GUIDELINES FOR WRITING A PROJECT REPORT, DISSERTATION OR THESIS

PREPARED BY THE DÉCANAT DES ÉTUDES

MONTRÉAL, April 23th, 2015

(Translation of the French document Guide de rédaction d'un rapport de projet, d'un mémoire ou d'une thèse, Version 4.1)

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FOREWORD

The completion of a research or secondary research study by submitting a project report, dissertation or thesis is an essential step in fulfilling the requirements of a graduate degree. As students set out to undertake this task, they must take care to meet the university’s requirements, following the accepted formatting standards for this type of scientific document.

These Guidelines\(^1\) aim to provide the information and instructions needed to compose and structure a well-prepared project report, dissertation or thesis. They also aim to provide answers to many of the technical and methodological questions students may have when writing their research papers. The formatting standards described in the document were mainly sourced from the following style guides: Bouthat (1993) *Guide de présentation des mémoires et thèses*, and Malo (1996) *Guide de la communication écrite au cégep, à l’université et en entreprise*. The English translation has been adapted where necessary.

Two formatting templates, one in Word and the other in LaTeX, are available to facilitate the preparation of a project report, dissertation or thesis. Students must use one of these two templates. The MS Word formatting template is accompanied by a document entitled *Guide d’utilisation du gabarit de mise en page*. All of these resources are available on the ÉTS website: [http://www.etsmtl.ca/Etudiants-actuels/Cycles-sup/Realisation-etudes/Guides-gabarits](http://www.etsmtl.ca/Etudiants-actuels/Cycles-sup/Realisation-etudes/Guides-gabarits).

Finally, a document entitled *Les mémoires et thèses et le droit d’auteur*, concerning your rights and responsibilities in regard to copyright protection, is also available on the website. We also ask that you familiarize yourself with the deposit instructions (*Thèses et mémoires en version électronique - consignes*) before proceeding with electronic submission.

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\(^1\) To facilitate comprehension of its contents, this document was written and formatted according to the standards it prescribes.
ACKNOWLEDGMENTS

The Décanat des études would like to thank Anne-Marie Fortin, Maître d’enseignement at Services des enseignements généraux, ÉTS, for her expertise related to the subject, and for supervising the drafting of the Guidelines; Marie Lefebvre, research officer, Décanat des études, for writing the Guidelines; and Nicole Sauvé, executive secretary, Décanat des études, for designing the formatting templates.

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CHAPTER 1

ORDER AND CONTENTS OF THE SECTIONS

This chapter contains rules for writing and formatting the different parts of a project report, dissertation or thesis. Here you will find the correct order in which the pages should appear as well as specific rules for the preliminary pages, the introduction, the body of the text, the conclusion, and the supplementary material (including references).

We will begin with the preliminary pages at the front of the document. These mainly serve to identify the project, the author and the examination board, and to give a brief overview of the document’s structure and contents.

1.1 Preliminary pages

The preliminary pages come before the introduction. They appear in the following order:
- title page;
- board of examiners presentation page;
- foreword (optional);
- acknowledgments (optional);
- résumé;
- abstract;
- table of contents;
- list of tables;
- list of figures and illustrations;
- list of abbreviations and acronyms;
- list of symbols and units of measurement (if needed);
- other lists (if needed).
Formatting standards

Pagination: The preliminary pages are generally numbered with lowercase Roman numerals (i, ii, iii) in the top outer corner of the page. However, as explained below, some pages are counted but not numbered.

1.1.1 Title page

The title page is the front cover of the project report, dissertation or thesis. It tells the reader where the document comes from and what subject it addresses. The following information appears on the title page:

- name of the school (École de technologie supérieure);
- name of the institution (Université du Québec);
- type of document submitted (project report, dissertation, thesis, or thesis by publication);
- diploma sought, program of study, abbreviation of the degree sought (project report: DESS; Master’s with thesis: M.A.Sc; Master’s without thesis: M.Eng.; doctoral degree: Ph.D.) Note: All students accepted for the fall 2012 session or thereafter must use an abbreviation specific to the type of degree. For students taking a Master’s in Environmental Engineering, this requirement is in effect starting from the summer session of 2012. For Master’s students registered before the 2012 fall session, the abbreviation M.Eng. is used for both a Master’s with thesis and a Master’s without thesis.
- student’s first and last names;
- title of the project report, dissertation or thesis;
- place and date of submission (for example, Montréal, February 1, 2010);
- the © symbol, followed by the student’s name and the year of submission and “All rights reserved”;

...
or

- the © symbol, along with the student’s name and the year of submission.

All of the elements mentioned above must appear in capital letters centered on the page (see APPENDIX I, p. 58 to APPENDIX VII, p. 64).

The student must choose one of the following two licenses:

- © followed by the name of the author, the date of submission and “All rights reserved” (this must appear on the front side of the title page).

  The “© All rights reserved” license means that reproduction, storage or retransmission of any part of the document is prohibited. However, texts protected by © may be cited briefly. A reader who wishes to print a large part of the document or store it on another medium must obtain permission from the author (in this case, the student). This explanatory text must appear on the reverse side of the cover page (see APPENDIX II, p. 59).

or

- Creative Commons, followed by the name of the author and the date of submission (this must appear on the front side of the title page).

  The Creative Commons license (attribution, non commercial, no derivatives) means that readers are free to copy, redistribute or save all or part of the work in any format or medium as long as the contents are not modified or used commercially. This explanation must appear on the reverse side of the cover page (see APPENDIX II, p. 59).

Formatting templates are available in the Graduate Studies section of the ÉTS website under Student Information.
Formatting standards

Pagination: The title page is counted among the preliminary pages but is not numbered. However, the examples in the appendices have been numbered to facilitate consultation.

Type format: The information must be in capital letters and centered on the page. Only the following elements should be in lowercase letters: the abbreviation of the degree sought (M.Sc.A., Ph.D), the author’s first name and the words “All rights reserved.”

Line spacing: The text is single-spaced, with six returns between each block of text.

1.1.2 Board of examiners presentation page

The board of examiners presentation page lists all members of the board or committee that will evaluate the dissertation or thesis, along with each member’s specific function within the board and the department or institution to which he or she belongs.

This page is mandatory if you are writing a dissertation or thesis (see APPENDIX VIII, p. 65). However, if you are writing a project report, you need not include this page because your project will not be evaluated by a board but rather by your supervising professor.

Formatting standards

Pagination: The board presentation page comes immediately after the title page and is counted among the preliminary pages but is not numbered. However, the examples in the appendices have been numbered to facilitate consultation.

Type format: The heading BOARD OF EXAMINERS is in bold capital letters, followed by THIS THESIS HAS BEEN EVALUATED… and THIS THESIS WAS PRESENTED… in centered, capital letters. The names of the board members and their departments or institutions are left-aligned in lowercase characters.

Line spacing: The texts THIS THESIS HAS BEEN EVALUATED… and THIS THESIS WAS PRESENTED… are single-spaced with two returns between lines. The names of the board members and their departments or institutions are single-spaced. The list of board members is preceded and followed by a space of seven returns.
1.1.3 Foreword (optional)

The purpose of the foreword is to convey a specific message, such as the reasons that led you to research this subject, the aim or aims of the research, or the scope and limitations of the work. A foreword can also situate your work within the body of existing research on the subject.

The foreword is not mandatory, but if you decide to include one, it should not be longer than two pages. Most importantly, it must not be confused with the introduction, which is scientific in nature.

If the foreword is very short, you may include the acknowledgments immediately after it on the same page, in which case the heading ACKNOWLEDGMENTS must still precede the text.

<table>
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<th>Formatting standards</th>
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<tbody>
<tr>
<td><strong>Pagination:</strong> The first page of the foreword is counted but not numbered, while the following pages are numbered in lowercase Roman numerals (ii, iii, iv...).</td>
</tr>
<tr>
<td><strong>Type formatting:</strong> The heading FOREWORD is in boldface capital letters, centered at the top of the page. The text of the foreword is in lowercase characters. If the acknowledgments are included on the same page, the heading ACKNOWLEDGMENTS follows the foreword in left-aligned boldface capitals, followed by the acknowledgments text.</td>
</tr>
<tr>
<td><strong>Line spacing:</strong> The body of the foreword uses 1.5 spacing.</td>
</tr>
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</table>

1.1.4 Acknowledgments (optional)

The acknowledgments page is your opportunity for brief expressions of gratitude to the people and organizations that provided you with professional, financial or personal support.
You are encouraged to acknowledge your research director, if you feel it is appropriate. If you received professional support, you may mention the names of the professionals, their positions, and the establishments they work for, along with the nature of their contribution. If you received financial support, you can include a separate paragraph identifying the organizations that funded or sponsored you, along with a word of thanks. You might also wish to conclude your acknowledgments by thanking family members and friends for their support throughout your studies.

Because of the scholarly nature of the document, the acknowledgments should be written in a serious and academic tone. As religious belief is a purely personal matter, the ÉTS regards expressions of such belief as inappropriate in this type of document.

As mentioned above in section 1.1.3, the acknowledgments may be added after the foreword. However, the heading ACKNOWLEDGMENTS (left-aligned) must still precede the text.

Formatting standards

**Pagination:** The first page of acknowledgments is counted but not numbered, while the following pages are numbered in lowercase Roman numerals (ii, iii, iv...).

**Type formatting:** The heading ACKNOWLEDGMENTS appears in boldface capitals, centered at the top of the page. The body of the acknowledgments is in lowercase letters.

**Line spacing:** The body of the acknowledgments uses 1.5 spacing.

1.1.5 Résumé

The résumé is the French translation of the English abstract presented in section 1.1.6 below. The résumé is faithful to the abstract, but need not be a literal translation. The résumé ensures greater visibility as well as improved indexing of the project report, dissertation or thesis.

It is important to note that the project report, dissertation or thesis being written in English, the title of the document is translated into French at the top of the résumé page, and the text of the résumé is in French.
The format of the résumé is similar to that of the abstract, described in section 1.1.6 below (see APPENDIX IX, p. 66).

1.1.6 Abstract

The abstract (see APPENDIX X, p. 677) is a brief overview of the document (around 250 words for a project report, 400 to 500 words for a thesis). It allows readers to grasp the crux of the work without having to read the entire document.

The abstract page includes the following identifying elements:
- title of the project report, dissertation or thesis;
- author’s name;
- the word ABSTRACT.

The body of the abstract includes the following descriptive elements:
- aim, nature and scope of the research;
- subjects addressed;
- working hypotheses and research methods used;
- main results of the work;
- research conclusions and resulting recommendations;
- four or five keywords to facilitate document classification in libraries and databases.
Formatting standards

Pagination: The first page of the abstract is counted but not numbered, while the following pages are numbered in lowercase Roman numerals (ii, iii, iv...). However, the example presented in the appendix has been numbered to facilitate consultation.

Type formatting: The title of the document appears in boldface capitals, centered at the top of the page. The author’s last name in capitals and first name in lowercase are centered on the page below the title. The word ABSTRACT, in boldface capitals, appears above the body of the abstract. The body of the abstract is in lowercase characters.

Line spacing: The body of the abstract is single-spaced.

1.1.7 Table of contents

The table of contents is one of the most-viewed pages of a document, after the title page and the abstract. It gives readers a schematic overview of the contents.

The table of contents includes the titles of all the divisions and sub-divisions of the document. Note that the table of contents starts with the introduction and ends with the list of references or bibliography page. The preliminary pages are not included in the table of contents.

The various levels of information are ordered numerically, without exceeding three levels (for example, 2.1 = level 1; 2.1.1 = level 2; 2.1.1.1 = level 3). The page number for each section appears at the far right and is preceded by a dotted line (see APPENDIX XI, p. 68).

The MS Word formatting template on the ÉTS website automatically generates a table of contents. However, as a precaution, the student must check to ensure that the order and wording of the sections in the document are faithfully reflected in the table of contents.
**Formatting standards**

**Pagination:** The first page of the table of contents is counted but not numbered, while the following pages are numbered in lowercase Roman numerals (ii, iii, iv...). However, the example presented in the appendix has been numbered to facilitate consultation.

**Type formatting:** The heading **TABLE OF CONTENTS** appears in boldface capital letters, centered at the top of the page. The word “chapter” and the chapter number are left-aligned and in capital letters before the title of each chapter. Major sections, such as the document introduction, also appear in capital letters. Section subdivisions are in lowercase characters.

**Line spacing:** The table of contents is single-spaced. Two returns separate the document’s main parts (chapters, appendices, etc.).

### 1.1.8 List of tables

When a document includes more than three tables, a list of tables must be included after the table of contents.

The list of tables (see APPENDIX XII, p. 69) includes the number and title of each table. The table numbers reflect the order in which they appear in each chapter (for example, Table 2.4 is the fourth table in chapter 2). In the list of tables, each table title is followed by a dotted line and the page number. If a table title is too long to fit on one line, it must be formatted to avoid encroaching on the space used for either the page number or the table number.

If the document contains three tables or fewer, a list of tables is not necessary. The numbers and titles of the tables can simply be listed at the end of the table of contents.

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**Formatting standards**

**Pagination:** The first page of the list is counted, but not numbered, while the following pages are numbered with lowercase Roman numerals (ii, iii, iv...). However, the example presented in the appendix has been numbered to facilitate consultation.

**Type formatting:** The heading **LIST OF TABLES** appears in boldface capitals, centered at the top of the page. In the list, the word “Table” is followed by the table number (decimal
system) and title in lowercase characters (e.g., Table 2.3 Typographic regulations). Note that table titles do not end with a period.

**Line spacing:** The list of tables is single-spaced, with two returns between each entry.

### 1.1.9 List of figures

The list of figures (including graphs, drawings and photographs) follows the same rules as the list of tables above (see APPENDIX XIII, p. 70).

**Formatting standards**

**Pagination:** The first page of the list is counted, but not numbered, while the following pages are numbered in lowercase Roman numerals (ii, iii...). However, the example presented in the appendix has been numbered to facilitate consultation.

**Type formatting:** The heading **LIST OF FIGURES** appears in boldface capitals, centered at the top of the page. In the list, the word “Figure” is followed by the figure number (decimal system) and title in lowercase characters (for example, Figure 5.1 Distribution system diagram). Note that figure titles do not end with a period. When the formatting template is used, the list of figures is generated automatically.

**Line spacing:** The list of figures is single-spaced with two returns between each entry.

### 1.1.10 List of algorithms

The list of algorithms follows the same rules as the list of tables above.

**Formatting standards**

**Pagination:** The first page of the list is counted, but not numbered, while the following pages are numbered in lowercase Roman numerals (ii, iii...).

**Type formatting:** The heading **LIST OF ALGORITHMS** appears in boldface capitals, centered at the top of the page. In the list, the word “Algorithm” is followed by the number (decimal system) and title in lowercase characters (for example, Algorithm 5.1 Simple
mechanism). Note that algorithm titles do not end with a period. When the formatting template is used, the list of algorithms is generated automatically.

**Line spacing:** The list of algorithms is single-spaced, with two returns between each algorithm title.

### 1.1.11 List of abbreviations and acronyms

If abbreviations and acronyms are used, an alphabetized list must be compiled (see APPENDIX XIV, p.71). The meaning of each abbreviation or acronym should appear in two places in the document: first in the list, and again the first time it is used in the text. The acronyms used should correspond to the language of the document. For example, a document written in English should use the English acronym CAD/CAM (Computer-aided design/Computer-aided manufacturing).

This list is not required when fewer than six abbreviations and acronyms are used in the document.

**Formatting standards**

**Pagination:** The first page of the list is counted, but not numbered, while the following pages are numbered in lowercase Roman numerals (ii, iii...). Note that the list does not indicate the pages where the abbreviations and acronyms are found in the text. The example presented in the appendix has been numbered to facilitate consultation.

**Type formatting:** The heading LIST OF ABBREVIATIONS AND ACRONYMS appears in boldface capitals, centered at the top of the page. The meaning of each abbreviation or acronym is written in lowercase characters.

**Line spacing:** The list is single-spaced, with two returns between each entry.
1.1.12 List of symbols and units of measurement (if needed)

In all domains of scientific research, symbols are often used to represent units of measurement. To facilitate reader comprehension, a list of the symbols and units of measurement used in the text must be included (see APPENDIX XV, p. 72).

Formatting standards

Pagination: The first page of the list is counted, but not numbered, while the following pages are numbered in lowercase Roman numerals (i, ii, iii). The example presented in the appendix has been numbered to facilitate consultation.

Type formatting: The heading LIST OF SYMBOLS AND UNITS OF MEASUREMENT appears in boldface capitals, centered at the top of the page. All symbols used in the document that represent units of measurement are listed, along with their meanings, in lowercase characters.

Line spacing: The list is single-spaced, with two returns between each entry.

To sum up, the preliminary pages give the reader a condensed overview of the author’s research and intentions. The introduction, which follows the preliminary pages, is the first page of the document and introduces the main body of the text.

1.2 Introduction

The introduction is a necessary component of written communication. In academic papers, it allows the author to prepare the reader for the text that follows. The author uses it to present the subjects addressed in the paper, the aim of the research, the context within which it is situated, its scope and its limits. The main parts of the text are also introduced here.

The introduction leads up to the main body of the text, but without giving too much away. This is why no conclusions or results should be included in the introduction.
**Formatting standards**

**Pagination:** The first page of the introduction is considered the first page of the document; it is counted but not numbered. The following pages are numbered in Arabic numerals (2, 3...).

**Type formatting:** The heading **INTRODUCTION** appears in boldface capitals, centered at the top of the page.

**Line spacing:** The text of the introduction uses 1.5 spacing.

The introduction is generally fairly short and is immediately followed by the development, or the body of the text. The development is the main part of the project report, dissertation or thesis. It contains all of the details on the subjects studied and answers the question raised in the introduction.

### 1.3 Development or body of the text

The development is normally divided into chapters and sub-chapters. In a project report, dissertation or thesis, each main idea corresponds to a separate chapter, and each chapter is entitled according to the subject addressed.

The development of a project report, dissertation or thesis includes five parts, listed below:

- A **literature review** (in the first chapter) that allows the reader to situate the work within the body of related existing research, and that gives the document a theoretical framework. If you’re writing a thesis, the literature review allows you to describe your own contribution to the body of knowledge relating to your field of research. The first chapter should also include a clear and precise formulation of the research problem, as well as a reminder of the research goals.

- A **description of the methodology used**, which informs the reader of the mathematical foundations, tools or instruments used in the research, enabling the reader to reconstruct the process or experiment and verify the conclusions.

- A presentation of the results, which constitutes the **objective** part of the project report, dissertation or thesis. You will present your results, moving from the general to the
specific, thereby confirming or disproving the hypotheses presented in the theoretical framework.

- An interpretation of these results, which constitutes the **subjective** part. You will analyze and interpret your results according to your stated methodology—using your calculations and abstractions, and bearing in mind the scope and limits of your research—to draw your conclusions.

- A **discussion of the results**, which involves establishing a connection between your personal interpretation of the results and the existing body of research on the subject (mentioned in the literature review). This discussion is especially important in dissertations and theses, as it allows you to demonstrate your skill in critical analysis and your ability to contribute to the advancement of your field.

Whether you are writing a project report, a dissertation or a thesis, there are various ways to organize your information; however, the development remains the same. For example, you may discuss a different experiment in each chapter. If this format is used, each chapter must describe the theoretical framework, the methodology used, the results, an interpretation of the results and, if applicable, a discussion of the results.

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**Formatting standards**

**Pagination:** The development or body of the text is numbered in Arabic numerals (1, 2, 3). Note that each chapter must start on a new page, which is counted but not numbered.

**Type formatting:** Each chapter must include a title in boldface capitals, centered at the top of the page.

**Line spacing:** Chapter titles are single-spaced on two lines separated by two returns. The word **CHAPTER** and the chapter number (in Arabic numerals) appear on the first line; the title of the chapter appears on the second line. The body of the text uses 1.5 spacing.

The last paragraph of the body of the text is followed by the conclusion, on a new page. The conclusion constitutes the completion of the work and clearly sums up the material that precedes it.
1.4 Conclusion

The conclusion, like the introduction, is a necessary component of written communication. It allows the author to review the major themes and proposals presented in the development and thereby ensure that the reader has a firm grasp on the problem, the approach and the results obtained. A well-written conclusion is essential to effective communication.

Your conclusion should restate your initial research problem or question, along with the solution or answer you arrived at. The reader must be able to make a connection between the problem and the results obtained.

It is important to note that the conclusion should not include any new results or interpretations. Instead, this section should give an overview of the scope and limits of the research conducted and, if needed, suggest new avenues or areas of research that would further develop the body of knowledge or its applications.

Recommendations for new applications or courses of research are often formulated as relatively brief statements. When these recommendations are few and succinctly written, they may be included at the end of the conclusion. However, if there are many recommendations, or if they are explained in detail, they should be presented on a separate page.

Formatting standards

Pagination: The first page of the conclusion is counted but not numbered. The following pages are numbered in Arabic numerals (1, 2, 3).

Type formatting: The heading CONCLUSION appears in boldface capitals, centered at the top of the page.

Line spacing: The body of the conclusion uses 1.5 spacing.
1.5 Recommendations (if needed)

When new courses of research or new applications are proposed, and the recommendations are numerous or require detailed explanation, it may be necessary to present them on a separate page.

Formatting standards

Pagination: The first page of recommendations is counted but not numbered. The following pages are numbered in Arabic numerals.

Type formatting: The heading RECOMMENDATIONS appears in boldface capitals, centered at the top of the page.

Line spacing: The text uses 1.5 spacing.

Remember that each section of text—the introduction, body, conclusion and recommendations—should help the reader to understand the research conducted by the author and to gauge the results obtained. It may be necessary to add supplementary materials (appendices or an index) enabling the reader to understand certain points in greater detail or to retrace the data presented.

1.6 Supplementary materials

The supplementary materials appear at the end of the document and include

- appendices and annexes (if needed);
- a list of references (mandatory) or a bibliography (if needed);
- an index (if needed).

1.6.1 Appendices and annexes (if needed)

Annexes are documents you have deemed necessary for the comprehension of your research. They are usually independent, standalone works and can be written by someone other than yourself. Annexes are generally too long to be included in the body of the document, and are
therefore added at the end of the document. Note that annexes are rarely used in English-language documents.

Unlike an annex, an appendix cannot stand on its own; it contains supplementary information that is not considered essential to the completeness of the document, but that may be helpful to the reader’s comprehension, and is therefore added at the end of the document.

Both annexes and appendices must be mentioned twice in the document: the first time in the table of contents, and the second time in the body of the text, where they are relevant to the research.

Formatting standards for an appendix (see APPENDIX I, p. 58).

Pagination: The first page of an appendix is counted but not numbered. The following pages are numbered in Arabic numerals continuing from the end of the main body.

Type formatting: At the top of the page is the word APPENDIX followed by a capital Roman numeral (I, II, III) and then the name of the appendix. The complete title of the appendix is presented in the same format as the chapter titles, that is, in boldface capitals, centered at the top of the page.

Line spacing: The text of the appendix is single-spaced.

Formatting standards for an annex

Pagination: The first page of an annex is counted but not numbered. The following pages are numbered in Arabic numerals (59, 60, 61, etc.) continuing from the end of the main body. Note that the examples presented in the annex have been numbered to facilitate consultation.

Type formatting: At the top of the page is the word ANNEX followed by a capital letter (A, B, C) and then the name of the annex. The complete title of the annex is presented in the same format as the chapter titles, that is, in boldface capitals, centered at the top of the page.

Line spacing: Both the name and the body of the annex are single-spaced, with two returns between the word ANNEX and the annex title.
1.6.2 List of references

It is important to understand the differences between a list of references and a bibliography. A list of references enumerates, in alphabetical order, all of the pertinent works cited in the text; in other words, it includes only the works that were used to write the text, or that provided information used to create the figures, tables and appendices and that are cited in the text.

A bibliography, on the other hand, lists all of the books, documents, statements and scientific articles related to a given subject, whether they are referenced in the research or not. Students can therefore choose to include a list of references or a complete bibliography including the sources cited in the text, or both, if deemed necessary.

### Formatting standards

**Pagination:** The first page of the list of references is counted but not numbered. The following pages are numbered in Arabic numerals (61, 62, 63, etc.) continuing from the end of the previous section.

**Type formatting:** The heading **LIST OF REFERENCES** appears in boldface capitals, centered at the top of the page.

**Line spacing:** The body of the list of references is single-spaced, with two returns between each entry.

1.6.3 Bibliography (if needed)

A bibliography, unlike the list of references described in section 1.6.2, is a more or less exhaustive list of the works pertaining to a specific subject.

The formatting standards for the bibliographical entries that make up the list of references or the bibliography are addressed in detail in Chapter 3 of this document (see page 44).
The format of a bibliography is similar to that of a list of references with regard to the pagination and line spacing. The heading **BIBLIOGRAPHY** appears in boldface capitals, centered at the top of the page.

### 1.6.4 Index (if needed)

A secondary research study or a reference work will often have an index, that is, an alphabetical list of all the subjects addressed, as well as all the proper nouns used in the document. The index lists the page(s) where each of these subjects appears in the document, allowing readers to consult the text efficiently and access information about a particular subject rapidly. For example, if the document makes reference to a grant application, it would appear in the G section of the index, along with the numbers of the pages on which the subject is mentioned. The index entry is formatted as follows: Grant application, 30.

**Formatting standards**

**Pagination:** The first page of the index is counted but not numbered. The following pages are numbered in Arabic numerals (71, 72, 73, etc.) continuing from the end of the previous section.

**Type formatting:** The heading **INDEX** appears in boldface capitals, centered at the top of the page. The body of the index appears in two columns, using the same font as the body of the document, in a similar or smaller font size.

### 1.7 Guidelines specific to a thesis by publication

The choice to write a thesis by publication must be approved by your research director. The ÉTS prefers such thesis to have the articles integrated into the body of the text, rather than added as appendices. A thesis by publication must contain at least three articles submitted for publication in peer-reviewed scientific journals, and the notices of submission or acknowledgment of receipt from the journals in question must be deposited along with the
thesis. You must be the primary author of the article, and your research director must be cited as the co-author. For more details about copyright laws regarding the author and editor and information concerning authorisation form co-authors, visit the page: Les mémoires et thèses et le droit d’auteur (in French only).

The articles may be written in French or on English. Valid formats:

- thesis completely in French, articles in French;
- preliminary pages, introduction, literature review, and conclusion in French, articles in English in the body of the text;
- thesis completely in English.

It is important to note that a thesis by publication is not simply a collection of articles; it must form a coherent whole. You must therefore make connections between the articles and discuss the logic behind their inclusion.

1.7.1 Thesis by publication with integrated articles

The document must contain the same preliminary pages as a conventional thesis, namely:

- title page;
- board of examiners presentation page;
- foreword (optional);
- acknowledgments (optional);
- résumé (a substantive overall summary in French discussing the content of the articles, 2 to 3 pages in length);
- abstract (overview of document in English discussing the content of the articles);
- table of contents;
- list of tables;
- list of figures;
- list of abbreviations and acronyms;
- list of symbols and units of measure (if needed).
The body of the document consists of the following:

- a general **introduction** that discusses
  - the context;
  - the aim of the thesis;
  - the research question and an overview of the methodology used.

The introduction in this type of thesis can be fairly lengthy, necessitating a hierarchical structure for the elements listed above. In such a case, we recommend using a numbering system for the various levels, beginning at 0. For example: 0.1 Historical background, 0.1.1 The years 1999 to 2003, etc. (see APPENDIX XVI, p. 73). When figures or tables are included in the introduction, their numbers start with 0 (Figure 0.1, 0.2, 0.3, etc.). Note that the figures and tables in the introduction must also appear in the lists of figures and tables. The MS Word formatting template was designed with an automatic cross-referencing function; however, any items beginning in 0 are not entered automatically, and must therefore be added to the lists manually.

- a **critical review of existing literature** (the literature review is never considered to be an article per se);

- the **approach and organization of the document**, allowing you to explain the conceptual methodology and structure of the thesis. This chapter also introduces each of the articles included in the thesis, along with a brief discussion of their relevance to the subject matter.

- the **articles**, presented individually in the form of distinct chapters (see APPENDIX XVII, p. 74). These articles must have been published in or submitted to a scientific journal; conference proceedings are not eligible to be included in a thesis by publication. Each article constitutes a chapter entitled with the article name, and each article must include an introduction, a development and a conclusion. The sources cited in the article are included in the list of references at the very end of the document. If an article has been submitted but not yet published, the publication details will consist of only the submission date and the journal name.

  - Each article must be formatted according to the standards for an ÉTS thesis, not to those of the publishing journal.
• When an article includes annexes or appendices, these must be numbered according to the chapter number and their order of appearance in the text (e.g. Appendix 3.b for the second appendix in article 3). These annexes and appendices are presented before the list of references or bibliography.

• a discussion of the results, in which the initial hypothesis and the research methodology are reviewed, and where the implications of the results and their contribution to the research field are discussed;

• a general conclusion, including an overview of the themes and proposals addressed in the body of the document and recommendations, if applicable;

• annexes or appendices (if needed). If the thesis includes appendices for the body of the document and others for the articles, those related to the body of the text appear before those related to the articles. Note that only the appendices related to the body of the document are listed in the table of contents.

• a comprehensive list of all bibliographic references cited in all the articles and the body of the text, along with a bibliography (if needed).

All the elements listed above must appear in the document for it to meet the requirements of a thesis by publication.

1.8 Formatting standards summary

The following table summarizes the formatting standards addressed in chapter 1.

Chapter 2 will provide guidelines for writing text, numbers, equations and formulas.
# Table 1.1

Formatting standards summary

<table>
<thead>
<tr>
<th>Pagination</th>
<th>Line spacing</th>
<th>Type formatting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title page</td>
<td>Page counted (lowercase Roman numerals) but <strong>not numbered</strong>.</td>
<td>Text: single-spaced.</td>
</tr>
<tr>
<td>Board of examiners presentation page</td>
<td>Page counted (lowercase Roman numerals) but <strong>not numbered</strong>.</td>
<td>Title: single-spaced. Names of board members: single-spaced, two returns between each entry. Last paragraph: single-spaced, two returns between lines.</td>
</tr>
<tr>
<td>Foreword</td>
<td><strong>First page</strong> counted but <strong>not numbered</strong>. Following pages <strong>numbered</strong> in lowercase Roman numerals.</td>
<td>Text: 1.5 line spacing.</td>
</tr>
<tr>
<td>Acknowledgments</td>
<td><strong>First page</strong> counted but <strong>not numbered</strong>. Following pages <strong>numbered</strong> in lowercase Roman numerals.</td>
<td>Text: 1.5 line spacing.</td>
</tr>
<tr>
<td>Résumé</td>
<td><strong>First page</strong> counted but <strong>not numbered</strong>. Following pages <strong>numbered</strong> in lowercase Roman numerals.</td>
<td>Text: single-spaced.</td>
</tr>
<tr>
<td>Abstract</td>
<td><strong>First page</strong> counted but <strong>not numbered</strong>. Following pages <strong>numbered</strong> in lowercase Roman numerals.</td>
<td>Text: single-spaced.</td>
</tr>
</tbody>
</table>
Table 1.1
Formatting standards summary (cont’d)

<table>
<thead>
<tr>
<th>Table of contents</th>
<th>Line spacing</th>
<th>Type formatting</th>
</tr>
</thead>
<tbody>
<tr>
<td>First page counted but <strong>not numbered</strong>. Following pages <strong>numbered</strong> in lowercase Roman numerals.</td>
<td>Text: single-spaced. Two returns between section titles and major divisions.</td>
<td>Main title: TABLE OF CONTENTS in boldface capitals, centered at top of page. Chapter titles in capitals, left-aligned. Section titles in lowercase characters. Table of contents begins with introduction, does not include preliminary pages.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>List of tables</th>
<th>Line spacing</th>
<th>Type formatting</th>
</tr>
</thead>
<tbody>
<tr>
<td>First page counted but <strong>not numbered</strong>. Following pages <strong>numbered</strong> in lowercase Roman numerals.</td>
<td>List: single-spaced. Two returns between entries.</td>
<td><strong>If document contains more than 3 tables, include a list</strong> Main title: LIST OF TABLES in boldface capitals, centered at top of page. List indicates title of each table with the word Table (initial capital) followed by chapter number and sequentially assigned number. In the document: title appears above table; <strong>no period at the end</strong>.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>List of figures</th>
<th>Line spacing</th>
<th>Type formatting</th>
</tr>
</thead>
<tbody>
<tr>
<td>First page counted but <strong>not numbered</strong>. Following pages <strong>numbered</strong> in lowercase Roman numerals.</td>
<td>List: single-spaced. Two returns between entries.</td>
<td><strong>If document contains more than 3 figures, include a list</strong> Main title: LIST OF FIGURES in boldface capitals, centered at top of page. List indicates title of each figure with the word Figure (initial capital) followed by chapter number and sequentially assigned number. In the document: title appears below figure; <strong>no period at the end</strong>.</td>
</tr>
</tbody>
</table>
Table 1.1  
Formatting standards summary (cont’d)

<table>
<thead>
<tr>
<th>Pagination</th>
<th>Line spacing</th>
<th>Type formatting</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>List of algorithms</strong></td>
<td>First page counted but <strong>not numbered</strong>. Following pages <strong>numbered</strong> in lowercase Roman numerals.</td>
<td>List: single-spaced. Two returns between entries.</td>
</tr>
<tr>
<td><strong>List of abbreviations and acronyms</strong></td>
<td>First page counted but <strong>not numbered</strong>. Following pages <strong>numbered</strong> in lowercase Roman numerals.&lt;br&gt;The page numbers where the abbreviations and acronyms appear in the text are not indicated.</td>
<td>List: single-spaced. Two returns between entries.</td>
</tr>
<tr>
<td><strong>List of symbols and units of measurement</strong></td>
<td>First page counted but <strong>not numbered</strong>. Following pages <strong>numbered</strong> in lowercase Roman numerals.</td>
<td>List: single-spaced. Two returns between entries.</td>
</tr>
<tr>
<td><strong>Introduction</strong></td>
<td>First page counted but <strong>not numbered</strong>. Following pages <strong>numbered</strong> in Arabic numerals.</td>
<td>Text: 1.5 line spacing.</td>
</tr>
<tr>
<td><strong>Development or body of the text</strong></td>
<td>Each chapter starts on a new page.&lt;br&gt;First page counted but <strong>not numbered</strong>. Following pages <strong>numbered</strong> in Arabic numerals.</td>
<td>Chapter number and title: single-spaced, with two returns between the chapter and the title.&lt;br&gt;Text: 1.5 line spacing.</td>
</tr>
</tbody>
</table>
Table 1.1
Formatting standards summary (cont’d)

<table>
<thead>
<tr>
<th></th>
<th>Pagination</th>
<th>Line spacing</th>
<th>Type formatting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conclusion</td>
<td>First page counted but not numbered. Following pages numbered in Arabic numerals.</td>
<td>Text: 1.5 line spacing.</td>
<td>Main title: CONCLUSION in boldface capitals, centered at top of page.</td>
</tr>
<tr>
<td>Recommendations</td>
<td>First page counted but not numbered. Following pages numbered in Arabic numerals.</td>
<td>Text: 1.5 line spacing.</td>
<td>Main title: RECOMMENDATIONS in boldface capitals, centered at top of page.</td>
</tr>
<tr>
<td>Appendices</td>
<td>First page counted but not numbered. Following pages numbered in Arabic numerals after the text.</td>
<td>Text: single-spaced.</td>
<td>Main title: APPENDIX in boldface capitals, centered at top of page. Appendices are numbered with capital Roman numerals (I, II, III).</td>
</tr>
<tr>
<td>List of references</td>
<td>First page counted but not numbered. Following pages numbered in Arabic numerals after the text.</td>
<td>Text: single-spaced, with two returns between each reference.</td>
<td>Main title: LIST OF REFERENCES in boldface capitals, centered at top of page.</td>
</tr>
<tr>
<td>Bibliography</td>
<td>First page counted but not numbered. Following pages numbered in Arabic numerals after the text.</td>
<td>Text: single-spaced, with two returns between each reference.</td>
<td>Main title: BIBLIOGRAPHY in boldface capitals, centered at top of page.</td>
</tr>
</tbody>
</table>
Table 1.1
Formatting standards summary (cont’d)

<table>
<thead>
<tr>
<th>Pagination</th>
<th>Line spacing</th>
<th>Type formatting</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tables</strong></td>
<td>Arabic numerals</td>
<td>The two lines of the title are single-spaced, separated by two returns, centered above the table</td>
</tr>
<tr>
<td><strong>Figures</strong> (drawings, diagrams, photos, etc.)</td>
<td>Arabic numerals</td>
<td>The two lines of the title are single-spaced, separated by two returns, centered below the figure</td>
</tr>
<tr>
<td><strong>Algorithms</strong></td>
<td>Arabic numerals</td>
<td>The two lines of the title are single-spaced, separated by two returns, centered below the algorithm</td>
</tr>
</tbody>
</table>
CHAPTER 2

FORMATTING STANDARDS AND STYLE GUIDE

The aim of this chapter is to help the student meet the ÉTS requirements in terms of formatting, using accepted norms for writing numbers, equations and formulae.

2.1  Formatting

Following the formatting rules will enable the student to produce a high-quality document that is easier for the Board of Examiners to read. The Bureau des cycles supérieurs (BCS) checks the formatting before allowing a dissertation or thesis to be submitted. If the formatting is not up to standard, the BCS may require the student to revise the document until it is. Quality of language, however, is the sole responsibility of the student.

2.1.1  Margins

All project reports, dissertations and theses must be printed in black ink on white, opaque, durable paper (bond paper is recommended) measuring 21.5 cm x 28 cm (8.5" x 11"). The document must be printed double-sided.

It is important to maintain the following margins:

- Top: 3.81 cm (1.5"
- Bottom: 1.90 cm (0.75"
- Outer: 1.90 cm (0.75"
- Inner: 3.81 cm (1.5"

N.B.: These are the default margin settings in the Word and LaTeX formatting templates.

The text must be justified, i.e., flush against both the left and right margins. You may be tempted to hyphenate words manually in order to reduce the spaces between certain words; if you do, you must pay special attention to these breaks when editing.

2.1.2 Fonts

The font size, measured in “points,” must be 12 or 11 points, depending on the font used. The following fonts are accepted:

- Times New Roman 12 point (as in this document);
- CG Times 12 point;
- Arial 11 point.

Use only one font for the entire document. Condensed fonts such as Arial Narrow are not acceptable.
2.1.3  **Line spacing and word spacing**

The main body of the text must use 1.5 line spacing, and paragraphs must be separated by a return. However, as mentioned in the previous chapter, line spacing varies on certain pages (see Table 1.1, p. 26).

All pages must be filled to the bottom margin. However, a page should never finish with a section heading or an orphaned line. In other words, always have at least two lines of a paragraph at the bottom of the page and at least one line and one word at the top.

2.1.4  **Page numbering**

All pages in the document are counted, but some are not numbered (see Table 1.1, p. 26).

The page number, whether in Arabic numerals (1, 2, 3, etc.) or Roman numerals (i, ii, iii, etc.), appears in the upper outer corner and does not include a period, dash, hyphen or slash. It sits 2 cm (0.75") from the top edge and 2.5 cm (1") from the outer edge of the page. It must be flush with the outer margin—the right margin in the case of recto pages and the left margin in the case of verso pages.

2.1.5  **Chapter and division headings**

A project report, dissertation or thesis should ideally have three levels of information, numbered in hierarchically structured pseudo-decimals (2, 2.1, 2.1.1, etc.) (see APPENDIX XI, p. 68). The main page and chapter headings are single-spaced, in bold and centered at the top of the page. Division headings within the text are in bold lowercase letters, single-spaced and left-aligned. If the document requires more than three levels of information, the lower-level headings are also in bold lowercase letters and left-aligned.
2.1.6 Tables

Each table must have a title containing the word “Table” (with an initial capital) followed by a number in pseudo-decimals (chapter number and order of appearance). This is followed by the full title of the table, with no period at the end (see APPENDIX XVIII, p. 75). The title must not be wider than the table; if necessary, it can be written on more than one line.

Table columns must be wide enough, and have enough of a margin within them, for the data to be read easily. The rows are separated by horizontal lines as needed. Generally speaking, the table content uses 1.5 line spacing, like the rest of the text; however, if necessitated by space constraints, a smaller line spacing may be used. All tables must have a border (see APPENDIX XVIII, p. 75).

When an item in a table requires explanation or additional information, it is accompanied by a reference mark. Table reference marks use letters or asterisks to distinguish them from the numbered footnote indicators in the text. The explanatory note is placed beneath the table and is left-aligned.

If you use a table you did not create, be sure to comply with copyright law by checking the conditions for using the table and, if need be, obtaining the author’s written permission. Indicate the source below the table. If the table is taken from a paper document and is identical to the original table, you must indicate “Taken from” and state the source, with the author’s name, year of publication and page number. If the table has been modified from the original, indicate “Adapted from” and state the source, with the author’s name, year of publication and page number of the original table.

If the table comes from a website, indicate “Taken from” and state the name of the author or organization and the year of publication. If modifications were made, indicate “Adapted from” followed by the name of the author or organization and the year of publication. A
complete reference for the table, including the URL and the date when you accessed it, must be included in the list of references or bibliography at the end of the document.

Ideally, a table should fit onto one page. If it must continue onto the next page, the column and row headers must be repeated. Tables that take up more than two pages are typically included in the form of appendices.

Tables presented in the appendices are numbered automatically (see Guide d’utilisation du gabarit de mise en page) and are entitled with the word Table followed by the letter A, the number of the appendix in Roman numerals, and an Arabic numeral according to order of appearance (for example, Table-A II-1).

Tables must be mentioned in the main text, in the list of tables and in the table of contents. Tables presented in the appendices are mentioned only in the main text (for example, “see Appendix II, Table-A II-1”); they are not referenced in the list of tables or the table of contents.

The Word template accompanying this Guide will automatically create cross references from the text to tables, figures, charts or photographs.

For more information about the cross-reference function, consult the document Guide d’utilisation du gabarit de mise en page. This document is available (in French only) on the ETS website: http://www.etsmtl.ca/Etudiants-actuels/Cycles-sup/Realisation-etudes/Guides-gabarits

2.1.7 Figures

Titles of figures (drawings, diagrams, photographs, etc.) are in two parts; first of all, the word “Figure” (initial capital) with a number in pseudo-decimals (chapter number and sequential number) (see APPENDIX XIX, p. 76). This is followed by the full title of the figure, which
uses normal font (not bold) and single line spacing with no period. If there is a legend, it is usually short and centered below the figure. All figures must have a border and must be centered on the page.

If you use a figure that is not yours, be sure to comply with copyright law. As instructed in the guideline “Mémoires et thèses et le droit d’auteur,” you must check the conditions for reusing the figure and obtain the author’s written permission (unless the material is not copyrighted). Below the title of the figure, indicate the source (author’s name, year of publication, page number). If the figure is taken from a paper document and is identical to the original, indicate “Taken from” followed by the source. If the figure has been changed from the original, indicate “Reproduced and adapted with the permission of” followed by the source.

If the figure is sourced from a website, indicate “Taken from” followed by the name of the author or organization and the year of publication; if you have modified it, indicate “Adapted from” followed by the same information. A complete bibliographical reference for each figure, including the URL and the date when you accessed it, must be given in the list of references.

If royalty free photos are used, the initial source (author’s name, year of publication) must be identified. Therefore, indicate "Photo courtesy" followed by the source. Example: Photo courtesy of Getty Images 2012.

If a figure is too big to fit on a page of the document, it should be included as a pocket insert (maximum 15 cm x 21 cm, or 6" x 8", when folded) at the back of the document, or on a CD.

Charts and graphs must also meet certain presentation standards (see example in APPENDIX XX, p. 77). The values measured on the X and Y axes must be clearly identified, and each curve must be labelled as close as possible to the curve. The dependent variable must always
be on the Y (vertical) axis and the independent variable on the X (horizontal) axis. When the curve is produced by an equation, the equation must appear in the text or below the graph.

When figures are appended, they must be numbered manually (see Guide d’utilisation du gabarit de mise en page), and their title must have the word “Figure” or “Graph” followed by the letter A, the appendix number in Roman numerals, and the sequential number in Arabic numerals (e.g., Figure-A VII-3).

Figures appearing in the main body of the document are announced in the text and in the list of figures. Those in the appendices are announced in the text (e.g., “see Appendix VII, Figure-A VII-3”), but not in the list of figures situated in the preliminary pages.

2.1.8 Algorithms

Algorithms must stand out from the text and be well identified. Like table titles, algorithm titles must include the word “Algorithm” (initial capital) followed by a number in pseudo-decimals (chapter number and sequential number) (see example in APPENDIX XXI, p. 78), and then the name of the algorithm. The title is usually short; it appears in normal font with single line spacing centered above the algorithm, which is itself bordered and centered on the page for easy identification. Note that algorithms must be inserted manually, since this function is not automated in the template.

2.2 Rules of style

As mentioned in section 1.3, research results must be presented within the body of the document. The document must therefore contain all calculations, formulae and equations needed to support the research, as well as the analysis and interpretation of the results. In order to provide this information clearly, you must follow the rules for abbreviations, acronyms, numbers, formulae and equations.
2.2.1 Abbreviations and acronyms

Abbreviations and acronyms can be useful for referring to words or expressions that come up repeatedly in a document; however, they must be comprehensible to the reader. It is therefore essential to state the meaning of each abbreviation or acronym the first time it is used. Write the term out in full, followed by its abbreviation in parentheses; for example, “pulse-width modulation (PWM) is a modulation technology that….”. Whenever the term arises after that, use only the abbreviation or acronym with no parentheses (e.g., “PWM control is used...”).

As mentioned in 1.1.11, if there are more than five abbreviations and acronyms in your document, you must include a list of them (see APPENDIX XIV, p. 71) after the list of figures in the preliminary pages.

We strongly recommend that you consult specialized sources and use only well-known and widely used abbreviations and acronyms.

2.2.2 Numbers

Generally speaking, numbers lower than 10 are written in letters, and numbers 10 and higher are written in numerals.

However, numbers are not spelled out when they

- are part of an enumeration;
- indicate page numbers in a reference document;
- designate successive elements in a series;
- refer to a figure, chapter or appendix;
- express statistical, mathematical, technical or scientific data and are accompanied by a unit of measurement (e.g., 500 lb);
- indicate dates; or
- express a decimal value.
Conversely, **numerals are not used** when the number
- begins a sentence; or
- is part of a title.

### 2.2.3 Units of measurement and decimals

Technical project reports and scientific theses or dissertations often make abundant use of units of measurement. To avoid ambiguity, it is important to use the International System of Units (SI) and to provide a complete list of all symbols used, indicating what each one stands for. Where applicable, also indicate in parentheses the definition or meaning (see APPENDIX XV, p. 72).

For numbers written in decimal form, English-speaking countries use a period as the decimal mark, e.g., 0.37, 12.63. In numbers with five digits or more, the digits must be separated into groups of three with commas between them. In technical or scientific texts, if a number has many digits, the use of exponential notation is recommended; for example, 4,590,000 would be written $4.59 \times 10^6$. In non-technical text, however, numbers with several zeros should be spelled out (for example, $2.6$ million rather than $2,600,000$).

If the number begins a sentence, it must be spelled out in letters (“Twenty-five subjects were tested…”). Otherwise, all numbers above nine (i.e., with two digits or more) must be written in numerals. Abbreviated units of measurement must not be followed by a period (“A distance of 63 cm separated the two objects…”).

### 2.2.4 Equations and mathematical formulae

When presenting equations, formulae, matrices or other mathematical data, be sure to number them using the pseudo-decimal numbering system (chapter number followed by sequentially assigned number).
Each equation or formula must appear in italics, except for the following components: numbers, sines, cosines, tangents and cotangents. It must be numbered and centered on the page. The number (chapter number and sequentially assigned number) must be indicated in parentheses and flush right. For example:

\[ ax + by^2 = z \]  \hspace{1cm} (2.1)

When using an equation or formula that is not yours, indicate the source below it. Include the mention “Taken from” followed by the source (author’s name, year of publication, page number). If the original equation or formula was changed, indicate “Adapted from” followed by the source.

If equations and mathematical formulae are presented in the appendices, they must be numbered manually (see Guide d’utilisation du gabarit) as follows: letter A, appendix number in Roman numerals, and sequential number in Arabic numerals (e.g., A VII-3).

2.2.5 Lists

Lists can help make your text more comprehensible to the reader. Generally speaking, lists are preceded by an introductory sentence and a colon; in the following list, each point must start with a word of the same grammatical category.

If a list is short, its components may be written in paragraph form rather than listed in point form. In that case, the items appear in lowercase characters, separated by commas and followed by a period at the end ( “The main parts of a chapter are as follows: heading, sub-heading, text, tables, figures, etc.”). If the list items already have commas, use semi-colons to separate them.
If a list contains many points, it may be presented as a vertical list, in which each item is preceded by a number or bullet. If a list uses several levels of numbering, the following hierarchy is used: number, letter, dash, bullet.

The first letter in a listed item is capitalized when the item is a more or less grammatically complete sentence, i.e., if it contains a conjugated verb (even though the subject might be omitted). If the item is long and contains a conjugated verb, it is followed by a semi-colon (;). If it is short and contains no verb, it is followed by a comma.

In short, regardless of the type of list used, items must always be separated by a comma (for words or phrases) or semi-colon (for complete sentences). The last item in the list ends in a period.

2.2.6 Footnotes

A footnote is a note placed at the bottom of the page to provide additional information about a passage in the text. A footnote number is placed in the text in superscript, that is, raised above the line to draw the reader’s attention. Footnotes are numbered sequentially in the order in which they appear; the numbering is continuous throughout the document.

Footnotes are separated from the rest of the text by a horizontal line (see example at the bottom of this page). They use the same margins as the rest of the text and, according to Malo (1996, p. 178), should not take up more than the bottom third of the page.¹ Footnote insertion is automated in word processing programs, and footnotes appear in a smaller font (10 point).

¹ Do not subject the reader to information overload. Long and detailed additions should be presented as annexes or appendices.
2.2.7 Writing tips

Remember that your written document addresses readers who are not able to interact directly with you; hence the importance of supplying them with all the information and explanations they need to understand the document and find answers to their questions.

Here are a few tips that will help you improve the quality of writing in your manuscript and communicate your ideas more effectively:

- Provide all the information the reader needs to understand your thesis;
- Where possible, use active verbs (“Studies have demonstrated this trend…”) rather than the passive voice (“This trend has been demonstrated through studies…”) and avoid negative expressions (“We should not forget that…”);
- Maintain an objective tone and use “we” rather than “I”;
- Use headings and sub-headings to guide the reader and make the structure of your manuscript easy to understand;
- Establish connections between ideas to facilitate comprehension and enable the reader to follow your train of thought;
- Keep sentences short and simple;
- Present only one idea in a sentence;
- Use clear and precise terminology to avoid misinterpretation;
- Place important words at the beginning or end of sentences, rather than burying them in the middle;
- Use italics for words or expressions in foreign languages;
- Use punctuation to differentiate essential statements from less important ones;
- Reread your text several times and correct it as needed.
2.2.8 Quality of language

Make sure your manuscript is written in good English and complies with the writing and formatting requirements in these Guidelines. The quality of language in any thesis, dissertation or research report submitted is the sole responsibility of the student.

2.2.9 Printing

When you submit your thesis, dissertation or research report to the Bureau des cycles supérieurs for validation of formatting, it must be printed from the Word file rather than from a PDF. Printing from a PDF changes the formatting and makes it non-compliant with the presentation standards.

Before depositing the final version of your thesis, dissertation or research report, we recommend consulting the ÉTS library’s instructions for submitting in electronic form: Consignes pour le dépôt électronique des mémoires et des thèses.

In the first two chapters, we have discussed the stylistic and formatting requirements for the various parts of a thesis, dissertation or research report. The next chapter will present guidelines for citations and bibliographical references.
CHAPTER 3

CITATIONS AND BIBLIOGRAPHICAL REFERENCES

Writing a research report, thesis or dissertation often involves consulting and studying various forms of documents: books, periodicals, electronic documents, etc. Each document used must be cited so that the reader can identify your sources and situate your research in relation to other work on the same subject.

There are several different methods for documenting sources; at ÉTS, we recommend the “author-date” system, as it is widely used in engineering and is easier to use than the other approaches.

We strongly suggest using EndNote, a tool for managing research and creating bibliographies. EndNote is used throughout the Université du Québec network; moreover, copies of the software and training sessions are offered free of charge by the ÉTS library. More information is available on the library’s website at http://www.etsmtl.ca/Bibliotheque/Aide-et-formation/Comment---/Gerer-References/EndNote.

In this chapter, we will explain the author-date citation method and the typographical conventions to be followed when compiling a list of references or a bibliography.
3.1 Identifying a source

The preferred citation system at ÉTS is the author-date system, in which the source of a quotation, idea, statement, comment, illustration or any other element borrowed from another author is identified in abbreviated form directly in the text. Each citation consists of the author’s name, the date of publication and the page number.

A full bibliographic reference is provided in the list of references or the bibliography at the end of the document.

Citations and bibliographical references require consistency of presentation, and must be meticulously accurate.

3.1.1 Quoting an author

To illustrate or expand on your ideas, you may include direct (or word-for-word) quotations from other authors, either in a separate passage or merged with your own discourse. Quotations help the reader identify your contribution in relation to existing work on the subject. The excerpt must be reproduced exactly as it appeared in the original text, and the source (author’s name, date of publication and page number) must be identified.

If the quotation is short (no more than three lines), it is incorporated into the text and set off by quotation marks. It is preceded and followed by the student’s comments.

If the quotation is taken from a work by more than three authors, indicate the name of the first author followed by “et al.” For example, Othman et al. (2001, p. 2) argue that “CORBA simplifies system implementation by providing a language- and platform-neutral communication infrastructure.”

A longer quotation (between four and ten lines; quotations exceeding ten lines should be placed in the appendices) is presented as a separate paragraph with no quotation marks.
They should be single-spaced and indented from the left and right margins. The source appears immediately after the quotation (author’s name, date of publication and page number).

Example:

Quotations must be integrated with the text so that they seem to be a natural part of it. Quotations can’t be left hanging or drifting; their relevance must be instantly obvious to the reader. Decide why you’ve selected a particular quotation and then make sure you pass this on to the reader. Usually a quotation illustrates something—make clear what you think it illustrates. Quotations must also be integrated with the structure of your sentences, so that the resulting sentence containing the quotation is grammatically sound. (Colter, 2005, p. 126-127)

If you add words to a quotation, they must be placed between square brackets [like this]. If you remove words to shorten the text, they must be replaced by three ellipsis points, separated from the text or punctuation before and after by a space.

Example:

Quotations must be integrated with the text so that they seem to be a natural part of it. [They] can’t be left hanging or drifting; their relevance must be instantly obvious to the reader. … Quotations must also be integrated with the structure of your sentences, so that the resulting sentence … is grammatically sound. (Colter, 2005, p. 126-127)

3.1.2 Paraphrasing and summarizing

Paraphrasing means expressing the ideas or opinions of another author in your own words. As with a quotation, a paraphrase must be accompanied by an in-text citation in author-date format (name of author(s), date of publication and page number).

You may also summarize an article or a long passage by another author. The summary must be representative of the author’s ideas and must be free of any interpretation or comment by the student.
Example: As emphasized by Malo (1996) and Bouthat (1991), it is essential to acknowledge the source of an idea by means of an abbreviated in-text citation.

### 3.1.3 Quotations in foreign languages

If a quotation is in a language other than English, it must be translated. If a translation has already been published, it should be used, with a citation as follows: author of quotation, date, In (translator, date and page number). If no translation exists, the student may translate the quotation but must indicate “Our translation” in parentheses after it, followed by the citation of the original source (author, date, page number).

### 3.2 Bibliographical references

Bibliographical references provide the reader with all the information needed to identify a document cited. Bibliographical records must contain specific data fields (e.g., name of author, complete and exact name of document, date of edition consulted, place of publication, publisher, etc.); these vary depending on the nature and medium of the document (book, CD-ROM, website, etc.) (see examples in 3.2.1).

If a document is published in a foreign language, the information in the bibliographical record must be cited as it appears in the document; it must not be translated.

The list of references and the bibliography, both placed at the end of the document, include all the sources in alphabetical order according to author name. If several works by the same author are cited, they are presented in chronological order according to date of publication.

In each bibliographical record, the second and following lines of text must be indented by three to five spaces (see BIBLIOGRAPHY, p.79).
3.2.1 Examples of bibliographical records

To facilitate the student’s task, we are including examples of the following bibliographical records:

Book with one author (Figure 3.1),
Book with multiple authors (Figure 3.2)
Article or chapter in an edited book (Figure 3.3)
Conference paper (Figure 3.4)
Periodical article (Figure 3.5)
Dissertation or thesis (Figure 3.6)
Course notes (with the words “course notes” in the title or subtitle) (Figure 3.7)
Course notes (without the words “course notes” in the title or subtitle) (Figure 3.8)
Report (Figure 3.9)
Standard (Figure 3.10)
Geographical map (Figure 3.11)
Website or page (Figure 3.12)
Website or page without date (Figure 3.13)
Online periodical article (Figure 3.14)
Online document (PDF, html) (Figure 3.15)
Patent in a database (Figure 3.16)
Law or regulation accessed online (Figure 3.17)
Software (Figure 3.18)
Audiovisual document (Figure 3.19)

These examples (Figures 3.1 to 3.19) show the various data fields to be included and provide concrete examples for the following document formats:

- Paper (books, portions of books, conference papers, periodical articles, dissertations and theses, reports, standards, geographical maps),
- Electronic (website or page, online periodical article, PDF or html document, patent in a database, law or regulation accessed online),
- Other media (software, audiovisual document).

The examples were developed from the reference documents and sites listed below. These reference materials may be useful to students, as they contain more detailed information, as well as additional examples.


<table>
<thead>
<tr>
<th>Last name, First name</th>
<th>Year of publication</th>
<th>Book title: subtitle</th>
<th>Edition number</th>
<th>“Collection”, Volume</th>
<th>Place of publication</th>
<th>Publisher</th>
<th>Number of pages</th>
</tr>
</thead>
</table>


Figure 3.1 - Bibliographical record for a book with one author.

<table>
<thead>
<tr>
<th>Last name, First name</th>
<th>First name Last name</th>
<th>and</th>
<th>First name Last name</th>
<th>Year of publication</th>
<th>Book title: subtitle</th>
<th>Edition number</th>
<th>“Collection”, Volume</th>
<th>Place of publication</th>
<th>Publisher</th>
<th>Number of pages</th>
</tr>
</thead>
</table>


Figure 3.2 - Bibliographical record for a book with multiple authors.
<table>
<thead>
<tr>
<th>Last name, First name</th>
<th>Year of publication</th>
<th>“Chapter title: subtitle”</th>
<th>In</th>
<th>Book title: subtitle, Last name, First name of 1st editor, First name Last name of other editors (Eds.), Edition number</th>
<th>Chapter pages</th>
<th>“Collection”, Volume</th>
<th>Place of publication: Publisher</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fujimoto, Takahiro. 1997. “Strategies for Assembly Automation in the Automobile Industry”. In <em>Transforming Automobile Assembly: Experience in Automation and Work Organization</em>, Shimokawa, Koichi, Ulrich Jürgens and Takahiro Fujimoto (Eds.), p. 211-237. Berlin: Springer-Verlag.</td>
<td>Figure 3.3 – Bibliographical record for an article or chapter of an edited book.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Last name, First name, First name Last name and First name Last name</th>
<th>Year of publication</th>
<th>“Paper title: subtitle”</th>
<th>In</th>
<th>Conference title</th>
<th>Pages of paper</th>
<th>Place of publication: Publisher</th>
</tr>
</thead>
</table>

Figure 3.5 - Bibliographical record for a periodical article.


Figure 3.6 – Bibliographical record for a dissertation or thesis.

Note:
For course notes, it is not necessary to indicate “unpublished”. Since course notes on paper are usually given out to students only, readers will know that the document is difficult to obtain; however, they will have the professor’s name and can contact him or her if they wish. As for course notes available online, if a username and password are required, this should be mentioned in the bibliographical record.


Note:
For course notes, it is not necessary to indicate “unpublished”. Since course notes on paper are usually given out to students only, readers will know that the document is difficult to obtain; however, they will have the professor’s name and can contact him or her if they wish. As for course notes available online, if a username and password are required, this should be mentioned in the bibliographical record.

Figure 3.9 – Bibliographical record for a report.


Figure 3.10 – Bibliographical record for a standard.


Figure 3.11 – Bibliographical record for a geographical map.
Last name, First name or Organization. Year of publication. “Title of page: subtitle”. In Title of website: subtitle. Retrieved from URL. Date accessed.


Figure 3.12 – Bibliographical record for a website and page.

Last name, First name or Organization. Year of publication [no date]. “Title of page: subtitle”. In Title of website: subtitle. Retrieved from URL. Date accessed.


Figure 3.13 – Bibliographical record for a website and page without date.

Last name, First name, First name, Last name. Year of publication. “Article title: subtitle”. Title of periodical. Volume, Number, Pages. URL. Date accessed.


Figure 3.14 – Bibliographical record for an online periodical article.
<table>
<thead>
<tr>
<th>Last name, First name</th>
<th>Year of publication</th>
<th>“Title of document: subtitle”</th>
<th>Number of pages</th>
<th>Retrieved from URL</th>
<th>Date accessed</th>
</tr>
</thead>
</table>


Figure 3.15 – Bibliographical record for an online electronic document (PDF, html).

<table>
<thead>
<tr>
<th>Last name, First name of patent holder or Company</th>
<th>Date of patent issue</th>
<th>“Title of patent: subtitle”</th>
<th>Type of patent</th>
<th>Number of patent</th>
<th>In Name of database</th>
<th>Place of publication</th>
<th>Publisher</th>
<th>Retrieved from URL</th>
<th>Date accessed</th>
</tr>
</thead>
</table>


Figure 3.16 – Bibliographical record for a patent in a database.
<table>
<thead>
<tr>
<th>Name of government</th>
<th>Date of last update</th>
<th>Title of law or regulation:</th>
<th>subtitle. Place of publication: Publisher. Retrieved from URL. Date accessed.</th>
</tr>
</thead>
</table>

Figure 3.17 – Bibliographical record for a law or regulation accessed online.

<table>
<thead>
<tr>
<th>Last name, First name or Organization</th>
<th>Year of publication</th>
<th>Name of software: subtitle, Version number</th>
<th>Medium. Place of publication: Publisher.</th>
</tr>
</thead>
</table>

Figure 3.18 – Bibliographical record for software.

<table>
<thead>
<tr>
<th>Last name, First name or Organization</th>
<th>Year of publication</th>
<th>Title of audiovisual document:</th>
<th>subtitle. Place of publication: Publisher. Medium, duration</th>
</tr>
</thead>
</table>

Figure 3.19 - Bibliographical record for an audiovisual document.
APPENDIX I

EXAMPLE: DESS – TITLE PAGE (RECTO)

ÉCOLE DE TECHNOLOGIE SUPÉRIEURE
UNIVERSITÉ DU QUÉBEC

(6 returns single-spaced)

APPLICATION PROJECT PRESENTED TO
ÉCOLE DE TECHNOLOGIE SUPÉRIEURE

(6 returns single-spaced)

IN PARTIAL FULFILLMENT OF
A SPECIALIZED GRADUATE PROGRAM (DESS) DEGREE
IN MECHANICAL ENGINEERING

(6 returns single-spaced)

BY
First name LAST NAME

(6 returns single-spaced)

TITLE

(6 returns single-spaced)

MONTREAL, JULY 31, 2013
(2 returns single-spaced)

Copyright © 2006 (author’s name, year) All rights reserved or

Commercial use is prohibited by © 2006 (author’s name, year of publication)
APPENDIX II

EXAMPLE: DESS – TITLE PAGE (VERSO)

© Copyright
Reproduction, saving or sharing of the content of this document, in whole or in part, is prohibited. A reader who wishes to print this document or save it on any medium must first obtain the author’s permission.

or

This Creative Commons license allows readers to download this work and share it with others as long as the author is credited. The content of this work may not be modified in any way or used commercially.
APPENDIX III

EXAMPLE: TITLE PAGE – MASTER’S WITH THESIS

ÉCOLE DE TECHNOLOGIE SUPÉRIEURE
UNIVERSITÉ DU QUÉBEC

(6 returns single-spaced)

THESIS PRESENTED TO
ÉCOLE DE TECHNOLOGIE SUPÉRIEURE

(6 returns single-spaced)

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR
A MASTER’S DEGREE WITH THESIS IN ELECTRICAL ENGINEERING
M.A.Sc.

(6 returns single-spaced)

BY
First Name LAST NAME

(6 returns single-spaced)

TITLE

(6 returns single-spaced)

MONTREAL, JULY 31, 2013

(2 returns single-spaced)
Copyright © 2006 (author’s name, year) All rights reserved or

author’s name, year of publication
APPENDIX IV

EXAMPLE: TITLE PAGE – MASTER’S WITH PROJECT

ÉCOLE DE TECHNOLOGIE SUPÉRIEURE
UNIVERSITÉ DU QUÉBEC

(6 returns single-spaced)

PROJECT PRESENTED TO
ÉCOLE DE TECHNOLOGIE SUPÉRIEURE

(6 returns single-spaced)

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR
A MASTER’S DEGREE WITH PROJECT IN ELECTRICAL ENGINEERING
M.Eng.

(6 returns single-spaced)

BY
First name LAST NAME

(6 returns single-spaced)

TITLE

(6 returns single-spaced)

MONTREAL, JULY 31, 2013

(2 returns single-spaced)

Copyright © 2006 (author’s name, year) All rights reserved or

author’s name, year of publication
APPENDIX V

EXAMPLE: TITLE PAGE – Ph.D THESIS

ÉCOLE DE TECHNOLOGIE SUPÉRIEURE
UNIVERSITÉ DU QUÉBEC

(6 returns single-spaced)

THESIS PRESENTED TO
ÉCOLE DE TECHNOLOGIE SUPÉRIEURE

(6 returns single-spaced)

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR
THE DEGREE OF DOCTOR OF PHILOSOPHY
Ph.D.

(6 returns single-spaced)

BY
First name LAST NAME

(6 returns single-spaced)

TITLE

(6 returns single-spaced)

MONTREAL, JULY 31, 2013
(2 returns single-spaced)
Copyright © 2006 (author’s name, year) All rights reserved or

[CC BY-NC 4.0 icon]
APPENDIX VI

EXAMPLE: TITLE PAGE – MANUSCRIPT-BASED Ph.D THESIS

ÉCOLE DE TECHNOLOGIE SUPÉRIEURE
UNIVERSITÉ DU QUÉBEC

(6 returns single-spaced)

MANUSCRIPT-BASED THESIS PRESENTED TO
ÉCOLE DE TECHNOLOGIE SUPÉRIEURE

(6 returns single-spaced)

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF DOCTOR OF PHILOSOPHY
Ph.D.

(6 returns single-spaced)

BY
First name LAST NAME

(6 returns single-spaced)

TITLE

(6 returns single-spaced)

MONTREAL, JULY 31, 2013

Copyright © 2006 (author’s name, year) All rights reserved or

author’s name, year of publication
APPENDIX VII

EXAMPLE: TITLE PAGE – PhD. THESIS IN CO-TUTORSHIP

ÉCOLE DE TECHNOLOGIE SUPÉRIEURE
UNIVERSITÉ DU QUÉBEC

(6 returns single-spaced)

Ph.D. THESIS PRESENTED TO
ÉCOLE DE TECHNOLOGIE SUPÉRIEURE
AND
XXXX UNIVERSITY
(CO-TUTORSHIP)

(6 returns single-spaced)

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF DOCTOR OF PHILOSOPHY
Ph.D.

(2 returns single-spaced)
CO-TUTORSHIP FRANCE-QUÉBEC

(5 returns single-spaced)

BY
First name LAST NAME

(6 returns single-spaced)

TITLE

(6 returns single-spaced)

MONTREAL, JULY 31, 2013
(2 returns single-spaced)
Copyright © 2006 (author’s name, year) All rights reserved or

author’s name, year of publication
APPENDIX VIII

EXAMPLE: BOARD OF EXAMINERS

THIS THESIS HAS BEEN EVALUATED
(2 returns single-spaced)
BY THE FOLLOWING BOARD OF EXAMINERS

(7 returns single-spaced)

Mr. Robert Leconte, Thesis Supervisor
Department of Construction Engineering, École de technologie supérieure

(3 returns single-spaced)

Mr. Gabriel Assaf, Thesis Co-supervisor
Department of Construction Engineering, École de technologie supérieure

(3 returns single-spaced)

Mr. François Brissette, Chair, Board of Examiners
Department of Construction Engineering, École de technologie supérieure

(3 returns single-spaced)

Mr. Guy Félio, Project Manager
National Technical Guide for Municipal Infrastructure
Institute for Research in Construction

(3 returns single-spaced)

Mr. Michalis Pehlivanidis, Structural Evaluation Manager
Ministère des Transports – Highway Laboratory

(7 returns single-spaced)

THIS THESIS WAS PRESENTED AND DEFENDED
(2 returns single-spaced)
IN THE PRESENCE OF A BOARD OF EXAMINERS AND THE PUBLIC
(2 returns single-spaced)
ON JULY 31, 2013
(2 returns single-spaced)
AT ÉCOLE DE TECHNOLOGIE SUPÉRIEURE
APPENDIX IX

EXAMPLE: RÉSUMÉ

ÉTUDE DE FAISABILITÉ TECHNIQUE PORTANT SUR L'AJOUT D’UNE LIGNE DE PRODUCTION

(2 returns single-spaced)
Daniel VACHON

(2 returns single-spaced)
RÉSUMÉ

(2 returns single-spaced)
Cette étude de faisabilité technique portant sur l'ajout d'une ligne de production à l'usine de fabrication de panneaux démontre que...

(3 returns at the end of the text)
Mots-clés : entretien, évaluation, logiciel, simulation, usager
APPENDIX X

EXAMPLE: ABSTRACT

LOSSLESS REGION OF INTEREST COMPRESSION OF MEDICAL IMAGES USING WAVELETS

(2 returns single-spaced)
Monsef MEKOUAR

(2 returns single-spaced)
ABSTRACT

(2 returns single-spaced)
Some images contain regions that are more important than others. Compression methods that are capable of delivering higher reconstruction quality…

(3 returns at the end of the text)

Keywords: maintenance, evaluation, software, simulation, user
APPENDIX XI

EXAMPLE: TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTRODUCTION</td>
</tr>
<tr>
<td>CHAPTER 1 TITLE OF CHAPTER</td>
</tr>
<tr>
<td>1.1 First sub-division</td>
</tr>
<tr>
<td>1.1.1 Second sub-division</td>
</tr>
<tr>
<td>CHAPTER 2 TITLE OF CHAPTER</td>
</tr>
<tr>
<td>2.1 First sub-division</td>
</tr>
<tr>
<td>2.1.1 Second sub-division</td>
</tr>
<tr>
<td>CONCLUSION</td>
</tr>
<tr>
<td>APPENDIX I APPENDIX TITLE</td>
</tr>
<tr>
<td>APPENDIX II APPENDIX TITLE</td>
</tr>
<tr>
<td>LIST OF REFERENCES</td>
</tr>
</tbody>
</table>
### APPENDIX XII

**EXAMPLE: LIST OF TABLES**

(2 returns single-spaced)

<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table 1.1†</td>
<td>Summary of ISBSG studies dealing with missing values and outliers</td>
<td>14</td>
</tr>
<tr>
<td>Table 4.1</td>
<td>ISBG data fields used</td>
<td>44</td>
</tr>
<tr>
<td>Table 4.2</td>
<td>Number of projects with effort by phase in ISBSG R9</td>
<td>45</td>
</tr>
<tr>
<td>Table 4.3</td>
<td>Descriptive Statistics for Grubbs’ test on Total Effort (N=106)</td>
<td>48</td>
</tr>
</tbody>
</table>

**Important:** When a document contains fewer than four tables, they must be presented at the end of the table of contents, after the list of references or the index.

---

† Source of the example: Abdala Bala (2013, p. XVII)
### APPENDIX XIII

**EXAMPLE: LIST OF FIGURES**

(2 returns single-spaced)  

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>Classification for watermark attacks</td>
<td>4</td>
</tr>
<tr>
<td>1.2</td>
<td>Optimization candidate solutions representation in traditional methods</td>
<td>12</td>
</tr>
<tr>
<td>1.3</td>
<td>Pareto Optimal Front (POF) and non-dominated solutions for multi-population optimization</td>
<td>18</td>
</tr>
<tr>
<td>1.4</td>
<td>Intelligent watermarking for stream of images as single dynamic optimization problem</td>
<td>22</td>
</tr>
<tr>
<td>2.1</td>
<td>Coevolutionary model of three species shown from the perspective of each in turn</td>
<td>27</td>
</tr>
</tbody>
</table>

(2 returns single-spaced)

**Important:** When a document contains **fewer than four figures**, they must be presented at the end of the table of contents, after the list of references or the index.

---

\(^1\) Source of the example: Bassem Guendy (2013, p. XV)
APPENDIX XIV

EXAMPLE: LIST OF ABBREVIATIONS AND ACRONYMS

(2 returns single-spaced)

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>COSMIC1</td>
<td>Common Software Measurement International Consortium</td>
</tr>
<tr>
<td>EB</td>
<td>Effort Build</td>
</tr>
<tr>
<td>EI</td>
<td>Effort Implement</td>
</tr>
<tr>
<td>EP</td>
<td>Effort Plan</td>
</tr>
<tr>
<td>Eq</td>
<td>Equation</td>
</tr>
<tr>
<td>ES</td>
<td>Effort Specify</td>
</tr>
</tbody>
</table>

(2 returns single-spaced)

1 Source of the example: Abdala Bala (2013, p. XIX)
APPENDIX XV

EXAMPLE: LIST OF SYMBOLS AND UNITS OF MEASUREMENT
(INTERNATIONAL SYSTEM)

(2 returns single-spaced)

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>ampere</td>
</tr>
<tr>
<td>C</td>
<td>coulomb</td>
</tr>
<tr>
<td>cd</td>
<td>candela</td>
</tr>
<tr>
<td>Gy</td>
<td>gray</td>
</tr>
<tr>
<td>H</td>
<td>Henry</td>
</tr>
<tr>
<td>K</td>
<td>Kelvin</td>
</tr>
<tr>
<td>kg</td>
<td>kilogram</td>
</tr>
<tr>
<td>m</td>
<td>metre</td>
</tr>
<tr>
<td>mol</td>
<td>mole</td>
</tr>
<tr>
<td>rad</td>
<td>radian</td>
</tr>
<tr>
<td>S</td>
<td>siemens</td>
</tr>
<tr>
<td>s</td>
<td>second</td>
</tr>
<tr>
<td>sr</td>
<td>steradian</td>
</tr>
<tr>
<td>V</td>
<td>volt</td>
</tr>
</tbody>
</table>

Source of the example:
APPENDIX XVI

EXAMPLE: THESIS BY PUBLICATION

TABLE OF CONTENTS
(2 returns single-spaced)

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>0.1 First sub-division</td>
<td>8</td>
</tr>
<tr>
<td>0.1.1 Second sub-division</td>
<td>12</td>
</tr>
<tr>
<td>(2 returns single-spaced)</td>
<td></td>
</tr>
<tr>
<td>CHAPTER 1 LITERATURE REVIEW</td>
<td>15</td>
</tr>
<tr>
<td>1.1 First sub-division</td>
<td>16</td>
</tr>
<tr>
<td>1.1.1 Second sub-division</td>
<td>17</td>
</tr>
<tr>
<td>(2 returns single-spaced)</td>
<td></td>
</tr>
<tr>
<td>CHAPTER 2 RESEARCH APPROACH AND ORGANIZATION OF DOCUMENT</td>
<td>20</td>
</tr>
<tr>
<td>2.1 First sub-division</td>
<td>21</td>
</tr>
<tr>
<td>2.1.1 Second sub-division</td>
<td>22</td>
</tr>
<tr>
<td>(2 returns single-spaced)</td>
<td></td>
</tr>
<tr>
<td>CHAPTER 3 TITLE OF CHAPTER</td>
<td>30</td>
</tr>
<tr>
<td>3.1 First sub-division</td>
<td>31</td>
</tr>
<tr>
<td>3.1.1 Second sub-division</td>
<td>33</td>
</tr>
<tr>
<td>(2 returns single-spaced)</td>
<td></td>
</tr>
<tr>
<td>CHAPTER 4 TITLE OF CHAPTER</td>
<td>40</td>
</tr>
<tr>
<td>4.1 First sub-division</td>
<td>41</td>
</tr>
<tr>
<td>4.1.1 Second sub-division</td>
<td>43</td>
</tr>
<tr>
<td>(2 returns single-spaced)</td>
<td></td>
</tr>
<tr>
<td>CHAPTER 5 DISCUSSION OF RESULTS</td>
<td>50</td>
</tr>
<tr>
<td>5.1 First sub-division</td>
<td>51</td>
</tr>
<tr>
<td>5.1.1 Second sub-division</td>
<td>53</td>
</tr>
<tr>
<td>(2 returns single-spaced)</td>
<td></td>
</tr>
<tr>
<td>CONCLUSION AND RECOMMENDATIONS</td>
<td>60</td>
</tr>
<tr>
<td>(2 returns single-spaced)</td>
<td></td>
</tr>
<tr>
<td>LIST OF REFERENCES</td>
<td>75</td>
</tr>
</tbody>
</table>

Note: page has been numbered to facilitate reference.
APPENDIX XVII

EXAMPLE: THESIS BY PUBLICATION

CHAPTER 2

A QUASI-BINGHAM MODEL FOR PREDICTING ELECTRORHEOLOGICAL FLUID BEHAVIOUR

Yulan Sun, Marc Thomas and Jacques Manounave,
Department of Mechanical Engineering, École de Technologie Supérieure,
1100 Notre-Dame West, Montreal, Quebec, (H3C 1K3) Canada

This paper has been submitted for publication in *Measurement Science and Technology.*

---

¹ Source of the example: Yulan Sun (2009, p. 24)
# APPENDIX XVIII

## EXAMPLE: TABLE

Table 1.1 Survey for different EC-based methods for watermarking grayscale images

*I return using 1.5 spacing*

<table>
<thead>
<tr>
<th>Problem</th>
<th>Method</th>
<th>Formulation</th>
<th>Metrics</th>
<th>Vars.</th>
<th>Contribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOOP</td>
<td>GA</td>
<td>Single</td>
<td>PSNR, PSNR, PSNR</td>
<td>DCT</td>
<td>(Chen and Lin, 2007)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>NSR</td>
<td></td>
<td>(Wang et al., 2001)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>PSNR + NC</td>
<td>DCT</td>
<td>(Ji et al., 2006)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>DCT + DIF</td>
<td>DCT</td>
<td>(Shih and Wu, 2005)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Aggregated</td>
<td>PSNR + BCR</td>
<td>DWT</td>
<td>(Wei et al., 2006)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>PSNR + NC</td>
<td></td>
<td>(Wu and Shih, 2006)</td>
</tr>
<tr>
<td>PSO</td>
<td>GA</td>
<td>Single</td>
<td>PSNR, PSNR</td>
<td>DCT</td>
<td>(Areef et al., 2005)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(Shieh et al., 2004)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(Huang et al., 2007)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(Kumsawat et al., 2005)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Aggregated</td>
<td>PSNR + AR</td>
<td>DMT</td>
<td>(Wang et al., 2007)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>PSNR + NC</td>
<td></td>
<td>(Zhu and Liu, 2009)</td>
</tr>
<tr>
<td>MOOP</td>
<td>GA+PSO</td>
<td>Aggregated</td>
<td>PSNR + NC</td>
<td>DWT</td>
<td>(Lee et al., 2008)</td>
</tr>
<tr>
<td></td>
<td>MOGA</td>
<td>Multi-Objective</td>
<td>PSNR + NC</td>
<td>DCT</td>
<td>(Diaz and Romay, 2005)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(Sal et al., 2006)</td>
</tr>
</tbody>
</table>

---

1 Source of the example: Bassem Guendy (2013, p. 22)
APPENDIX XIX

EXAMPLE: FIGURE AND LEGEND (1)

Figures are considered to be complete documents in themselves and must be placed in the right place in the text. Figures are usually introduced by a short descriptive or explanatory text (see Figure 2.7).

Figure 2.7 Proposed BMR framework including BCGA for full optimization for streams of high-resolution facial images watermarking¹

¹ Source of the example: Bassem Guendy (2013, p. 5)
APPENDIX XX

EXAMPLE: FIGURE AND LEGEND (2)

Figure 4.4 Different types of Dynamic MultiObjective Optimization Problems (DMOOP)\(^1\)
Taken from Farina et al. (2004, p. 59)

\(^1\) Source of the example: Bassem Guendy (2013, p. 25)
Algorithm 2.1 Global Validation Strategy
Adapted from Radtke et al., (2006, p. X)

Global Validation Strategy – adapted from (Radtke et al., 2006)

**Input:** Empty auxiliary archive S

**Output:** Auxiliary archive S with the best evolved individual in the Validation set for each generation

1. Initialize Auxiliary archive $S = \emptyset$;
2. General Initial population
3. Fitness measure:
   4. Fitness evaluation (VAL dataset);
   5. Rank Individuals
6. Update Auxiliary archive $S$
7. **while** ~non_stop
   8. Generate evolved individuals: evolved(gen)
   9. Fitness evaluation;
   10. Rank Individuals;
11. **Update Auxiliary archive S:**
   12. Fitness evaluation (VAL dataset);
   13. Rank individuals;
   14. Update auxiliary $S$ with best individual between individual form generation $g$ and generation $(g-1)$;
15. **end-Update**
16. $g = g + 1$;
17. Verify stop_criterion;
18. **end - while**
BIBLIOGRAPHY


Sun, Yulan. 2009. « Développement de fluides électroréhologiques et applications en contrôle semi-actif des vibrations ». En ligne. 