

hecthese : a document class for dissertations and theses at HEC Montréal

Benoit Hamel, Library, HEC Montréal *

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Abstract

The `hecthese` class was designed to allow graduate students at HEC Montréal to write their master’s thesis or doctoral dissertation using the \LaTeX document preparation system while complying with the presentation standards in effect at the School. As such, the class fully meets the presentation standards set out in the *Guide pour la rédaction d’un travail universitaire de 1er, 2e et 3e cycles* [4], hereinafter referred to as the *Writing Guide*.

Thanks to this class, students will have the choice of writing their master’s thesis or doctoral dissertation either in the classic monograph form—that is, as a succession of chapters—or as a collection of articles. This documentation serves as a step-by-step guide covering all aspects of the writing process, from getting started with the template to the final compilation of the document, including a technical reference for the class features.

1 User Guide

1.1 Design Decisions

This third version of the class is the first major revision since 2023. It is also the first to make full use of the potential of the `memoir` class [20] from which it is derived ¹.

The source code has therefore been reviewed, simplified and completely rewritten from scratch. The following is a list of the major changes that distinguish this version of `hecthese` from the previous one.

*This documentation covers `hecthese` version v3.0, 2026/04/20

¹That is, it is the first time the author has taken the effort to read the 625 pages of its documentation.

1.1.1 Removal of French Versions of Commands and Environments

The French commands and environments were nothing more than empty wrappers that called their English equivalents. Given that all other standard L^AT_EX code and packages are in English, and given that the primary goal of this new version of the class is to reduce the code as much as possible and to facilitate its maintenance, the French commands and environments have been removed.

1.1.2 Customizable Doctoral Jury Member List

The first versions of `hecthes` included a doctoral jury identification page that was fixed. All members listed in the class definition **had to** appear there and **had to** be listed in a predetermined order.

Over the years, there have been several requests to remove or add jury members (a co-director, for example). Since the jury identification page could only be modified within the `.cls` class definition file, it became necessary to add a customization feature in the templates themselves in the new version, hence the design of the new command `\phdjurylist`. You will find all the details of this new feature in [subsubsection 1.3.4](#).

1.1.3 Optimized Integration with the `memoir` Document Class

As mentioned at the beginning of [subsection 1.1](#), the primary goal of this redesign was to make full use of the features provided by the `memoir` class, in contrast to previous versions which merely loaded it without really taking advantage of it.

For example, the page layout, title pages, abstracts and dedication are now handled using commands and environments from the `memoir` class. Before adding anything to this new version, the overriding question that was always asked was “does a `memoir` class feature exist that can do this?” If so, it was used.

1.1.4 Definitive Adoption of `biblatex` for Bibliographies

The [version 2.0](#) of `hecthes` introduced the `biblatex` package and the `biber` compiler as default bibliography managers in order to address an incompatibility between the `chapterbib` package and the `memoir` class. This incompatibility affected users writing an article-based thesis or dissertation.

The present version perpetuates this change and confirms `biblatex` and `biber` as the sole bibliography managers for all document types, not only for the reason mentioned in the previous paragraph, but also for the following reasons:

- `biblatex` and `biber` offer more advanced bibliographic features than `natbib` and `bibtex`, including the ability to have more than one bibliography per document (a requirement for article-based theses and dissertations), full Unicode character support (including accented characters), a richer data model for references, and finer-grained citation commands [6]. `biblatex` is also [actively maintained](#).

- `bibtex`, on the other hand, offers a more limited data model for references, supports accented characters only through \LaTeX commands, does not support multiple bibliographies [15], and has not been developed since 1988, apart from a few minor revisions [18].
- Users writing their thesis or dissertation with articles are likely to have old `.bib` reference files written for `bibtex` that they will need to reuse. In such cases, know that `biblatex` is 99.9% compatible with `bibtex` [16] and that section 2.3 *Usage Notes* of the `biblatex` documentation explains in detail how it handles the few rare cases where there are differences [6]. So, with few exceptions, the transition to `biblatex` will be completely transparent and problem-free.

1.1.5 Introduction of `lualatex` as the Default Compiler

Since 2024, the `lualatex` compilation engine has become the recommended engine for all new documents [21]. It replaces `pdflatex` for many users.

Similar to `biblatex` and `biber`, using `lualatex` gives access to modern features:

- full Unicode character support;
- full support for *OpenType* and *TrueType* fonts;
- the ability to embed Lua scripts directly in projects;
- access to universal accessibility features such as PDF/UA-2, etc. [7]

Several software projects are considering switching to `lualatex` as their default compiler, such as [Quarto](#) and [TinyTeX](#). Overleaf has also taken note of this recommendation and made accessible PDFs one of its key developments of 2025 [9]. In light of this evolution in the \LaTeX world, support for `lualatex` has been added to `hecthesse`.

However, since this version of the class is the first to support this compiler, alternative features have been put in place to preserve support for `pdflatex`, notably through the `legacy` option.

If you are using `xelatex`, be aware that `hecthesse` is compatible with this engine to the same extent as it is with `lualatex`.

1.1.6 `hecthesse` in a World of Artificial Intelligence

When the previous version of this class was published, ChatGPT had itself been publicly available for only eleven months [19]. Since then, artificial intelligence has infiltrated everything, and the thinking process behind the development of the code and documentation of the present version of the class has not been immune to this. Everything has been reformatted to make it easier not only for a human to navigate, but also for an artificial intelligence model to reference.² To this end,

²Rest assured, however, that everything was coded very naturally with two hands and a human brain.

```
\documentclass{memoir}

\begin{document}
  \memversion
\end{document}
```

Figure 1: Sample file for testing the `memoir` class version

a [NotebookLM](#) notebook has been designed to facilitate the use of `hecthese`. It contains documentation for the main packages used by the class as well as various notes. Its purpose is to serve as technical support. Use it as is, or create a similar tool that better targets your specific needs!

1.2 Getting Started

In this section, you will learn how to obtain the class and template files and how to install them on your workstation or copy them into Overleaf. You will also be guided on which template to choose from among the options available, which class options to configure based on your particular needs, and how to perform a first compilation of your document to ensure that everything works correctly.

1.2.1 Checking Your \TeX Version

This version of `hecthese` was developed and tested using the 2025 version of [TeX Live](#). Before working with the class, make sure you have at least version 2025 of the \TeX engine installed on your computer, or that Overleaf has been configured to use this version of the engine [10]. The developer of this class performs an annual review of \TeX engines and packages and ensures that `hecthese` works correctly with the latest available versions. You should therefore not encounter any problems if you use the templates, provided that flying cars have not arrived or that humans have not yet colonized the Moon.

1.2.2 Checking your `memoir` class version

Depending on when you’ve installed TeX Live 2025 on your computer, you may not have the same version of the `memoir` class as the one that was used to develop `hecthese`. The one that was used to code the actual version of `hecthese` was version 2025/10/02 v3.8.4 of the `memoir` class, which introduced the `\settitlingpagenumbering` command. This command is used in the title pages’ formatting. If you have a previous version of the `memoir` class, `hecthese` will raise an error on compilation.

To check your version of the `memoir` class, create a simple `.tex` file configured with `\documentclass{memoir}`. Write the `\memversion` command inside the document body and compile your document. You’ll see the version of the `memoir` class in the output. [Figure 1](#) shows an example of a simple test file.

WARNING!

Overleaf's current memoir class version in its TeX Live 2025 engine is the 2025/03/10 v3.8.3b version. It is when the `hecthes` templates were tested in the application that this breaking element was discovered. Version 2025/11/04 v3.8.4b will be available in the TeX Live 2026 engine, which should be released by Summer's end of 2026, based on [Overleaf previous TeX Live releases](#). Until then, you can enroll in the [Overleaf Labs program](#) to access the experimental version of TeX Live 2026[11].

1.2.3 Downloading the Source Files

The source files for the `hecthes` class are available in two different places, depending on your needs.

If you want to install a local copy of the template from the source code, please go to the official repository page at <https://ctan.org/pkg/hecthes>. You will find the bilingual documentation as well as a `.zip` archive to download. Once the archive has been downloaded to your computer, extract its contents into a working directory, open a terminal from that same directory and run the following command:

```
latex hecthes-en.ins
```

All the files needed to write your thesis or dissertation will be generated. [Table 1](#) lists all the files along with the document types they are associated with.

If you want to work in the Overleaf application, please go to <https://www.overleaf.com/read/njbvvtmytqk>. There you will find a pre-generated template that you can copy into your Overleaf projects and use immediately.

Please note that you can also download the pre-generated Overleaf template to your computer for immediate use with your personal L^AT_EX editor.

1.2.4 Choosing Your Template

The `hecthes` class generates four different `.tex` templates, as you can see in [Table 1](#). They all begin with the `template-` prefix. The choice of the right template depends on 1) your degree level and 2) the type of thesis or dissertation you are writing.

If you are writing a master's thesis, choose one of the two `template-msc` files. **If you are writing a doctoral dissertation**, choose one of the two `template-phd` files.

If you are writing a classic monograph thesis or dissertation—that is, with a succession of chapters—choose the file ending in `-mono.tex` corresponding to your degree level.

If you are writing a thesis or dissertation by articles, choose the file ending in `-articles.tex` corresponding to your degree level.

File	Associated document type			
	M.Sc.	Ph.D.	mono	articles
template-msc-mono.tex	✓		✓	
template-msc-articles.tex	✓			✓
template-phd-mono.tex		✓	✓	
template-phd-articles.tex		✓		✓
french-abstract.tex	✓	✓	✓	✓
english-abstract.tex	✓	✓	✓	✓
acronyms-list.tex	✓	✓	✓	✓
dedication.tex		✓	✓	✓
acknowledgements.tex	✓	✓	✓	✓
foreword.tex	✓	✓	✓	✓
introduction.tex	✓	✓	✓	✓
theoretical-framework.tex		✓		✓
literature-review.tex	✓		✓	✓
chapter-1.tex	✓	✓	✓	
chapter-2.tex	✓	✓	✓	
chapter-3.tex	✓	✓	✓	
article-1.tex	✓	✓		✓
article-2.tex	✓	✓		✓
article-3.tex	✓	✓		✓
conclusion.tex	✓	✓	✓	✓
appendix.tex	✓	✓	✓	✓

Table 1: List of generated files when installing the `hectheses` class

```
% Classic master's thesis
\documentclass[msc,monograph,french,english]{hecthese}
```

```
% Article-based master's thesis
\documentclass[msc,articles,french,english]{hecthese}
```

```
% Classic doctoral dissertation
\documentclass[phd,monograph,french,english]{hecthese}
```

```
% Article-based doctoral dissertation
\documentclass[phd,articles,french,english]{hecthese}
```

Figure 2: Default class options defined in the templates

Once you have chosen your template, you can delete the other three, as you will not need them.

The template file only contains the skeleton of your document. You will not write your thesis or dissertation in this file, but in all the other files that were generated along with the template.

What does the template file contain then? As in any \LaTeX document, you will find in the file's preamble the complete document configuration, including the loading of packages and their configuration commands. You will also find a block of metadata related to your thesis or dissertation. The following subsections describe in detail how to configure the preamble.

In the body of the template file, between the `\begin{document}` and `\end{document}` commands, you will find a series of `\include` commands pointing to every other file of your thesis or dissertation, as well as a few other configuration commands. **You must not modify this section under any circumstances**, except to remove optional portions that you are not using³ or to add chapters or articles to your document.

1.2.5 Class Options

Each template generated by the `hecthese` class comes with its appropriate class options. [Figure 2](#) shows each predefined configuration. You will therefore not need to worry about these options. `hecthese` also defines a few additional options. These, like the ones predefined in the templates, are explained below.

`msc` (*opt*) The `msc` and `phd` options are self-explanatory. They correspond to your degree level. These two options govern the production of the title pages. If you are at the master's level, a single title page with its own formatting is sufficient. If you are

³Appendices B and C of the *Writing Guide* indicate which parts of theses and dissertations are mandatory and which are optional [4].

at the doctoral level, you need not only a title page but also a jury identification page. These options tell the compiler which title page configuration to use.

monograph (*opt*) The **monograph** option is used when you are writing a classic monograph thesis or dissertation, with a succession of chapters.

articles (*opt*) The **articles** option is used when you are writing an article-based thesis or dissertation. This option manages the titles of the various introductions, conclusions and bibliographies. In an article-based thesis or dissertation, you will need to write a general introduction and a general conclusion for the entire document, and you will also need to write an introduction and a conclusion in each of your articles. Each of your articles will need its own bibliography, and your thesis or dissertation will also need to include a general bibliography covering the references from your articles as well as those from the other parts of your document. The **articles** option therefore differentiates between the various introductions, conclusions and bibliographies.

WARNING!

These four options are not interchangeable within a template! Each type of thesis or dissertation comes with its own specific sections! If you change the type of thesis or dissertation midway through, you will need to use the template file corresponding to the other type!

(Do not worry about losing your work, however, since it will be found in all the other files provided by the class.)

french (*opt*) You have the choice of writing your thesis or dissertation in French or in English. The main language of your document will be your “default language.” However, you will need to write at minimum one abstract in French and one in English. You will likely cite authors in a language other than the one you are writing in. This is why both **english** and **french** appear in the class options, with the last language in the list being the document’s default language. By telling L^AT_EX that your document is multilingual, you can use commands such as `\selectlanguage{<other language>}` to ask the compiler to use the typographic conventions of that other language instead of those of the default language. For more information about this feature, please consult the **babel** package documentation [2].

10pt (*opt*) In subsection 5.1 *Présentation graphique et pagination* of the *Writing Guide*, it is stated that “[the] character size generally varies between 10 and 12 points [...]”
11pt (*opt*) [4]. You may therefore choose between the **10pt**, **11pt** and **12pt** options for the font size of your thesis or dissertation. The default font size of the **memoir** class, and therefore of **hecthes**, is 10 points. If you do not specify a font size in the class options, the default size will prevail.

legacy (*opt*) As mentioned in [subsubsection 1.1.5](#), this version of **hecthes** is the first to introduce support for the **lualatex** compiler. Within the class, support for **lualatex** is limited to the configuration of encoding and fonts. If, for any reason, you prefer to use a more traditional compiler such as **pdflatex** ⁴, include the **legacy** option in the class options and configurations specific to **pdflatex** will replace those for

⁴This might apply to users writing an article-based thesis or dissertation from older L^AT_EX documents, for example.

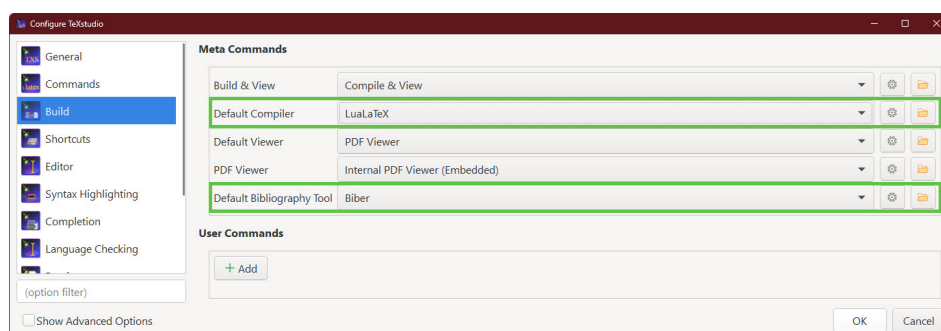


Figure 3: Configuring lualatex and biber in TeXstudio

lualatex.

1.2.6 Compilation Configuration

Now that you have all the `.tex` files in hand, have chosen your template and all the basic class options, all that remains is to configure the compilation of your document in your application. Once this is done, your setup of the `hecthes` template will be complete and you can begin writing your thesis or dissertation.

The level of configuration required depends on the application (Overleaf or a local editor) and the compiler (lualatex or pdflatex) you wish to use. Each level will be detailed below, from simplest to most “complex.” To simplify understanding, from this point onward, when we refer to a local L^AT_EX editor, we will always mean the TeXstudio software, which was used to program and write the documentation for `hecthes`.⁵ Once the configuration is done, all you need to do is compile your document.

Writing in Overleaf with the legacy class option. This combination requires no configuration! It uses the `pdflatex` compiler, which is configured by default in the application. As for the `biber` bibliography compiler, used by `biblatex` package, it is called automatically by Overleaf without any intervention on your part.

Writing in Overleaf without the legacy class option. This option requires you to configure `lualatex` as the default compiler. You will find all the detailed instructions in the Overleaf documentation [10], for which you will find the direct link in the bibliography.

Writing in TeXstudio with the legacy class option. Unlike Overleaf, TeXstudio does not launch the `biber` compiler on demand—it must be configured explicitly. In the editor, choose the *Configure TeXstudio...* option from the *Options* menu. Then choose the *Build* section of the configuration window and, with the

⁵At the time of writing the documentation, the version of TeXstudio was 4.9.

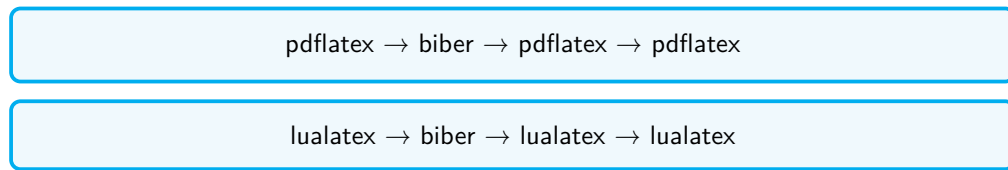


Figure 4: Compilation sequence for a \LaTeX document

Show Advanced Options checkbox unchecked, choose `biber` as the default bibliography engine (see [Figure 3](#) for a visual illustration of this explanation).

Writing in TeXstudio without the legacy class option. This option requires you to configure not only `biber` as mentioned in the previous paragraph, but also to set the default compilation to `LuaLaTeX`. The change is made in the same place as for `biber`, as shown in [Figure 3](#).

1.2.7 Compiling Your Document

To launch the compilation of your document, press the *Recompile* button in Overleaf or the *Build & View (F5)* button in TeXstudio.

Under the hood, the application will perform a series of compilations that will generate your complete document. The number of compilations and their sequence are the same whether you use the `lualatex` or `pdflatex` compiler. Only the compiler differs, as shown in [Figure 4](#). If everything goes well, a `.pdf` file will be generated without error messages. You are now ready to begin writing your thesis or dissertation!

1.3 Writing Your Thesis or Dissertation

In this section, you will be guided step by step through each part of the template and each other file in your document so that you can work with the `hecthesse` class with full understanding.

1.3.1 Template File: Loading Packages

The `hecthesse` class comes with more than fifty pre-loaded packages, including the forty or so packages loaded or emulated by the `memoir` class ⁶ and those loaded by `hecthesse` itself.

The class definition file `hecthesse.cls` loads the following packages: `amsmath`, `inputenc`⁷, `fontenc`⁷, `fontspec`⁸, `unicode-math`⁸, `babel`, `csquotes`, `calc` and `enumitem`. `biblatex` and `hyperref` are loaded in the template, where you will find this list of

⁶You can find the complete list of these packages in the [NotebookLM](#) notebook.

⁷Only if you use the `legacy` option.

⁸Only if you use `lualatex`.

packages reproduced in full in a comment. Any additional packages you need that are not already loaded by the class must be loaded after the comment.

1.3.2 Template File: Bibliography Configuration

In this section of the preamble, `biblatex` package is loaded with all the options and configurations necessary for the bibliography to conform to the presentation standards of the *Writing Guide*. The bibliographic style used is that of APA, from which the HEC Montréal bibliographic style is based[3]. The citation format configured is the *Author-year* format, and the bibliography sort order is *author name, year, and title*. **You must not modify these configurations under any circumstances!**

`\addbibresource` The only exception to this rule is the `\addbibresource{}` command, which contains a default name for your bibliographic references file. You may replace the name `biblio.bib` with any other name that your references file will have.

All other commands in the bibliography configuration block are layout commands that must also be left as they are.

1.3.3 Template File: Hyperlink Configuration

`\hypersetup` This is where the `hyperref` package is loaded, the last package in the list that must be loaded. The `\hypersetup` command follows immediately, with the only parameters being the activation of black hyperlinks throughout the document, in order to replace the default behavior of `hyperref`, which is to surround all links in a document with a red box.

1.3.4 Template File: Thesis or Dissertation Metadata

In the last part of the preamble, you will find a series of commands used to produce the title page of your thesis or dissertation and the jury identification page if you are at the doctoral level. This section explains all of these commands and their options. You can also refer to figures 5, 6 and 7 to better understand and locate them on the title pages.

`\title` The six commands shown in the margin manage the metadata that is common to all document types. `\title`, `\author` and `\date` are the standard \LaTeX commands and need no further introduction.

`\date` The only particularity concerns the date and is noted in the command itself:
`\copyrightyear` you must use the *Month Year* format (“March 2026”, for example). This date
`\specialization` represents the month and year of the final submission of your document.

The `\thesissubtitle` command represents the subtitle of your thesis or dissertation. The subtitle is optional metadata, so if your document does not have one, remove the value of the `{\subitle}` argument from the command and `hecthes` will format the title page accordingly.

The `\copyrightyear` command will display the year of the final submission of your document at the bottom of the title page, preceded by the © symbol.

HEC MONTRÉAL

\thesissubtitle
\title De l'importance de rédiger une bonne documentation : guide pas à pas pour les
non-initiés

par

\author Benoît Hamel

\specialization Sciences de la gestion
(Spécialisation Méthodologie appliquée)

*Mémoire présenté en vue de l'obtention
du grade de maîtrise ès sciences
(M. Sc.)*

\mscdirector Georgette Latrimouille
HEC Montréal
Directrice de recherche

\date
Avril 2026
© Benoit Hamel, 2026 **\copyrightyear**

Figure 5: Master's thesis title page

HEC MONTRÉAL
École affiliée à l'Université de Montréal

\title

De l'importance de rédiger une bonne documentation :
guide pas à pas pour les non-initiés

\thesissubtitle

par
Benoit Hamel

\author

Thèse présentée en vue de l'obtention du grade de Ph.D. en administration
(Spécialisation Méthodologie appliquée)

\specialization

Avril 2026

\date

© Benoit Hamel, 2026 **\copyrightyear**

Figure 6: Doctoral dissertation title page

HEC MONTRÉAL
École affiliée à l'Université de Montréal

Cette thèse intitulée :

\title
De l'importance de rédiger une bonne documentation
guide pas à pas pour les non-initiés

\thesissubtitle
Présentée par

\author Benoit Hamel

a été évaluée par un jury composé des personnes suivantes :

\phdpresidentrapporteur	Gonzague Gariépy HEC Montréal Président-rapporteur	\phdjurylist
\phddirector	Georgette Latrimouille HEC Montréal Directrice de recherche	
\phdcodirector	Gontrand Lavertu HEC Montréal Codirecteur de recherche	
\phdjurymember	Ginette De la Dauversière Collège classique Membre du jury	
\phdexternalexaminator	Rogatien Gélinas Université du Grand Nord Examineur externe	
\phddirectorrep	Herménégilde Sauvageon HEC Montréal Représentante du directeur de HEC Montréal	

Figure 7: Doctoral jury identification page

```

\phdjurylist{
\phdpresidentrapporteur[gender=F]{FirstName LastName}
\phddirector[gender=M]{FirstName LastName}
\phdcodirector[gender=M]{FirstName LastName}{affiliation}
\phdjurymember{FirstName LastName}{affiliation}
\phdexternalexaminator[gender=F]{FirstName LastName}{affiliation}
%% The last member of the list MUST HAVE the last=true option.
\phddirectorrep[gender=F,last=true]{FirstName LastName}
}

```

Figure 8: The code block for the `\phdjurylist` command as generated by the `hecthesse` class

As for the `\specialization` command, it represents the specialization of the program you are studying in (“Financial Engineering” or “Applied Economics”, for example).

`\mscdirector` If you are writing a master’s thesis, you will need to enter the name of your research supervisor in the `\mscdirector` command. The optional argument of the command, `[\langle gender \rangle]`, tells `hecthesse` the gender of the person concerned and the class will inflect their title accordingly. The two accepted values are F and M, and if the argument is not provided in the command, the masculine form will prevail.

`\phdpresidentrapporteur` If you are writing a doctoral dissertation, several people will be part of a jury that will oversee your evaluation. These people are the *président-rapporteur*, the research director, the research co-director, a jury member, an external examiner, and the representative of the HEC Montréal director.

`\phdexternalexaminator` For each of these people, you will need to enter their name as well as their gender, M or F, as an optional argument. The same mechanism as the `\mscdirector` command applies for the gender inflection of the person’s title.

The co-director, jury member and external examiner may be affiliated with an institution other than HEC Montréal. When this is the case, enter the name of the institution in the `\{\langle affiliation \rangle\}` argument following the person’s name and `hecthesse` will include it on the jury identification page. If one or more of these people are affiliated with HEC Montréal, remove the value from that same argument and the class will write “HEC Montréal” by default.

`\phdjurylist` All these commands are useless on their own, however, unless they are written inside the `\phdjurylist` command, which generates the member list on the jury identification page of the dissertation. As indicated in [subsubsection 1.1.2](#), this command is one of the major innovations of the present version of the `hecthesse` class. It is thanks to this command that the jury member list can be customized.

When the template and all its accompanying files are generated, the jury members are listed in a predetermined order and number. [Figure 8](#) shows the structure. If you need to make changes to this list, the “hierarchical” order must remain the same ⁹, but you may remove and/or add other members by removing or adding

⁹That is, the *président-rapporteur* must always be listed before the research director, and so

the appropriate command (such as adding a second `\phdcodirector` command below the first, for example).

last (*opt*) The final point to mention about the jury member list concerns the last person in the list. The command for this last person must absolutely include the `[last=true]` argument among its optional arguments.

Under the hood, `hecthes` vertically justifies the jury identification page by inserting `\vfill` commands between each element. By explicitly telling the class that a person is the last in the jury member list using the `last=true` argument, it will stop inserting `\vfill` commands and the page will be perfectly vertically justified.

1.3.5 French and English Abstracts

In your thesis or dissertation, you must write one abstract in French and one in English, regardless of which of these two languages is the main language of your document.

As indicated in appendices B and C of the *Writing Guide* [4], each of your abstracts must be between 150 and 250 words if you are at the master's level and between 350 and 500 words if you are at the doctoral level.

In addition, you must accompany your abstracts with a maximum of 10 keywords for a master's thesis and a maximum of 15 keywords for a doctoral dissertation.

abstract (*env.*) To do so, write your abstracts in the `abstract` environments in the `french-abstract.tex` and `english-abstract.tex` files. These environments come from the `memoir` class and have been formatted to meet the School's presentation standards.

As for your keywords, simply write them under the section of the same name, within the `abstract` environment.

1.3.6 List of Acronyms

description (*env.*) All acronyms and abbreviations that you will use in the course of your writing can be listed in the `acronym-list.tex` file. A standard `description` list environment is used for this purpose. The list is generated with a few example items and all you have to do is to replace them with your own.

labelwidth (*opt*) Once your list is complete, you can replace the `Your longest label` value in the `labelwidth` option of the environment with the longest abbreviation in your list. The list will then be perfectly aligned.

1.3.7 Acknowledgements and Dedication

In the `acknowledgements.tex` file, you have a place to thank all the people who helped you directly or indirectly in writing your thesis or dissertation: your re-

on.

search supervisor, your institution and its staff, the people and organizations who helped you in the field, and your loved ones [1].

And as noted in the book by Beaud, Gravier and Toledo, “be sober and concise”¹⁰.

\dedication Doctoral students also have another place to “dedicate their work to a cherished or respected person”¹⁰: the dedication. You may enter it in the **dedication.tex** file, inside the **\dedication** command.

This command is an adaptation of the **\epigraph** command from the **memoir** class, reformatted for the needs of **hecthes**. You simply write the few words of your dedication inside it.

signed (*opt*) We have repurposed the $\{\langle source \rangle\}$ argument of the **\epigraph** command, however, to make it a signature of the dissertation author. If you leave the **signed=true** option inside the **\dedication** command, your name will appear below the dedication. If, on the other hand, you choose the **signed=false** option, only the dedication will appear on the page.

1.3.8 Other Document Sections

All other parts of your thesis or dissertation that are not chapters or articles have no particular configuration other than a dedicated file for each section and a predefined title. You simply need to open each one and write its content. These sections include the introduction, the conclusion, the foreword, the theoretical framework of the dissertation, the literature review of the master’s thesis, and the appendices.

1.3.9 Chapters or Articles: Which to Choose?

If you are still unsure whether to choose a monograph thesis or dissertation or an article-based one, ask yourself the following question: will you first write articles that will be published in journals before compiling them into your thesis or dissertation? If so, choose the article-based model. Otherwise, choose the chapter-based model.

Writing chapters. This option is the simplest. You open each **chapter-n.tex** file, enter the title of your chapter in the **\chapter** command, and write your chapter.

If you have more chapters to write than the number of files provided, simply create a new file, **chapter-4.tex** for example, reproduce the same first two lines of commands as in the previous chapters, and write your additional chapters.

Once this is done, do not forget to include your new chapters in your template after the previous ones, using the **\include** command.

¹⁰*Loc. cit.*

```
@book{wilsonMemoirClassConfigurable2025,
  title = {
    The {{Memoir Class}} for {{Configurable Typesetting}} : \\\
    {{User Guide}}
  },
  author = {Wilson, Peter and Madsen, Lars},
  date = {2025-11-04},
  edition = {v3.8.4b},
  url = {https://ctan.org/pkg/memoir},
  urldate = {2025-11-11},
  langid = {english},
  pagetotal = {625},
  keywords = {article-1,article-3}
}
```

Figure 9: Example of a book cited in two different articles

Writing articles. This option is the most complex because it requires you to take existing documents, whether written in L^AT_EX or not, and copy and paste them into your `article-n.tex` files **while making sure you respect HEC Montréal’s presentation standards**.

You will therefore not be able to simply copy everything blindly and recompile. You will very likely need to adapt your code to the reality of the `hectheses` class.

You will first need to include the packages, their configurations, and your custom commands and environments from your articles in the preamble of your template, making sure that nothing conflicts with the configuration of the `hectheses` template.

You will then need to copy the abstracts of your articles under the abstract section beginning with the following two lines in the `article-n.tex` files:

```
\section*{\articleabstract}
\addcontentsline{toc}{section}{\articleabstract}
```

You can then copy the entirety of the rest of your article into the `article-n.tex` file without worrying about the predefined sections, which serve only as placeholder locations for the body of your articles.

You will need to copy each bibliographic reference from your original `.bib` file into that of your thesis or dissertation, then, in each reference, add a `keywords={article-n}` entry, where the n in `article-n` must be replaced by the number of your article. If a reference appears in more than one article, add `article-x`, `article-y` one after the other, separated by commas and within the braces. To help you understand the concept, [Figure 9](#) shows an example of a book cited in two articles.

Finally, at the end of your article, in the `\printbibliography` command, replace the n in the `keyword=article-n` option with the same article number.

Then compile your thesis or dissertation and verify that the entire transfer was done without problems. If not, correct your code and attempt another compilation.

1.4 Citing Your Sources

As indicated in [subsubsection 1.1.4](#), `biblatex` is from this version of `hecthes` onwards the only bibliographic package to be supported.

If this is your first experience writing with \LaTeX , you will only need to consult the package documentation [\[6\]](#), in particular section *3.9 Citation commands*.

If you have experience writing with \LaTeX and are more accustomed to working with `natbib` package for example, you will only need to familiarize yourself with the new citation commands. In addition to the official documentation cited in the previous paragraph, you will find in the [NotebookLM](#) notebook a reference guide on the equivalences between \LaTeX , `natbib` and `biblatex` citation commands, as well as a table listing all `biblatex` citation commands accompanied by a brief description and a concrete example.

1.5 The Bibliography or Bibliographies

The production of your bibliography or bibliographies should proceed without problems if you can answer positively to all of the following statements:

- you have configured the compilation of your document as described in [subsubsection 1.2.6](#);
- compilation proceeds without problems;
- you have entered the correct reference file name in the `\addbibresource` command as indicated in [subsubsection 1.3.2](#);
- you have added a `keywords={article-n}` entry in the references of your articles (article-based thesis or dissertation only), as mentioned in [subsubsection 1.3.9](#);
- you have replaced the n in the `\printbibliography` command's `keyword=article-n` option in each of your articles with the article number, also described in [subsubsection 1.3.9](#).

If, for any reason, the bibliography or references do not display as expected, make sure the compilation does not return errors and correct them if needed.

If you are writing a monograph thesis or dissertation, your bibliography will simply be titled “Bibliography.”

If you are writing an article-based thesis or dissertation, the bibliography of your document will be titled “General Bibliography,” while the bibliographies of each of your articles will be titled “References.”

These titles are all generated by the `\bibliotitle` and `\referencestitle` class commands, so you will not have to worry about naming your bibliographies correctly and manually.

* * *

This concludes the *User Guide* portion of the documentation. With this information in hand, you are now able to write your thesis or dissertation using the `hecthesse` class templates.

The rest of the documentation is more technical and explains in detail how the class was designed. It is not necessary to read it in order to use the templates, but curious readers will certainly enjoy consulting it to better predict the class's behavior.

2 Technical Documentation

This part of the documentation explains the contents of the `hecthesse.cls` class definition file.

2.1 Internal Boolean Values

In order to properly manage the options of the `hecthesse` class, three boolean variables have been created: `HEC@legacy`, `HEC@phd`, and `HEC@articlebased`. The `etoolbox` package is required to use the `\newbool` command, which enables the creation of boolean variables.

```

1 %% --- Booleans -----
2
3 \RequirePackage{etoolbox}
4 % Whether the author uses lualatex et al. or legacy tech
5 \newbool{HEC@legacy}
6 % Whether the author is at phd level or not
7 \newbool{HEC@phd}
8 % Whether the document is a compilation of articles or not
9 \newbool{HEC@articlebased}
10
```

2.2 Class Options

There are four categories of class options defined in the `hecthesse` class: font sizes, degree level, document type, and the type of compiler used.

The three font size options accepted at HEC Montréal, 10pt, 11pt, and 12pt, are passed directly to the `memoir` class. The latter can accept font sizes ranging

from 4pt to 132pt, so it is important to restrict the font size options to those accepted by the School in order to prevent the production of typographic horrors.

```

11 %% --- Class options -----
12
13 \DeclareOption{10pt}{%
14   \PassOptionsToClass{10pt}{memoir}
15 }
16 \DeclareOption{11pt}{%
17   \PassOptionsToClass{11pt}{memoir}
18 }
19 \DeclareOption{12pt}{%
20   \PassOptionsToClass{12pt}{memoir}
21 }

```

When boolean variables are created by `etoolbox` package, they are created with the `false` value by default. This is why the `legacy` class option switches the `HEC@legacy` boolean to `true` when it is declared in the options of the `\documentclass` command, and why there are no other commands to return the variable to `false`.

```

22 \DeclareOption{legacy}{%
23   \booltrue{HEC@legacy}
24 }

```

Considering the default behavior of boolean variables, we could have declared only half of the options below — one for the degree level and one for the document type, namely `phd` and `articles`.

However, it seemed more user-friendly to provide one option per degree level and another per document type.

Thus, by adding the `msc` and `monograph` options, we ensure that users of the templates will not have to wonder whether all options are properly declared in their document.

```

25 \DeclareOption{msc}{%
26   \boolfalse{HEC@phd}
27 }
28 \DeclareOption{phd}{%
29   \booltrue{HEC@phd}
30 }
31 \DeclareOption{monograph}{%
32   \boolfalse{HEC@articlebased}
33 }
34 \DeclareOption{articles}{%
35   \booltrue{HEC@articlebased}
36 }

```

2.3 Loading the `memoir` Class

Once all class options have been declared, all remaining options are passed to the `memoir` class. The class is then loaded so we can benefit from its features. A

memoir version check is also made to make sure that the installed version of the class is the 2025/10/02 or later.

```

37 % All undeclared options are passed to memoir without warnings
38 \DeclareOption*{\PassOptionsToClass{\CurrentOption}{memoir}}
39 \ExecuteOptions{10pt} % Default font size
40 \ProcessOptions\relax
41 \LoadClass{memoir}
42 \@ifclasslater{memoir}{2025/10/02}{-}{%
43   \ClassError{hectheses}{%
44     Outdated version of class memoir: \memversion
45   }{%
46     Please update the memoir class version to version 2025/10/02 v3.8.4
47     or later.
48   }
49 }

```

2.4 Packages Required by the Class

Since its initial version, the goal of the `hectheses` class has been to be a sandbox environment that anyone can adapt to their own research and writing needs.

This is why very few packages are required by the class. In fact, the only packages loaded by the class are only used to manage its own features.

The first of these is `xkeyval` package. This package allows the creation of commands that accept options in `key=value` form. This feature is used in all commands included in the doctoral jury member list, as well as in the `\mscdirector` command.

This feature is also used in the `\dedication` command with its `signed` option.

```

50 %% --- Required packages -----
51
52 \RequirePackage{xkeyval}

```

The next two packages are `amsmath` package and its natural companion, `math-tools` package. Why are they loaded so early in the class? Simply because they must be loaded before the `lualatex`-related packages. In doing so, we ensure optimal handling of mathematical characters in the document.

```

53 \RequirePackage{amsmath}
54 \RequirePackage{mathtools}

```

Speaking of `lualatex`, this is where its support is implemented. Depending on the value of the `HEC@legacy` boolean, the class will either load the packages required for font encoding with the `pdflatex` compiler, or load the packages required for font and math management under `lualatex`.

```

55 \ifbool{HEC@legacy}{% true
56   % legacy UTF-8 support
57   \RequirePackage[utf8]{inputenc}
58   % T1 family fonts

```

```

59 \RequirePackage[T1]{fontenc}
60 }{% false
61 % Font handling with lualatex, loaded after math pkgs
62 \RequirePackage{fontspec}
63 % Best results for math mode in lualatex,
64 % must be loaded after math + font pkgs
65 \RequirePackage{unicode-math}
66 }

```

Next come the packages managing non-English languages in L^AT_EX. In the case of the *hecthes* class, we simply load two “classics”: *babel* for languages and *csquotes* for handling French quotation marks.

```

67 \RequirePackage{babel}
68 % strongly recommended by biblatex to render quotes
69 % in languages other than english
70 \RequirePackage{csquotes}

```

Finally, the class loads two packages required for customizing the acronyms list. Everyone appreciates well-ordered and aligned lists, and that is precisely what *calc* and *enumitem* allow us to achieve within L^AT_EX’s `description` environment.

```

71 % Mandatory for the acronyms list's customization
72 \RequirePackage{calc}
73 % Mandatory for the acronyms list's customization
74 \RequirePackage{enumitem}

```

2.5 Page Layout

The following configuration fully complies with the *Writing Guide*’s section 5.1 *Présentation graphique et pagination*[4].

2.5.1 Margins

In this section of the *Writing Guide*, it is stated that “the top, bottom, and right margins are standard (2 to 3 cm); the left margin is 4 to 5 cm.”¹¹

The two `\set*marginandblock` commands therefore set the binding margin to 4 cm and all others to 2.5 cm. The `\checkandfixthelayout` command takes these two commands and fixes the layout in the template, and the `fixed` algorithm ensures that nothing shifts from one page to the next and that text blocks remain the same size throughout the document.

```

75 %% --- Layout -----
76
77 %% ----- Margins -----
78
79 \setlrmarginsandblock{4cm}{2.5cm}{*}
80 \setulmarginsandblock{2.5cm}{2.5cm}{*}
81 \checkandfixthelayout[fixed] % Fixed algorithm for fixed margins

```

¹¹*Loc. cit.*

With this configuration, the `memoir` class uses the `\flushbottom` command to stretch all text blocks so that they take up all the space they **must** occupy, the margins being fixed.

Historically, this configuration has suited most users. In a few rare cases, L^AT_EX has produced sections of theses or dissertations in which the inter-paragraph spacing on a page was far too large, due to this text block stretching. In all but one case, described below, a simple restructuring of the paragraphs was sufficient to restore the page’s typographic order¹².

`\raggedbottom` In one case, however, it was impossible to restructure the text so that the page in question would not look like a typographic horror. If you find yourself in such a situation where, despite all your efforts, you cannot achieve decent spacing between your paragraphs, simply add the `\raggedbottom` command to the preamble of your template. With this command, L^AT_EX will not attempt to maintain a constant height between text blocks. You will therefore end up with bottom margins that are not quite identical from one page to the next (off by a few points), but you will have more consistent inter-paragraph spacing.

2.5.2 Paragraphs

Still in the same section of the *Writing Guide*, it is stated that “text is generally written with one-and-a-half line spacing (1.5), with a spacing of at least 6 points between paragraphs.”¹³ The `\OnehalfSpacing` command of the `memoir` class handles line spacing, while setting `\parskip` to half the value of `\baselineskip` meets the minimum inter-paragraph spacing requirement:

- When the font size is set to 10pt, the value of the `\baselineskip` length is 15pt at one-and-a-half line spacing. The inter-paragraph spacing is therefore 7.5pt.
- When the font size is set to 12pt, the value of the `\baselineskip` length is 18pt at one-and-a-half line spacing. The inter-paragraph spacing is therefore 9pt.

Further on, it is also stated that “[paragraph] indentation is [generally] not recommended.”¹⁴ This is why the value of `\parindent` is set to 0pt.

```
82 %% ----- Line and paragraph spacing -----
83
84 \OnehalfSpacing
85 \setlength{\parskip}{.5\baselineskip}
86 \setlength{\parindent}{0pt}
```

¹²In this regard, reading the *Writing guide*’s section 3. *Le texte : de la phrase au paragraphe* is highly recommended if you wish to properly organize your text blocks.

¹³*Loc. cit.*

¹⁴*Loc. cit.*

2.5.3 Fonts

As discussed in sections 1.1.5 and 1.2.5, font management differs depending on whether you use `pdflatex` or `lualatex`.

With the `legacy` option and its associated compiler `pdflatex`, the base font for the entire document is the classic *Computer Modern*. For typesetting mathematical equations, a font equivalent to *Adobe Times Roman* is provided by the `mathptmx` package [13].

If you use `lualatex` as the default compiler, fonts from the *TeX Gyre* family are enabled by default because they are available across all TeX Live distributions as well as on Overleaf.

However, you may use any locally installed *OpenType* or *TrueType* font, provided the chosen font is of a classical design, such as *Arial*, *Calibri*, and *Times New Roman*, for example.

Make sure, however, that the chosen font supports all the mathematical symbols you will use; otherwise, you will need to at least keep the *TeX Gyre Termes Math* font provided with the `hectheseclass`.

```
87 %% ----- Fonts -----
88
89 \ifbool{HEC@legacy}{% true
90   %% Computer Modern for text, mathptmx for maths
91   \RequirePackage{mathptmx}
92 }{% false
93   %% Managed by fontspec
94   %% TeX Gyre fonts are available across all TeX Live distros and Overleaf
95   \setmainfont{TeX Gyre Termes}
96   \setsansfont{TeX Gyre Adventor}
97   \setmonofont{TeX Gyre Cursor}
98   \setmathfont{TeX Gyre Termes Math} % from the unicode-math pkg
99 }
```

`\setmainfont` To change the default font, use the `\setmainfont` command from `fontspec` package and enter the name of the font or the name of the file containing the font, as described in the package documentation[12].

2.5.4 Document Metadata

Subsubsection 1.3.4 introduced the six common basic metadata fields for all document types provided with the class. L^AT_EX's three `\title`, `\author`, and `\date` commands remain unchanged in `hectheseclass`. The present class adds to these the subtitle, the study program specialization, and the copyright year.

Each of these three new metadata fields has two dimensions:

1. each has a public command in which the student enters the metadata: `\thesissubtitle`, `\specialization`, and `\copyrightyear`;
2. each public command has an associated internal command that reuses

the metadata entered by the student to display it on the title page:
`\thesubtitle`, `\thespecialization`, and `\theyear`.

When you enter your metadata in the public commands, the internal commands are redefined by the class to hold this new information.

```

100 %% --- Thesis metadata -----
101
102 \newcommand{\thesubtitle}{}
103 \newcommand{\thesissubtitle}[1]{%
104   \renewcommand{\thesubtitle}{#1}
105 }
106
107 \newcommand{\thespecialization}{}
108 \newcommand{\specialization}[1]{%
109   \renewcommand{\thespecialization}{#1}
110 }
111
112 \newcommand{\theyear}{}
113 \newcommand{\copyrightyear}[1]{%
114   \renewcommand{\theyear}{#1}
115 }

```

2.5.5 Directors and Other Research Evaluators

Subsubsection 1.3.4 introduced the commands related to the people who supervise or evaluate student theses and dissertations, as well as the mechanism for matching the title to the person's gender using the `gender` option.

That same section described how the jury member list aligns on the doctoral jury identification page using the `last` option on the last member of the jury list.

This option mechanism is made possible by `xkeyval` package, as already mentioned.

To this end, the class defines two keys: one boolean (`last`) and one with a value choice (`gender`). Both keys belong to a key group called `HEC@jury`.

The `last` key defaults to `false`, while the `gender` key defaults to `M`, with a predefined set of values `M` or `F`.

A boolean variable `HEC@islastjury` and an internal command `\HEC@jurygender` were also created to hold the values of these keys at the time the public commands are evaluated by the compiler, so that titles are properly gender-matched when the title page commands are called¹⁵.

```

116 %% ----- Key-values for jury list -----
117
118 \newbool{HEC@islastjury}
119 \define@boolkey{HEC@jury}{last}[false]{%

```

¹⁵Without these commands, all jury members would end up with the gender of the last person in the list. The author of these lines will spare you a needless headache by omitting to explain the why and the how...

```

120 \ifKV@HEC@jury@last
121 \booltrue{HEC@islastjury}
122 \else
123 \boolfalse{HEC@islastjury}
124 \fi
125 }
126 \newcommand{\HEC@jurygender}{}
127 \define@choicekey{HEC@jury}{gender}{M,F}[M]{%
128 \renewcommand{\HEC@jurygender}{#1}
129 }

```

For master's theses, the only person supervising the student is the research director. Their information is entered in the `\mscdirector` command in the template preamble.

This command is built like all those for doctoral jury members. When called, it evaluates the value of the `gender` option entered by the student and inserts it into the key of the same name in the `HEC@jury` group. It then generates the name, affiliation, and title of the director on three separate lines.

This data is stored inside the internal command `\themscdirector`, which is in turn called by the `\msctitlepage` command, discussed further below.

```

130 %% ----- M.Sc. Director -----
131
132 \newcommand{\themscdirector}{}
133 \newcommand{\mscdirector}[2][]{%
134 \setkeys{HEC@jury}{gender=M,#1}
135 \renewcommand{\themscdirector}{%
136 #2 \\\ % Name
137 HEC Montréal \\\
138 Direct\ifdefstring{\HEC@jurygender}{F}{rice}{eur} de recherche%
139 }
140 }

```

As mentioned in the preceding paragraph, the commands related to doctoral jury members are constructed in the same manner as the `\mscdirector` command. The only difference is that the information is not stored in an internal command but rather appended directly to the public `\phdjurylist` command, discussed further below.

Certain commands allow the student to enter an affiliation other than HEC Montréal. These are the `\phdcodirector`, `\phdjurymember`, and `\phdexternal-examinator` commands. Within each of these, the value of the `{\langle affiliation \rangle}` argument is evaluated. If it is empty, the default affiliation “HEC Montréal” is used; otherwise, the affiliation entered by the student is used.

Since the jury member list is now customizable, each command in this list accepts the `last` optional argument. The command evaluates the presence of this option and inserts the `\vfill` command in the jury member's text block if it is not present.

```

141 %% ----- Jury list -----
142

```

```

143 \newcommand{\phddirector}[2][]{%
144 \setkeys{HEC@jury}{gender=M,last=false,#1}
145 #2 \\ % Name
146 HEC Montréal \\
147 Direct\ifdefstring{\HEC@jurygender}{F}{rice}{eur} de recherche%
148 \ifbool{HEC@islastjury}{\vfill}
149 }
150
151 \newcommand{\phdpresidentrapporteur}[2][]{%
152 \setkeys{HEC@jury}{gender=M,last=false,#1}
153 #2 \\ % Name
154 HEC Montréal \\
155 \ifdefstring{\HEC@jurygender}{F}{Présidente-rapporteuse}%
156 {Président-rapporteur}
157 \ifbool{HEC@islastjury}{\vfill}
158 }
159
160 \newcommand{\phdcodirector}[3][]{%
161 \setkeys{HEC@jury}{gender=M,last=false,#1}
162 #2 \\ % Name
163 \ifstrempy{#3}{HEC Montréal}{#3} \\ % Affiliation
164 Codirect\ifdefstring{\HEC@jurygender}{F}{rice}{eur} de recherche
165 \ifbool{HEC@islastjury}{\vfill}
166 }
167
168 \newcommand{\phdjurymember}[3][]{%
169 \setkeys{HEC@jury}{gender=M,last=false,#1}
170 #2 \\ % Name
171 \ifstrempy{#3}{HEC Montréal}{#3} \\ % Affiliation
172 Membre du jury
173 \ifbool{HEC@islastjury}{\vfill}
174 }
175
176 \newcommand{\phdexternalexaminator}[3][]{%
177 \setkeys{HEC@jury}{gender=M,last=false,#1}
178 #2 \\ % Name
179 \ifstrempy{#3}{HEC Montréal}{#3} \\ % Affiliation
180 Examinat\ifdefstring{\HEC@jurygender}{F}{rice}{eur} externe
181 \ifbool{HEC@islastjury}{\vfill}
182 }
183
184 \newcommand{\phddirectorrep}[2][]{%
185 \setkeys{HEC@jury}{gender=M,last=false,#1}
186 #2 \\
187 HEC Montréal \\
188 Représentant\ifdefstring{\HEC@jurygender}{F}{e}{ } du directeur de HEC
189 Montréal
190 \ifbool{HEC@islastjury}{\vfill}
191 }

```

2.6 Divisions of a Dissertation or Thesis

In this section, we will present all the commands used to format the various parts of your dissertation or thesis.

Before addressing the subject, however, we will share a brief anecdote related to the technical support provided since the `hecthese` class was first released.

Year after year, semester after semester, the same questions come up: why is there a blank page at the beginning and at the end of my thesis? Why do the margins change between even and odd pages? Why are there blank pages after some chapters?

To all these questions, we can give the same answer: despite the fact that we live in a digital age and that students must submit their dissertation or thesis in PDF format, it is important to understand that **the current page layout is designed for the printed version of the document**, and that the conventions of print publishing must therefore be followed.

2.6.1 Flyleaves

The first of these conventions is the flyleaf found at the beginning and at the end of your document. The purpose of these pages is to “protect the first and last printed page”[8].

The front flyleaf is contained within the `\frontinnerpage` command. This command does not appear anywhere in the templates as it is nested within the title page commands, discussed further below.

```
192 %% --- Thesis parts -----
193
194 %% ----- Innerpage -----
195
196 \newcommand{\frontinnerpage}{%
197   \pagenumbering{Alph} % prevents warnings from hyperref package
198   \pagestyle{empty}
199   \mbox{}
200   \cleardoublepage
201 }
```

The back flyleaf, for its part, is written at the very end of the template file, just before the `\end{document}` command:

```
%% --- Back flyleaf -----
\mbox{}
\thispagestyle{empty}
```

2.6.2 Chapter Openings

The second typographic convention is that **all chapters must begin on the recto side of a sheet**, that is, on an odd-numbered page.

In this case, the `hecthese` class uses the `memoir` class’ default class options:

- `twoside` to print the document double-sided;
- `openright` to start chapters on an odd-numbered page¹⁶.

If one of your chapters ends on page 10, for example, the next chapter will begin on page 11. There will therefore be no blank page between them.

If another of your chapters ends on page 41, for example, the next chapter will begin on page 43 because it must start on an odd-numbered page. Page 42 will appear blank between them because it must not be numbered. When viewing your document in its digital version, this might give the impression that the compiler skipped a page number, but if you print the same document double-sided, the logic of opening chapters on the recto sides of sheets will make more sense.

2.6.3 Document Binding

The last convention concerns the binding of the document. Whether a document is bound with a soft cover or a hard cover, part of the bound edge of the sheet is lost. This is why the inner margin, the one on the binding side, is larger than the outer margin.

Again, if you view the digital version of your document, you will notice that the wider margin alternates from left to right between odd and even pages. This may give the impression that your document “zigzags”, but when that same document is printed and bound, all margins will appear identical.

2.6.4 Title Pages

The `hecthese` class uses two different title pages — one for master’s theses and one for doctoral dissertations — along with a doctoral jury identification page.

Each of these pages uses the `titlingpage*` environment from the `memoir` class. The starred version of the environment is used to prevent the page number from being reset to 1 after the title page, since, as stated in Appendix K of the *Writing Guide*, “[all] pages are counted in numerical order, except for the two flyleaves”[4].

The `\msctitlepage` command handles the title page for a master’s thesis. It begins by calling the `\frontinnerpage` command to generate the flyleaf, sets the page counter to one and produces the title page with the six common metadata fields seen in [subsection 1.3.4](#), along with the name of the research director.

```
202 %% ----- Title pages -----
203
204 \newcommand{\msctitlepage}{%
205   \frontinnerpage
206   \setcounter{page}{1}
207   \begin{titlingpage*}
```

¹⁶See section 1.3 *Printing Options* of the `memoir` class[20]

```

208 \centering
209 \begin{SingleSpace}
210   {\Large HEC MONTRÉAL}
211   \vfill
212   {\bfseries
213     \thetitle
214     \ifdefempty{\thesubtitle}{\[\[12pt]]{\sim: \thesubtitle \[\[12pt]]}
215     par \[\[12pt]]
216     \theauthor
217     \vfill
218     Sciences de la gestion \\\
219     (Spécialisation \thespecialization)
220   }
221   \vfill
222   {\itshape
223     Mémoire présenté en vue de l'obtention \\\
224     du grade de maîtrise ès sciences \\\
225     (M. Sc.)
226   }
227   \vfill
228   \themscdirector
229   \vfill
230   \thedate \\\
231   \copyright\ \theauthor, \theyear
232 \end{SingleSpace}
233 \end{titlingpage*}
234 }

```

The doctoral dissertation title page is handled by the `\phdttitlepage` command. This page is nearly identical to that of the master's thesis, except that it does not contain the research director's information. That information appears instead on the jury identification page.

```

235 \newcommand{\phdttitlepage}{%
236 \frontinnerpage
237 \setcounter{page}{1}
238 \begin{titlingpage*}
239 \centering
240 \begin{SingleSpace}
241   {\Large HEC MONTRÉAL} \\\
242   École affiliée à l'Université de Montréal
243   \vfill
244   {\bfseries
245     \thetitle\ifdefempty{\thesubtitle}{\sim: \\\ \thesubtitle}
246     \vfill
247     par \\\
248     \theauthor
249     \vfill
250     Thèse présentée en vue de l'obtention du grade de Ph.D.
251     en administration \\\
252     (Spécialisation \thespecialization)
253     \vfill
254     \thedate
255   }

```

```

256 \vfill
257 \copyright\ \theauthor, \theyear
258 \end{SingleSpace}
259 \end{titlingpage*}
260 }

```

Before discussing the jury identification page, it is important to address the implementation of the customizable list mentioned in sections 1.1.2 and 1.3.4.

This implementation is fairly straightforward: it consists of a public command, `\phdjurylist`, which we already know, and an internal command, `\thejury`, which is inserted at the end of the `\phdjurypage` command and is redefined by the content of `\phdjurylist`.

```

261 \newcommand{\thejury}{}
262 \newcommand{\phdjurylist}[1]{%
263 \renewcommand{\thejury}{#1}
264 }

```

The jury identification page includes only the title and subtitle of the thesis as metadata, along with the name of the author. The `\thejury` command inserts the jury member list at the very end.

```

265 \newcommand{\phdjurypage}{%
266 \begin{titlingpage*}
267 \centering
268 \begin{SingleSpace}
269 {\Large HEC MONTRÉAL} \\
270 École affiliée à l'Université de Montréal
271 \vfill
272 Cette thèse intitulée :
273 \vfill
274 {\bfseries
275 \thetitle\ifdefempty{\thesubtitle}{ }\{\ \ \thesubtitle}
276 }
277 \vfill
278 Présentée par
279 \vfill
280 \textbf{\theauthor}
281 \vfill
282 a été évaluée par un jury composé des personnes suivantes :
283 \vfill
284 \thejury
285 \end{SingleSpace}
286 \end{titlingpage*}
287 }

```

`\titlepageblock` Despite their number, none of the commands assigned to title pages in this class are public. They are all internal commands called by the single public command in the set: `\titlepageblock`.

This command is the first one called by the templates in the document body. It fixes the page numbering to roman numerals and then evaluates the value of the `HEC@phd` boolean variable. Depending on its value, the command calls the title

page command or commands associated with the type of document that needs to be generated.

It then initializes the memoir class' `\frontmatter` document division and sets its page numbering to roman numerals without resetting the page counter.

```
288 \newcommand{\titlepageblock}{%
289 \settittlingpagenumbering{\roman}
290 \ifbool{HEC@phd}{%
291 \phdttitlepage
292 \phdjurypage
293 }{%
294 \msctitlepage
295 }
296 \frontmatter*
297 \pagenumbering*{\roman}
298 \pagestyle{plain}
299 }
```

Why are the title pages displayed in French if my document's default language is English?

The Université de Montréal's *Règlement pédagogique de la faculté des études supérieures et postdoctorales* [14, art. 88,89,135,136] mentions language and presentation standards that prevail for dissertations and theses, and refers to the *Guide de présentation des mémoires et des thèses* [5, p. 18] where it is written that “title pages must be written in French even when the dissertation or thesis is written in English”. Since HEC Montréal is one of Université de Montréal's affiliate schools, this rule prevails.

2.6.5 Abstracts

The `hecthese` class uses the memoir class' `abstract` environment to produce the French and English abstracts in the document. However, the formatting of this environment is identical in every respect to that of the `article` class: indented paragraphs, a smaller font size, and a centered title smaller than normal headings.

The class reconfigures the environment from the ground up so that it produces an unnumbered section rather than the text block we are used to seeing with the `abstract` environment.

```
300 %% ----- Abstracts -----
301
302 \renewcommand{\absnamepos}{flushleft}
303 \renewcommand{\abstractnamefont}{\chapnamefont}
304 \renewcommand{\abstracttextfont}{\normalfont}
305 \setlength{\absleftindent}{\parindent}
306 \setlength{\absrightindent}{\parindent}
307 \setlength{\abstitleskip}{\afterchapskip}
```

2.6.6 Table of Contents

In section 2.2 *Organisation en sections et sous-sections titrées et numérotées* of the *Writing Guide*, it is stated that “the table of contents should not exceed three numbered levels” [4]. The `\setsecnumdepth` and `\maxsecnumdepth` commands therefore restrict numbering to the subsection level, leaving all lower-level sections unnumbered. The `\settocdepth` command uses the same mechanism to exclude all levels below subsections from the table of contents.

Note that the *Writing Guide* says “**should** not” rather than “**must** not.” The numbering depth is therefore a recommendation, not a requirement. If, for one reason or another, you need an additional level of heading numbering, copy the three commands below into the preamble of your template and replace the `subsection` argument with `subsubsection`.

```

308 %% ----- Sectional divisions -----
309
310 \setsecnumdepth{subsection}
311 \maxsecnumdepth{subsection}
312
313 %% ----- Table of contents -----
314
315 \settocdepth{subsection}

```

The default English name for a table of contents in L^AT_EX is *Contents*. The *hecthese* class replaces this name with *Table of Contents*, which is more explicit than the base name.

```

316 \addto\captionsenglish{%
317   \renewcommand{\contentsname}{Table of Contents}
318 }

```

2.6.7 Dedication

The dedication is the last place in the *hecthese* class where the features of *xkeyval* package are used.

A boolean key `signed` is created in a group called `HEC@dedication` and is set to `true` by default.

```

319 % ----- Key-values for dedication section -----
320
321 \define@boolkey{HEC@dedication}{signed}[true]{}

```

The class then reconfigures the memoir class’ `\epigraph` command so that the text it contains is fully justified horizontally. A full rule normally separates the text from its source. *hecthese* removes this rule by setting its thickness to `0pt`.

```

322 % ----- Dedication section -----
323
324 \epigraphtextposition{flushleft}
325 \setlength{\epigraphrule}{0pt}

```

The student will use the public `\dedication` command to write their dedication. The command begins by retrieving the value of the `signed` optional argument, then places the dedication text within the `\epigraph` command, which is itself nested inside the memoir class' `vplace` environment. By doing so, the dedication is vertically centered on its page.

Finally, if the student wishes to sign their dedication, the signature will be displayed just below.

```
326 \newcommand{\dedication}[2] [] {%
327   \setkeys{HEC@dedication}{signed=true,#1}
328   \begin{vplace}
329     \epigraph{#2}{\ifKV@HEC@dedication@signed\theauthor\fi}
330   \end{vplace}
331 }
```

2.7 Bilingual Titles

The management of titles in both accepted writing languages is the last feature of the class. In order to preserve the uniformity of headings for mandatory sections across all dissertations and theses, the class defines a title command for each of these sections and uses the `\addto\captionSFrench` and `\addto\captionSEnglish` commands from `babel` package to generate the appropriate heading based on the document's language.

```
332 % --- Bilingual titles -----
333
334 % ----- List of figures -----
335
336 \addto\captionSFrench{%
337   \renewcommand{\listfigurename}{Liste des figures}
338 }
339
340 % ----- Abbreviation list -----
341
342 \newcommand{\acronymslisttitle}{}
343 \addto\captionSFrench{%
344   \renewcommand{\acronymslisttitle}{Liste des abréviations}
345 }
346 \addto\captionSEnglish{%
347   \renewcommand{\acronymslisttitle}{List of Acronyms}
348 }
349
350 % ----- Acknowledgements -----
351
352 \newcommand{\acknowledgementstitle}{}
353 \addto\captionSFrench{%
354   \renewcommand{\acknowledgementstitle}{Remerciements}
355 }
356 \addto\captionSEnglish{%
357   \renewcommand{\acknowledgementstitle}{Acknowledgements}
358 }
```

```

359
360 % ----- Preface -----
361
362 \newcommand{\prefacetrue}{}
363 \addto\captionsfrench{%
364   \renewcommand{\prefacetrue}{Avant-propos}
365 }
366 \addto\captionsenglish{%
367   \renewcommand{\prefacetrue}{Preface}
368 }

```

In [subsection 1.5](#), we noted that dissertations and theses written with articles have a general introduction for the entire document and one introduction per article. The same applies to conclusions and bibliographies.

The first example of managing section duplicates appears below, in the `\introductiontitle` command. Its default value is *Introduction*.

The class then evaluates the value of the `HEC@articlebased` boolean variable. If the value is `true`, it changes the value of `\introductiontitle` to *Introduction générale* in French or *General Introduction* in English.

You will find this same behavior further below with the `\conclusiontitle` and `\bibliotitle` commands.

```

369 % ----- Introduction -----
370
371 \newcommand{\introductiontitle}{Introduction}
372 \ifbool{HEC@articlebased}{%
373   \addto\captionsfrench{%
374     \renewcommand{\introductiontitle}{Introduction générale}
375   }
376   \addto\captionsenglish{
377     \renewcommand{\introductiontitle}{General Introduction}
378   }
379 }{}
380
381 % ----- Theoretical Framework -----
382
383 \newcommand{\theoreticalframeworktitle}{}
384 \addto\captionsfrench{%
385   \renewcommand{\theoreticalframeworktitle}{Cadre théorique général}
386 }
387 \addto\captionsenglish{%
388   \renewcommand{\theoreticalframeworktitle}{Theoretical Framework}
389 }
390
391 % ----- Literature Review -----
392
393 \newcommand{\literaturereviewtitle}{}
394 \addto\captionsfrench{%
395   \renewcommand{\literaturereviewtitle}{Revue de littérature}
396 }
397 \addto\captionsenglish{%
398   \renewcommand{\literaturereviewtitle}{Literature Review}

```

```

399 }
400
401 % ----- Article abstracts -----
402
403 \newcommand{\articleabstract}{\}
404 \addto\captionsofrench{%
405   \renewcommand{\articleabstract}{Résumé}
406 }
407 \addto\captionsofenglish{%
408   \renewcommand{\articleabstract}{Abstract}
409 }
410
411 % ----- Conclusion -----
412 \newcommand{\conclusiontitle}{Conclusion}
413 \ifbool{HEC@articlebased}{%
414   \addto\captionsofrench{%
415     \renewcommand{\conclusiontitle}{Conclusion générale}
416   }
417   \addto\captionsofenglish{%
418     \renewcommand{\conclusiontitle}{General Conclusion}
419   }
420 }{}
421
422 % ----- Bibliography -----
423 \newcommand{\bibliotitle}{\bibname}
424 \ifbool{HEC@articlebased}{%
425   \addto\captionsofrench{%
426     \renewcommand{\bibliotitle}{\bibname\ générale}
427   }
428   \addto\captionsofenglish{%
429     \renewcommand{\bibliotitle}{General \bibname}
430   }
431 }{}
432
433 \newcommand{\referencestitle}{\}
434 \addto\captionsofrench{%
435   \renewcommand{\referencestitle}{Références}
436 }
437 \addto\captionsofenglish{%
438   \renewcommand{\referencestitle}{References}
439 }

```

* * *

This concludes the technical documentation of the `hecthese` class. From this point on, the class and the templates are yours! Make them your own and adapt them to your needs! Your only constraint will always be to comply with the presentation rules of the *Writing Guide*.

Good luck in writing your dissertation or thesis!

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Version History

0.2	General: Alpha release for user tests only	1	the class	1
0.3	General: Added choice between mathptmx and mathpazo packages in template file	1	1.3.1 General: Added a note to MacOS users concerning the class installation	1
0.4	General: Beta release	1	1.3.2 General: Typos in dtx and link change for MacOS english template	1
0.4.1	General: Added check condition for subtitle in jury identification page	1	1.4 General: Lots of bug fixes and updates (see Git repository) . .	1
1.0	General: First public release	1	1.5 General: Fixed the chapterbib implementation	1
1.1	General: Links to video tutorials added in the doc	1	1.5.1 General: Corrected typos in phantomsections	1
	LPPL license standardization in all files	1	2.0 General: Added biblatex and dropped chapterbib	1
1.2	General: Links to video tutorials updated in the doc	1	3.0 General: Complete code refactoring	1
1.3	General: First bilingual version of			

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