
Supervisor	50	40
Second Reader	50	42
Sub-total	100	82
Adjustments for Meeting Schedule:		
Submission of Thesis Info Sheet	-5	0 (on time)
Submission of Thesis Proposal	-5	-2 (late)
Submission of First Draft	-5	-3 (late, low quality)
Submission of Three Bound Copies	-5	0 (on time)
FINAL MARK (Adjusted Total)		77

CHECKLIST FOR SUBMISSION OF FORMAL REPORTS AND ESSAYS

- Submission requirements—due date, length, format, single or partnered writing—are understood and met.
- Topic chosen is appropriate for length and research requirements.
- Purpose of paper is clearly stated in the Introduction.
- Literature review is part of Introduction.
- Academic, peer-reviewed sources are included in research.
- When paraphrased or quoted directly, the work of others is credited.
- In-text references are cited, using the author/date method in parentheses with no comma between author and date.
- Tables and/or figures (including photos) taken from other sources have been credited.
- All tables or figures used are introduced and explained in the text of the paper.
- The results section begins with a written introduction, not a table or figure.
- All measurements are in SI Units; if an original measurement is not metric, the SI Unit will be provided.
- Scientific names and authorities follow the first use of a species' common name.
- Common names are not capitalized (e.g., white pine), unless they contain proper nouns (e.g., Canada goose).
- Acronyms or abbreviations are used only after the full term has been used the first time followed by the acronym in parenthesis.
- Document has been proofread carefully, and typographical, spelling and punctuation errors have been corrected.
- Margins conform to guidelines: top, bottom & right margins: 2.5 cm; left margin: 4.0 cm.
- Font is a conventional size (12 pt.). Lakehead University has adopted Arial for communications, but Times New Roman is also used for papers.
- Headings, if used, follow in order (1st to 6th levels) and conform to Manual guidelines for positioning, capitalization and spacing from top margin and preceding and following text.
- Literature Cited section is organized alphabetically, by authors' last names.
- Contractions and colloquial language (slang) are not used.
- Commonly misused words have been edited and corrected during proofreading process: *data* means *findings* and is plural; *species* is both the singular and plural form; *metre* is the preferred spelling; *it's* means *it is* and is not the possessive pronoun *its*; *would of* is not synonymous with *would've*; use *would have*.
- Commonly misspelled words have been edited and corrected during the proofreading process: e.g., affect/effect, lead/led, their/they're/there, then/than, principle/principal/were/where, etc.

PROFESSIONAL EMAIL

When emailing professionals, such as instructors or future employers, keep the following principles in mind:

- In general, two types of email are used professionally—the informal message, which is an electronic equivalent to a note or memo, and formal communications—letters, papers, etc.—sent electronically.
- All professional email should reflect you as a person and show that you are capable of high-quality work.
- Professional email should follow the same standards of format and correctness as are outlined in this manual.
- Include your affiliation and contact information with emails.