

# The `ugentdocs` classes \*

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## Introduction

This package implements the house style of Ghent University (version 2025) for MSc/BSc/PhD dissertations, research articles, reports (meeting notes or course assignments), exams, letters, course notes, and slides (beamer). These class files allow you to make and keep most of your document needs compliant to this version and future versions of the UGent house style.

If you think (1) there's an error in compliance with regards to the house style, (2) there's a feature missing in the classes or beamer theme, or (3) there's a bug in this package, please, [open an issue on GitHub](#) or contact me via email ([seppe.ongena@ugent.be](mailto:seppe.ongena@ugent.be)).

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\*Thanks to Walter Daems for the original `uantwerpen` package and Joris Meys for the `bama` and `report` titles style, cover text, header/footer, and GAI disclaimer code

# Synopsis

The **course** and **phd** classes<sup>1</sup> are an extension of the standard  $\text{\LaTeX}$  **book** class. They are intended to be used for writing course texts and PhD dissertations and provide a cover page compliant to the UGent house style. They also typeset the data pages automatically (e.g., examination committee, title page, colophon) and style the rest of the document appropriately. These two classes additionally enable the generation of a full book cover (back/spine/front) with auto-generated ISBN barcode.

The **bama** and **report** classes are also derived from the standard  $\text{\LaTeX}$  **book** class. These are intended for writing BSc/MSc dissertations and generic reports (e.g. research reports, course assignments, meeting notes). The **bama** class additionally populates a copyright page with signature fields based on the authors, supervisors, and tutors added.

The **letter** class is derived from the standard  $\text{\LaTeX}$  **letter** class. It is intended to be used for writing business letters compliant to the house style and allows for using left-aligned windowed envelopes of the DL format.

The **exam** and **article** classes are derived from the standard  $\text{\LaTeX}$  **article** class. They allow typesetting bilingual exams and research articles for submission to journals or UGent Biblio.

The slides come under the form of a beamer theme. The beamer theme is based on the modern 2025 UGent Panno Text one (with support for Arial), not the 2016 Arial theme as that does not adhere to, e.g., grid spacing and feels less refined / more “loud” in general (large font size of slide titles, in both caps and underline).

The documentation of the class files for PhD dissertations, MSc/BSc dissertations, articles, letters, course texts, reports, and exams can be found in this document (Part **I**).

Template files for all of the classes can be found below in Part I Section **3**.

The documentation for the beamer theme is embedded in the demo/user-guide presentation **beamerthemeugentuserguide.pdf**. (Part **II**)



A number of packages are required by **ugentdocs**. See Part I Section **1.5** for an overview. Make sure these packages are available to your  $\text{\LaTeX}$  compiler. Most of these should be installed by default in TeXLive distributions or can be made to auto-install for MikTeX.

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<sup>1</sup>For readability the class names have been abbreviated by omitting the **ugent** prefix

## How to read this documentation

- The classes are shown without the `ugent` prefix. In some cases, even shorter forms are used: `crs=course`, `rp=report`, `le=letter`, `ex=exam`, `bkc=bookcover`, `art=article` and `bmr=beamer`. `bama` remains `bama` and `phd` remains `phd`.
- Common macros or options are defined in `ugentcommon.clo` and are denoted in the descriptions below using `common` or the shorthand `clo`.
- When an option or macro (command) is being described, its name is shown in the left margin.
- If an option is being described instead of a macro, this is shown in the margin by the *(Opt)* note.
- If a macro is mandatory, 'mandatory' is shown in the left margin. A placeholder is set for that macro, which you should override. A warning is also printed in the log for mandatory macros.
- If a macro sets a tag – e.g., the `\date` macro sets the `\@date` tag – it is noted by a 'tag' text in the left margin. See the tag note further in this list on how to retrieve tags for use.
- If a macro sets a sequence – e.g., the `\degree` macro sets the `degrees` and `degreecalls` sequences – it is noted by a 'degrees\_seq' and 'degreecalls\_seq' text in the left margin. These are all global sequences, so their full L<sup>A</sup>T<sub>E</sub>X3 name is e.g., `\g_@@_degrees_seq`. See Section 1.3 for more information.
- The classes for which an option or macro is available are given between square brackets in the margin, e.g. [phd-crs].
- Most options can be set as `option=value` in your `\documentclass[<options>]{<class>}` command, but also plain `value` works.
- This: `<name>` is a placeholder. Replace it with your own text.
- For macros, mandatory arguments are shown between curly braces {}, and optional arguments are shown between square braces [], just as they are when you use them.
- In general, `\macros` are commands you can use in your `main.tex` document file.

Some `\@macros` or `\@tags` are for internal usage, but they can be retrieved or executed by wrapping them in `\makeatletter` and `\makeatother` (required due to the @ sign). Some of these are also meant to be sections of code you can customize (see “A note on customization” below). If so, their implementation code is shown in this docs for copy-pasting to your customization file.

L<sup>A</sup>T<sub>E</sub>X3 variables are formatted as `\scope_@@_varname_vartype`, e.g., the local boolean variable `\l_@@_embargo_bool` (g is used for global variables instead of l).

Control sequences are formatted as `\@@_csname` or `\_@@_csname` (for private control sequences). If you want to use L<sup>3</sup> control sequences or variables in customized code, you need to replace '@@' with '\_ugentdocs'!

## A note on fonts

The house style of Ghent University recommends two fonts:



- Primary font: UGent Panno Text. “This font does justice to the historical values of Ghent University and is simultaneously modern, distinctive and charismatic.” The Medium and SemiLight variants are needed for the logos, so they are an absolute requirement. If the Normal variant is installed, it is used by default for all class files. You can download it [from the intranet](#). The font files can also be put in the document’s working directory or in a `fonts/` subdirectory (for Inscribe or Overleaf).
- Secondary font: Arial. This is normally used for office templates distributed outside of Ghent University. Since L<sup>A</sup>T<sub>E</sub>X usually outputs PDFs with fonts embedded, this is not a concern. Still, you can override the font to Arial should you wish (see Part I Section 1.1.2).

As both official fonts are sans-serif styled, a similar math font is preferred. For this, we load the Noto Sans Math font (if it is installed), with a DejaVu Math TeX Gyre fallback.

## A note on compilers



These class files should be ready to use with modern  $\LaTeX$  compilers  $\XeLaTeX$  or  $\LuaLaTeX$ , and  $\LaTeX$ 2 $\epsilon$  kernel versions newer than October 2020 from the major  $\TeX$ -distributions (TeX $\TeX$ , TeXLive, MikTeX). Using an old  $\LaTeX$  + dvips setup or PDF $\LaTeX$  is not supported due to the logo implementation. So ditch the route via DVI and abandon the old PDF $\LaTeX$  compiler. If you experience other problems, please inform the author.

## A note on customization

We do not recommend altering the UGent house style too much, and we certainly do not recommend altering any of the class files directly. You can customize the classes by overwriting any of the commands in Part I in a .sty file. A recommended naming scheme is <classname>-customization.sty, e.g. ugentphd-customization.sty.

You can then load this customization using `\usepackage{ugentphd-customization}`. The customization file can also be used to adjust fonts, add your own packages, or your own commands or macros in one file separate from your main document. Be sure to renew commands instead of redefining commands – e.g., use `\renewcommand` and `\RenewDocumentCommand` – and replace any '@@' with '\_ugentdocs' (do not replace single @'s!).

Colours can be adjusted using, e.g.:

```
\ExplSyntaxOn
\str_if_eq:VnTF \l__ugentdocs_colormodel_tl {cmyk} {
  \definecolor{<customcolor>}{cmyk}{<C,M,Y,K>} % From 0 to 1
}{
  \definecolor{<customcolor>}{RGB}{<R,G,B>} % From 0 to 255
}
\ExplSyntaxOff
\colorlet{titlecolor}{<customcolor>}
```

## A note on references

We recommend the use of the more modern biblatex package with the biber backend as opposed to bibtex and the natbib package. It can be loaded using, e.g., `\usepackage[backend=biber, style=authoryear]{biblatex}`. Add a bibliography file using `\addbibresource{<filename>.bib}`, obtained from a reference manager such as Zotero (with Better BibTeX) or JabRef. For the most simple use, cite using `\autocite{key}` for parentheses or numbered citations, and `\textcite{key}` for in-text citations. Display your bibliography section using `\printbibliography`. Biblatex has a lot more advanced features, such as a per-chapter reference list, but for this we refer to the [biblatex package documentation](#).

## L<sup>A</sup>T<sub>E</sub>X3

The `ugentdocs` package relies for a large part of its codebase on L<sup>A</sup>T<sub>E</sub>X3, for which the `expl3` package is required. The L<sup>A</sup>T<sub>E</sub>X3 constructs are never exposed directly so this has no effect on the user of the classes, unless you wish to customize parts (see above).

## Thanks

This package is derived from the excellent `uantwerpendocs` package by Walter Daems, Paul Levrie, and Lukas Leitner ([available on CTAN](#)). Version 4.12 was used as the starting point, and as such, many similarities can be found between the two packages, although most of the code has been reworked. For a complete changelog, please see the `CHANGELOG.md` file, or for even more in-depth analysis, you can browse the [GitHub repository](#). Special thanks to Joris Meys for his previous work on the LaTeX at UGent faculty of Bioscience Engineering templates, of which the cover text, chapter title, header/footer, and GAI disclaimer code has been adapted and integrated.

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## Part I

# The paper classes

In the following sections, we will describe the usage of the classes (Section 1), show the style implementation (Section 2) and show some example documents (Section 3). You can skip straight to the examples if you prefer and just copy-paste a specific class example and start using and adjusting them to your needs, as most functionality is explained within. The full package source code will not be given here in the documentation. For that, you can inspect the .dtx file where this documentation is interwoven with the source code. The exception is any code for which customization is “allowed”, i.e., it does not touch fundamental class logic. See the customization note on page 4 for more information.

## 1 Usage

### 1.1 Colours, fonts, faculties, campuses, and logos

#### 1.1.1 Colours

The colours are defined in the `ugentcolors.sty` package, and are shown below:

|                                                                  |                                                                  |                                                                           |                                                         |                                                                         |
|------------------------------------------------------------------|------------------------------------------------------------------|---------------------------------------------------------------------------|---------------------------------------------------------|-------------------------------------------------------------------------|
| UGent Blue<br><code>ugent@main</code>                            | UGent Yellow<br><code>ugent@accent</code>                        | Faculty of Arts and Philosophy<br><code>ugent@lw</code>                   | Faculty of Law and Criminology<br><code>ugent@re</code> | Faculty of Sciences<br><code>ugent@we</code>                            |
| Faculty of Medicine and Health Sciences<br><code>ugent@ge</code> | Faculty of Engineering and Architecture<br><code>ugent@ea</code> | Faculty of Economics and Business Administration<br><code>ugent@eb</code> | Faculty of Veterinary Medicine<br><code>ugent@di</code> | Faculty of Psychology and Educational Sciences<br><code>ugent@pp</code> |
| Faculty of Bioscience Engineering<br><code>ugent@bw</code>       | Faculty of Pharmaceutical Sciences<br><code>ugent@fw</code>      | Faculty of Political and Social Sciences<br><code>ugent@ps</code>         | Light gray<br><code>lightgray</code>                    | Dark gray<br><code>darkgray</code>                                      |

Some class options change colour handling:

|                                                    |                                                                                |                                                                                                                                                                                                                                                                                                            |
|----------------------------------------------------|--------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>neutralcolors</code> ( <i>Opt</i> ) [common] | Options: <code>true</code> , <code>false</code><br>Default: <code>false</code> | When enabled ( <code>neutralcolors=true</code> or plain <code>neutralcolors</code> ), UGent colours override the faculty colour. If the faculty option is empty (see later), UGent colours will always be used.                                                                                            |
| <code>colormodel</code> ( <i>Opt</i> ) [common]    | Options: <code>rgb</code> , <code>cmk</code><br>Default: <code>rgb</code>      | These set the colour model of the faculty and UGent colours used. For digital display, <code>rgb</code> is preferable. Switching to <code>cmk</code> is reserved for printing, although your printing service may prefer <code>rgb</code> to convert it themselves before printing. Best to ask with them. |

The documents use specific derived colours for typesetting contents:

- `titlecolor` (ugent@main): chapter and section titles
- `toccolor` (black): table of contents
- `hypercolor` (ugent@main!50!black): hyperlinks, in-text citations
- `watermarkcolor` (lightgray): course, exam, and report watermarks
- `insetboxcolor` (ugent@faculty): insettext and insetquote box colours

Likewise, the cover pages set some colours, although these differ per class:

- `covertitlecolor`: Cover title and subtitle
- `coverdatacolor`: Cover data text (e.g., author, supervisors, academic year)
- `coverbgcolor`: Main cover background (full page except UGent and faculty logos)
- `coverareacolor`: Cover data area (in bottom left for PhDs and courses)
- `spinecolor`: Spine (for PhDs and courses)
- `spinetextcolor`: Spine text - title (for PhDs and courses)
- `spinetextcoloralt`: Spine text - author & year (for PhDs and courses)

### 1.1.2 Fonts



UGent Panno Text and its Medium and SemiLight variants should always be installed – and the document compiled using Lua $\text{\LaTeX}$  or Xe $\text{\LaTeX}$  – as they are used in the logo’s. For the document itself, it is recommended to use UGent Panno Text as well, which is why it is set by default through the `\trysetsansfont[UGentPannoText-Normal]{UGent Panno Text}[\dots]{}` block below. However, Arial is also a valid official alternative and can override UGent Panno Text by adding the `\trysetsansfont[Arial]{Arial}[\dots]{}` block below to the beginning of your document or your customization file. UGent uses Arial as default for Word and PowerPoint templates as these are distributed outside Ghent University. This is not applicable for  $\text{\LaTeX}$  however, as PDFs are always generated, usually with fonts embedded. Thus, UGent Panno Text is the default everywhere.

```
\trysetsansfont[UGentPannoText-Normal]{UGent Panno Text}[
  BoldFont           = *,
  BoldFeatures       = {FakeBold=2.5},
  ItalicFont         = *,
  ItalicFeatures     = {FakeSlant=0.15},
```

```

    BoldItalicFont      = *,
    BoldItalicFeatures  = {FakeBold=2.5, FakeSlant=0.15},
  ]{}
\tryoverridemathfont[UgentPannoText-Normal]{Ugent Panno Text}{>}

```

```

\trysetsansfont[Arial]{Arial}[
  BoldFont      = *,
  BoldFeatures  = {FakeBold=2.5},
  ItalicFont    = *,
  ItalicFeatures = {FakeSlant=0.15},
  BoldItalicFont = *,
  BoldItalicFeatures = {FakeBold=2.5, FakeSlant=0.15},
]{}
\tryoverridemathfont[Arial]{Arial}{}

```

To support automatically loading fonts from file or by name (whichever is found first), the fontspec functions are extended here with a `try` prefix.

For example:

```

\trysetsansfont[<Font File>]{<Font Name>}[<Font Features>]{<False Code>}

```

first tries to find the font by a `<Font File>`, which can be, e.g., `Arial` (searches for `.ttf` or `.otf`) or `Arial.ttf`. It searches in the main document root directory or working directory first, then a `fonts/` subdirectory, then it searches the system installed fonts by `<Font Name>`. If it doesn't find the font in either of those places, the `<False Code>` is run. The `<Font Features>` are the same you would normally use in `\setsansfont{<Font>}[<Font Features>]`. These set of functions enable the use of online editors such as Inscribe or Overleaf with uploaded font files.

Since both the official fonts are sans-serif, we use the `unicode-math` package with the Noto Sans Math font if available, and the DejaVu Math TeX Gyre font otherwise. You can override these fonts by using:

```

\trysetmathfont[<Font File>]{<Font Name>}[<Font Features>]{<False Code>}.

```

If you want to set the letters and numbers of the math font to a different font, use the `\tryoverridemathfont[<Font File>]{<Font Name>}[<Font Features>]{<False Code>}` macro. This is executed by default when loading the fonts at class load. Use `\tryoverridemathfont{}{}` to use the math font's own glyphs.

Font examples:

- Ugent Panno Text: **bold**, *italic*, ***bolditalic***, and FAKE SMALL CAPS
- Ugent Panno Text Medium: **bold**, *italic*, ***bolditalic***, and FAKE SMALL CAPS
- Ugent Panno Text SemiLight: **bold**, *italic*, ***bolditalic***, and FAKE SMALL CAPS
- Arial: **bold**, *italic*, ***bolditalic***, and SMALL CAPS
- Noto Sans Math:

$$\int_0^\infty e^{-x^2} dx = \frac{\sqrt{\pi}}{2} \quad \sum_{k=1}^n k = \frac{n(n+1)}{2} \quad \alpha + \beta \leq \gamma \Rightarrow \Omega \in \mathbb{R}$$

$$\mathcal{F}(\omega) = \int_{-\infty}^\infty f(t) e^{-i\omega t} dt \quad \mathbf{v} \cdot \mathbf{w} = \|\mathbf{v}\| \|\mathbf{w}\| \cos \theta$$

- DeJaVu Math TeX Gyre:

$$\int_0^\infty e^{-x^2} dx = \frac{\sqrt{\pi}}{2} \quad \sum_{k=1}^n k = \frac{n(n+1)}{2} \quad \alpha + \beta \leq \gamma \Rightarrow \Omega \in \mathbb{R}$$

$$\mathcal{F}(\omega) = \int_{-\infty}^\infty f(t) e^{-i\omega t} dt \quad \mathbf{v} \cdot \mathbf{w} = \|\mathbf{v}\| \|\mathbf{w}\| \cos \theta$$

### 1.1.3 Faculty

Faculties determine colour, logos, in some cases specific cover types (such as BW for PhDs), and the faculty name used throughout the documents. The UGent faculties are:

| Option    | Faculty (EN)                          | Faculty (NL)                              |
|-----------|---------------------------------------|-------------------------------------------|
| <b>lw</b> | Arts and Philosophy                   | Letteren en Wijsbegeerte                  |
| <b>re</b> | Law and Criminology                   | Recht en Criminologie                     |
| <b>we</b> | Sciences                              | Wetenschappen                             |
| <b>ge</b> | Medicine and Health Sciences          | Geneeskunde en Gezondheidswetenschappen   |
| <b>ea</b> | Engineering and Architecture          | Ingenieurswetenschappen en Architectuur   |
| <b>eb</b> | Economics and Business Administration | Economie en Bedrijfskunde                 |
| <b>di</b> | Veterinary Medicine                   | Diergeneeskunde                           |
| <b>pp</b> | Psychology and Educational Sciences   | Psychologie en Pedagogische Wetenschappen |
| <b>bw</b> | Bioscience Engineering                | Bio-ingenieurswetenschappen               |
| <b>fw</b> | Pharmaceutical Sciences               | Farmaceutische Wetenschappen              |
| <b>ps</b> | Political and Social Sciences         | Politieke en Sociale Wetenschappen        |

**faculty** (*Opt*) [common] Options: **lw**, **re**, **we**, **ge**, **ea**, **eb**, **di**, **pp**, **bw**, **fw**, **ps**  
 Default: **empty** Used as, e.g., **faculty=bw**, but also plain **bw** works. Sets the faculty selector (`\@fselector`) to this value, which is used to determine the faculty text (for both EN and NL) and colour. Also loads the faculty icon and its width, the faculty logo text format (newline behaviour), the faculty logo text width (for both EN and NL), and any additional text spacing needed. An empty faculty will not print the logo, faculty name, or acronym, and will extend the cover or beamer slide background to the top.

When the faculty is specified, the `\@faculty` and `\@facultyacronym` tags are set. You can retrieve these similar to the L<sup>A</sup>T<sub>E</sub>X-native `\@title` tag by wrapping it in `\makeatletter` and `\makeatother` (required due to the `@` sign). For example:

- `\makeatletter\@faculty\makeatother`: Faculty of Bioscience Engineering
- `\makeatletter\@facultyacronym\makeatother`: FBW

**\faculty** [common] `\{<name>\}`  
**tag** Overrides the faculty tag `\@faculty` with the **name** entered. Overrides the name only, no logos or colours! To use for, e.g., faculty services like “Directie ICT” for letters or beamer slides.

**\department** [common] `\{<name>\}`  
**tag** Sets the department. Currently only used in the beamer title slide.

**\team** [common] `\{<name>\}`  
**tag** Sets the unit. Can be used to set “Team ...” or your research lab to the second line of the letter header or beamer title page.

`\ficon [common] {<height>}{<color>}{<alignment>}`

When used within a `tikzpicture`, this prints the faculty icon. The height is a length, the alignment ranges from 0 (left edge) to 1 (right edge). The colour can be set to, e.g., white to print on a dark background.

Usage:

```
\begin{tikzpicture}\ficon{1cm}{ugent@faculty}{0}\end{tikzpicture}
```



`\faclogo [common] {<height>}{<color>}{<alignment>}`

When used within a `tikzpicture`, this prints the faculty logo. The height is a length, the alignment ranges from 0 (left edge) to 1 (right edge). The colour can be set to, e.g., white to print on a dark background.

The logo text uses the current language.

Usage (the rectangle is just to visualize the boundaries here):

```
\begin{tikzpicture}
  \faclogo{3cm}{ugent@faculty}{0}
\end{tikzpicture}
```



```
\foreignlanguage{dutch}{
  \begin{tikzpicture}
    \faclogo{3cm}{ugent@faculty}{0}
  \end{tikzpicture}
}
```



```
\makeatletter
\ExplSyntaxOn
  \keys_set:nn { ugentdocs } { faculty = di }
  \colorlet{ugent@faculty}{ugent@\@fselector}
  \begin{tikzpicture}
    \faclogo{3cm}{ugent@faculty}{0}
  \end{tikzpicture}
\ExplSyntaxOff
\makeatother
```



### 1.1.4 Campus

`campus` (*Opt*) [common] Options: `ugent`, `kortrijk`, `gugc`  
 Default: `ugent` Used as, e.g., `campus=kortrijk`, but also plain `kortrijk` works. Only affects the UGent logo.

`\ugenticon` [common] `{\height}` `{\color}` `{\alignment}`  
 When used within a `tikzpicture`, this prints the UGent icon. The height is a length, the alignment ranges from 0 (left edge) to 1 (right edge). The colour can be set to, e.g., white to print on a dark background.  
 Usage:

```
\begin{tikzpicture}\ugenticon{1cm}{ugent@main}{0}\end{tikzpicture}
```



`\ugentlogo` [common] `{\height}` `{\color}` `{\alignment}`  
 When used within a `tikzpicture`, this prints the UGent logo, dependent on the campus. The height is a length, the alignment ranges from 0 (left edge) to 1 (right edge). The colour can be set to, e.g., white to print on a dark background. The logo text uses the current language.  
 Usage (the rectangle is just to visualize the boundaries here):

```
\begin{tikzpicture}
  \ugentlogo{4cm}{ugent@main}{0}
\end{tikzpicture}

\hspace{0.5cm}

\foreignlanguage{dutch}{
  \begin{tikzpicture}
    \ugentlogo{4cm}{ugent@main}{0}
  \end{tikzpicture}
}
```



```
\makeatletter
\ExplSyntaxOn
```

```

\keys_set:nn { ugentdocs } { campus = kortrijk }
\begin{tikzpicture}
  \ugentlogo{4cm}{ugent@main}{0}
\end{tikzpicture}

\hspace{0.5cm}

\keys_set:nn { ugentdocs } { campus = gugc }
\begin{tikzpicture}
  \ugentlogo{4cm}{ugent@main}{0}
\end{tikzpicture}

\ExplSyntaxOff
\makeatother

```



## 1.2 Language, time, and location

### 1.2.1 Language

The `ugentdocs` documents are officially supported in either English or Dutch:

`language` (*Opt*) [common] Options: `dutch`, `english`  
Default: `english` Sets the main document language and all automatic text.

To support multi-language documents and automatically setting all template text – e.g., copyright page, faculty name, or other specific terms set by the class – a dictionary system was implemented. A key can be translated to the currently active babel language using:

`\translatekey` [common] [*{<expand>}*] [*{<casing>}*] [*{<key>}*]  
Translates the `<key>` using the currently active language (`babel` package, see Section 1.5.1). This can be the main language, an override using `\selectlanguage{<language>}`, or a temporary language using the `\foreignlanguage{<language>}{...}` wrapper. A list of keys can be found in the dictionaries below.  
Optional arguments:  
`expand` - expands the `key`, for use with a key such as `org-\@fselector`  
`uppercase` or `lowercase` - changes key result casing.

By default, only English and Dutch dictionaries are supported, but a different language can be loaded using:

`\useugentdocsdictionary` [*{<language>}*]  
[common] When used, the dictionary reader will load a file named `ugentdocs-<language>.dict` into the dictionary library. If you want to use this language as main document language, be sure to load the `babel` package again immediately after class load using `\usepackage[main=<language>]{babel}`.

Dictionaries support paragraphs using a `___NEWLINE___` placeholder and empty lines for readability.

The English dictionary:

```
%<*english>
org-ugent    = Ghent University
org-deugent  = Ghent University
ghent       = Ghent
domain      = ugent.be
faculty     = Faculty
facultyof   = of
org-bw      = Bioscience Engineering
org-lw      = Arts and Philosophy
org-re      = Law and Criminology
org-we      = Sciences
org-ge      = Medicine and Health Sciences
org-ea      = Engineering and Architecture
org-eb      = Economics and Business Administration
org-di      = Veterinary Medicine
org-pp      = Psychology and Educational Sciences
org-fw      = Pharmaceutical Sciences
org-ps      = Political and Social Sciences

date        = Date
acyear      = Academic year
subject     = Subject
of          = Of
the-de      = The
the-het     = The
in          = In
and         = And
andlist     = , and
version     = Version
```

baprog = Bachelor's programme  
 sprog = Linking Course  
 vprog = Preparatory Course  
 maprog = Master's programme  
 phdprog = PhD  
  
 dissertation = Dissertation  
 dissertation-ma = Master's dissertation  
 dissertation-ba = Bachelor's dissertation  
 dissertation-phd = Doctoral dissertation  
 projreport = Project report  
  
 submittedto = Submitted to  
 bmfulfil = in partial Fulfilment of the Requirements for the Degree of  
 phdfulfil = in Fulfilment of the Requirements for the Degree of  
 badegree = Bachelor  
 madegree = Master  
 phddegree = Doctor  
  
 author = Author  
 authors = Authors  
 lecturer = Lecturer  
 lecturers = Lecturers  
 examiner = Examiner  
 examiners = Examiners  
 supervisor = Supervisor  
 supervisors = Supervisors  
 cosupervisor = Cosupervisor  
 cosupervisors = Cosupervisors  
 extsupervisor = External supervisor  
 extsupervisors = External supervisors  
 allsupervisor = Supervisor  
 allsupervisors = Supervisors  
 tutor = Tutor  
 tutors = Tutors  
 jury = Examination committee  
 jurymembers = Jury members  
 jurychair = Chair  
 dean = Dean  
 rector = Rector  
 coverdesigner = Cover illustration designer  
  
 exam = Exam  
 series = Series  
 lastname = Last name  
 firstname = First name  
 name = Name  
 studentnr = Student ID  
 room = Room  
 rooms = Rooms  
 examstart = Start  
 examend = End  
 examduration = Exam duration  
 question = Question  
 weight = Weight  
 total = Total  
 wordcount = Word count  
 page = Page  
 appendix = Appendix  
 package = Package  
  
 abstract = Abstract  
 graphicalabstract = Graphical abstract  
 articleinfo = Article info  
 highlights = Highlights  
 keywords = Keywords  
 corrauthor = Corresponding author  
 submitted = Submitted  
 accepted = Accepted  
 published = Published  
 preprint = Preprint  
 emails = Emails  
  
 confidential = Confidential  
 confidentiality = Confidentiality  
 arr = All rights reserved  
 crdisclaimer = Copyright  
 supportedby = This work was supported by  
 typeset = This document has been typeset using  
 pleaserefer = Please refer to this work as  
 ourref = Our reference  
  
 arrphd = The author allows to consult and copy parts of this work for personal use. Further reproduction or transmission in any form or by any means, without the prior permission of the author is strictly forbidden.  
  
 integrityclause = The PhD researcher and supervisor(s) declare that the PhD research was conducted according to the principles of scientific integrity, as mentioned in the general PhD regulations and charter for PhD researchers of Ghent University and the integrity charter for PhD researchers and supervisors affiliated with Ghent University.

embargofullphd = The author of this dissertation declares that this document is marked confidential. The content of this doctoral dissertation is confidential and is reserved solely for use by the supervisors and the doctoral jury to evaluate the doctoral quality of the dissertation. Any distribution, copying or dissemination of this document in whole or in part shall comply with all applicable legal stipulations governing the use of confidential information. The use of the information contained herein by any other person or entity is prohibited.

embargotempshd = The author of this dissertation declares that this document is confidential from \_\_START\_\_ until \_\_END\_\_ (embargo period), and becomes freely accessible after this embargo period. During the embargo period the content of this doctoral dissertation is confidential and is reserved solely for use by the supervisors and the doctoral jury to evaluate the doctoral quality of the dissertation. Any distribution, copying or dissemination of this document in whole or in part shall comply with all applicable legal stipulations governing the use of confidential information. The use of the information contained herein by any other person or entity is prohibited.

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embargotempbama = of this dissertation declare that this document is confidential from \_\_START\_\_ until \_\_END\_\_ (embargo period), and becomes freely accessible after this embargo period. During the embargo period the content of this dissertation is confidential and is reserved solely for use by the supervisors and the jury to evaluate the quality of the dissertation. Any distribution, copying or dissemination of this document in whole or in part shall comply with all applicable legal stipulations governing the use of confidential information. The use of the information contained herein by any other person or entity is prohibited.  
%</english>

## The Dutch dictionary:

```
%<*dutch>
org-ugent      = Universiteit Gent
org-deugent    = de Universiteit Gent
ghent         = Gent
domain        = ugent.be
faculty       = Faculteit
facultyof      =
org-bw        = Bio-ingenieurswetenschappen
org-lw        = Letteren en Wsbegeerte
org-re        = Recht en Criminologie
org-we        = Wetenschappen
org-ge        = Geneeskunde en Gezondheidswetenschappen
org-ea        = Ingenieurswetenschappen en Architectuur
org-eb        = Economie en Bedrfskunde
org-di        = Diergeneeskunde
org-pp        = Psychologie en Pedagogische Wetenschappen
org-fw        = Farmaceutische Wetenschappen
org-ps        = Politieke en Sociale Wetenschappen

date          = Datum
acyear        = Academiejaar
subject       = Onderwerp
of            = Van
the-de        = De
the-het       = Het
in            = In
and           = En
andlist       = ~en
version       = Versie

baprogram     = Bacheloropleiding
sprog         = Schakelprogramma
vprog         = Voorbereidingsprogramma
maprogram     = Masteropleiding
phdprogram    = Doctoraat

dissertation   = Proefschrift
dissertation-ma = Masterproef
dissertation-ba = Bachelorproef
dissertation-phd = Doctoraatsproefschrift
projreport     = Projectverslag

submittedto    = Voorgelegd aan
bmfulfil       = ter gedeeltelijke voldoening aan de vereisten voor de graad van
phdfulfil      = ter voldoening aan de vereisten voor de graad van
badegree       = Bachelor
madegree       = Master
phddegree      = Doctor

author         = Auteur
authors        = Auteurs
lecturer       = Lesgever
```

lecturers = Lesgevers  
examiner = Examiner  
examiners = Examinators  
supervisor = Promotor  
supervisors = Promotoren  
cosupervisor = Copromotor  
cosupervisors = Copromotoren  
extsupervisor = Externe Promotor  
extsupervisors = Externe Promotoren  
allsupervisor = Promotor  
allsupervisors = Promotoren  
tutor = Mentor  
tutors = Mentors  
jury = Examencommissie  
jurymembers = Juryliden  
jurychair = Voorzitter  
dean = Decaan  
rector = Rector  
coverdesigner = Ontwerper kaftillustratie

exam = Examen  
series = Reeks  
lastname = Achternaam  
firstname = Voornaam  
name = Naam  
studentnr = Student nr.  
room = Lokaal  
rooms = Lokalen  
examstart = Begin  
examend = Einde  
examduration = Duur van het examen  
question = Vraag  
weight = Gewicht  
total = Totaal  
wordcount = Aantal woorden  
page = Pagina  
appendix = Bijlage  
package = Pakket

abstract = Abstract  
graphicalabstract = Grafisch abstract  
articleinfo = Artikelinfo  
highlights = Kernpunten  
keywords = Trefwoorden  
corrauthor = Corresponderende auteur  
submitted = Ingediend  
accepted = Aanvaard  
published = Gepubliceerd  
preprint = Preprint  
emails = Emails

confidential = Confidentieel  
confidentiality = Confidentialiteit  
arr = Alle rechten voorbehouden  
crdisclaimer = Copyright  
supportedby = Dit werk werd ondersteund door  
typeset = Dit document is opgemaakt met  
pleaserefer = Gelieve naar dit werk te verwijzen als  
ourref = Ons kenmerk

arrphd = De auteur staat toe dat delen van dit werk geraadpleegd en gekopieerd worden voor persoonlijk gebruik. Verdere reproductie of transmissie zonder voorafgaande toestemming van de auteur in eender welke vorm of op eender welke manier is strikt verboden.

integrityclause = De doctoraatsonderzoeker en promotor(en) verklaren dat het doctoraatsonderzoek werd uitgevoerd volgens de principes van de wetenschappelijke integriteit, zoals vermeld in het algemeen doctoraatsreglement en algemeen charter van de doctorandus van de UGent en het integriteitscharter voor doctorandi en promotoren verbonden aan de Universiteit Gent.

embargofullphd = De auteur van dit proefschrift verklaart dat dit document confidentieel is. De inhoud van dit doctoraatsproefschrift is confidentieel en uitsluitend voorbehouden voor gebruik door de promotoren en de doctoraatsjury om de doctoraatskwaliteit van het proefschrift te evalueren. Het verdelen, kopiëren of verspreiden van dit document, zij het volledig of gedeeltelijk, zal voldoen aan alle wettelijke bepalingen die van toepassing zijn met betrekking tot het gebruik van confidentiële informatie. Het gebruik van de informatie die hierin vervat zit door elke andere persoon of entiteit is verboden.

embargotempthd = De auteur van dit proefschrift verklaart dat dit document confidentieel is van \_\_START\_\_ tot en met \_\_END\_\_ (embargoperiode), en vrij beschikbaar wordt na deze embargoperiode. Tijdens de embargoperiode is de inhoud van dit doctoraatsproefschrift confidentieel en uitsluitend voorbehouden voor gebruik door de promotoren en de doctoraatsjury om de doctoraatskwaliteit van het proefschrift te evalueren. Het verdelen, kopiëren of verspreiden van dit document, zij het volledig of gedeeltelijk, zal voldoen aan alle wettelijke bepalingen die van toepassing zijn met betrekking tot het gebruik van confidentiële informatie. Het gebruik van de informatie die hierin vervat zit door elke andere persoon of entiteit is verboden.

arrbama = geven de toelating deze scriptie voor consultatie beschikbaar te stellen en delen ervan te kopiëren voor persoonlijk gebruik. Elk ander gebruik valt onder de beperkingen van het auteursrecht, in het bijzonder met betrekking tot de verplichting uitdrukkelijk de bron te vermelden bij het aanhalen van resultaten uit deze scriptie.

embargofullbama = van dit proefschrift verklaren dat dit document confidentieel is. De inhoud van dit proefschrift is confidentieel en uitsluitend voorbehouden voor gebruik door de promotoren en de jury om de kwaliteit van het proefschrift te evalueren. Het verdelen, kopiëren of verspreiden van dit document, zij het volledig of gedeeltelijk, zal voldoen aan alle wettelijke bepalingen die van toepassing zijn met betrekking tot het gebruik van confidentiële informatie. Het gebruik van de informatie die hierin vervat zit door elke andere persoon of entiteit is verboden.

embargotempbama = van dit proefschrift verklaren dat dit document confidentieel is van \_\_START\_\_ tot en met \_\_END\_\_ (embargoperiode), en vrij beschikbaar wordt na deze embargoperiode. Tijdens de embargoperiode is de inhoud van dit proefschrift confidentieel en uitsluitend voorbehouden voor gebruik door de promotoren en de jury om de kwaliteit van het proefschrift te evalueren. Het verdelen, kopiëren of verspreiden van dit document, zij het volledig of gedeeltelijk, zal voldoen aan alle wettelijke bepalingen die van toepassing zijn met betrekking tot het gebruik van confidentiële informatie. Het gebruik van de informatie die hierin vervat zit door elke andere persoon of entiteit is verboden.

%</dutch>

### 1.2.2 Time and location

|                                                    |                                                                                                                                                                                                                                                                                                        |
|----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>localizedates</code> ( <i>Opt</i> ) [common] | Options: <code>true</code> , <code>false</code>                                                                                                                                                                                                                                                        |
| Default: <code>true</code>                         | Localizes the date format based on the active language to, e.g., May 26, 2026 if it is entered in the ISO format (YYYY-MM-DD). If no ISO format is input or the option is set to <code>false</code> , the date is printed verbatim. Also applies to the embargo period format (see later).             |
| <code>\date</code> [common]                        | [ <i>&lt;type&gt;</i> ] [ <i>&lt;new date&gt;</i> ]                                                                                                                                                                                                                                                    |
| Default: <code>\today</code>                       | Sets the document date. Interacts with the <code>localizedates</code> option. Used in the <code>bama</code> copyright / autograph page, the <code>phd</code> title page, and the <code>letter</code> header. The article class uses the <code>type</code> tag                                          |
| tag                                                | option, which can be <code>submitted</code> , <code>accepted</code> , or <code>published</code> for the article info section.                                                                                                                                                                          |
| <code>\year</code> [native]                        | { <i>&lt;YYYY&gt;</i> }                                                                                                                                                                                                                                                                                |
| Default: <code>current year</code>                 | Sets the document year using native L <sup>A</sup> T <sub>E</sub> X, e.g., through <code>\year=2026</code> . This is independent from the <code>\date</code> . Used in the copyright sections (e.g., Copyright 2026), the PhD “cite as”, and the PhD spine year. If not set, the current year is used. |
| <code>\academicyear</code> [common]                | { <i>&lt;YYYY–YYYY&gt;</i> }                                                                                                                                                                                                                                                                           |
| mandatory                                          | Specifies the academic year. Not mandatory for report class. Used in title page of the <code>report</code> , <code>bama</code> , <code>course</code> , and <code>phd</code> classes, and the footer of the <code>exam</code> class.                                                                    |
| tag                                                |                                                                                                                                                                                                                                                                                                        |
| <code>\location</code> [common]                    | { <i>&lt;new location&gt;</i> }                                                                                                                                                                                                                                                                        |
| Default: <code>Ghent</code>                        | Sets the location. The default is Ghent, translated to NL or EN using the dictionaries. Used in the default signing page of the <code>bama</code> class and the PhD colophon.                                                                                                                          |
| tag                                                |                                                                                                                                                                                                                                                                                                        |

### 1.3 Name, affiliation, and sequence parsing

Names are always input as "Surname, Firstname" (BibTeX format) in, e.g, `\author` commands (see the "people" macros in Section 1.6.3). The `ugentdocs` classes have specialized mechanisms to convert these to regular "Firstname Surname" or "Surname Firstname", and extracting initials, first names, and surnames.

|                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|--------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>nameformat</code> ( <i>Opt</i> ) [common]                                      | Options:<br>Default: <code>surnamelast</code> <code>surnamefirst</code> : outputs all names as "Surname Firstname"<br><code>surnamelast</code> : outputs all names as "Firstname Surname"                                                                                                                                                                                                                                                                                                                 |
| <code>affiliationformat</code> ( <i>Opt</i> ) [common]<br>Default: <code>alph</code> | Options: <code>arabic</code> , <code>alph</code><br>Sets affiliation indexes to <code>arabic</code> ("1,2,3") or <code>alph</code> ("a,b,c").                                                                                                                                                                                                                                                                                                                                                             |
|                                                                                      | Among other things such as email addresses or mobile numbers, names are stored in L <sup>A</sup> T <sub>E</sub> X3 sequences. Several macros are introduced here to work with those sequences.                                                                                                                                                                                                                                                                                                            |
| <code>\printseq</code> [common]                                                      | <code>{\sequence name}\{two-item-separator}\{separator}\{last-separator}</code><br>When used, returns the items in <code>&lt;sequence name&gt;</code> in order with the separators. These separators can be anything, even newlines.<br>For example, <code>\printseq{authors}{~&amp;~}{,~}{\translatekey{andlist},~}</code> returns:<br>Single item: <code>Name1</code><br>Two-item list: <code>Name1 &amp; Name2</code><br>Multi-item list: <code>Name1, Name2, and Name3</code>                         |
| <code>\ifseqempty</code> [common]                                                    | <code>{\sequence name}\{true code}\{false code}</code><br>If the sequence <code>&lt;sequence name&gt;</code> is empty, the <code>&lt;true code&gt;</code> is executed, otherwise the <code>&lt;false code&gt;</code> is executed.                                                                                                                                                                                                                                                                         |
| <code>\getseqcaption</code> [common]                                                 | <code>[\casing option]\{sequence name}\{post-caption content}</code><br>Fetches the caption of a sequence depending on its length. For example, using this macro on the <code>authors</code> sequence returns the dictionary key <code>author</code> (i.e., 'Author') if only one entry is present and <code>authors</code> (i.e., 'Authors') if multiple are present. Does not support non-'s' terminated sequences. For empty sequences, the <code>&lt;post-caption content&gt;</code> is not executed. |

## 1.4 Class options

Some common options such as `neutralcolors`, `colormodel`, `faculty`, `campus`, `language`, `localizedates`, `nameformat`, and `affiliationformat` were previously defined in the section above, found in the file `ugentcommon.clo` which is loaded for each class. A few of the document classes have specialized options, which will be described in this section.

|                                                   |                                                                                |                                                                                                                                                                                                                                            |
|---------------------------------------------------|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>cameraready</code> ( <i>Opt</i> ) [phd-bkc] | Options: <code>true</code> , <code>false</code><br>Default: <code>false</code> | Forces the smaller PhD format to be printed on A4 with bleed space, for if your print shop requires as a camera-ready copy. For the bookcover class, this sets a bleed space and fold or cut markers. See Section 1.5.1 for customization. |
| <code>bare</code> ( <i>Opt</i> ) [phd-crs]        | Options: <code>true</code> , <code>false</code><br>Default: <code>false</code> | Removes the front and back cover, such that you can give a 'bare' version containing only the document contents to your print shop.                                                                                                        |
| <code>thumbs</code> ( <i>Opt</i> ) [phd-crs]      | Options: <code>true</code> , <code>false</code><br>Default: <code>true</code>  | Adds chapter thumb indexes to your document. See Section 1.5.1 for customization.                                                                                                                                                          |
| <code>copyright</code> ( <i>Opt</i> ) [crs-rp]    | Options: <code>true</code> , <code>false</code><br>Default: <code>false</code> | Forces printing a watermark on every page. For the paper version of your document, this is inappropriate, but for any e-copy you make available, this may be appropriate. See Section 1.5.1 for customization.                             |
| <code>examiner</code> ( <i>Opt</i> ) [ex]         | Options: <code>true</code> , <code>false</code><br>Default: <code>false</code> | Allows setting the exam class in examiner mode, mentioning the examiner mode on every page (as regular text in the header and also in a watermark) to make sure you never hand out that copy to students.                                  |
| <code>coverbg</code> ( <i>Opt</i> ) [bama-rp-ex]  | Options: <code>true</code> , <code>false</code><br>Default: <code>false</code> | Sets a cover background with the relevant UGent or faculty colour, depending on <code>faculty</code> and <code>neutralcolors</code> options.                                                                                               |
| <code>foldline</code> ( <i>Opt</i> ) [le]         | Options: <code>true</code> , <code>false</code><br>Default: <code>true</code>  | Adds a little fold line to the letter margin, 1/3 of the page height from the top.                                                                                                                                                         |
| <code>coverttype</code> ( <i>Opt</i> ) [bkc]      | Options: <code>phd</code> , <code>course</code>                                | Passes the cover type to construct to the <code>bookcover</code> class.                                                                                                                                                                    |
| <code>secnums</code> ( <i>Opt</i> ) [bmr]         | Options: <code>true</code> , <code>false</code><br>Default: <code>false</code> | Enables section numbering in beamer presentations.                                                                                                                                                                                         |

Class loading operates as follows. The standard options such as `11pt`, `oneside`, or `openright` are passed to the relevant base classes. For courses, BSc/MSc and PhD dissertations, and reports, this is the `book` class. The `ugentletter` class expands `letter`, while exams and articles are based on `article`. Then, our custom options are processed, and the base classes are loaded in. Finally, the fonts are loaded and modern typesetting is applied: no paragraph indentation and decent paragraph spacing.

## 1.5 Packages

The following packages are required by `ugentdocs`:

---

|                            |                                                             |
|----------------------------|-------------------------------------------------------------|
| <code>adjustbox</code>     | Trimming and clipping of images                             |
| <code>babel</code>         | Translations of keywords and logos                          |
| <code>background</code>    | Copyright watermarks for courses and reports                |
| <code>beamerposter</code>  | Custom slide dimensions for beamer                          |
| <code>color</code>         | Colour management                                           |
| <code>crop</code>          | Camera-ready version of PhD dissertations                   |
| <code>csquotes</code>      | Context sensitive quotation facilities                      |
| <code>datetime2</code>     | Enhanced date parsing with language support                 |
| <code>environ</code>       | Custom environments for beamer template                     |
| <code>etoolbox</code>      | Toolbox for class definitions internally                    |
| <code>expl3</code>         | Use of $\text{\LaTeX}3$ code internally                     |
| <code>fancyhdr</code>      | Headers and footers                                         |
| <code>fontawesome</code>   | Beamer default closing page                                 |
| <code>fontspec</code>      | Fonts                                                       |
| <code>geometry</code>      | Page geometry and margins                                   |
| <code>graphbox</code>      | Improved placement of graphics                              |
| <code>graphicx</code>      | Enhanced support for graphics                               |
| <code>GS1</code>           | ISBN barcode for PhDs and courses                           |
| <code>hyphenat</code>      | Hyphenation control                                         |
| <code>iftex</code>         | Checking compiler type                                      |
| <code>setspace</code>      | Set line spacing                                            |
| <code>shellesc</code>      | Shell command execution, used in <code>\runwordcount</code> |
| <code>soul</code>          | Underline spanning multiple lines                           |
| <code>tabularx</code>      | Auto-expandable paragraph columns                           |
| <code>thumbs</code>        | Thumb indexes for PhDs and courses                          |
| <code>tikz</code>          | logos, cover pages, etc.                                    |
| <code>tikzpagenodes</code> | Positioning relative to page                                |
| <code>titlesec</code>      | Chapter title formatting                                    |
| <code>ulem</code>          | Line-breaking underline                                     |
| <code>unicode-math</code>  | Sans-serif math                                             |
| <code>wasysym</code>       | Symbols                                                     |
| <code>zref-abspage</code>  | Absolute page positions                                     |
| <code>zref-savepos</code>  | Save page positions                                         |
| <code>zref-totpages</code> | Page count                                                  |

---



Make sure these packages are available to your  $\text{\LaTeX}$  compiler. Most of these should be installed by default in TeXLive distributions or can be made to auto-install for MikTeX.

### 1.5.1 Options-specific packages

Some of the packages listed above are loaded depending on the class options set:

- **babel**: sets the main document language from the `language` option. You can add more languages by calling `\usepackage[<languages>]{babel}` again in your customization file, but make sure a dictionary is available for the main language (see Section 1.2.1).

```
1      (*crs|bama|phd|rp|le|ex|bk|bmr|art)
2      \ExplSyntaxOn
3      \str_if_eq:VnTF \l_@@_language_tl {dutch} {
4        \PassOptionsToPackage{main=dutch}{babel}
5      }{
6        \PassOptionsToPackage{main=english}{babel}
7      }
8      \RequirePackage[dutch,english]{babel}
9      \RequirePackage{csquotes}
10     \ExplSyntaxOff
11     </crs|bama|phd|rp|le|ex|bk|bmr|art>
```

- **datetime2**: sets the date format based on the `localizedates` option.

```
12     (*crs|bama|phd|rp|le|ex|bk|bmr|art)
13     \ExplSyntaxOn
14     \bool_if:NTF \l_@@_localizedates_bool {
15       \RequirePackage[userregional]{datetime2}
16     }{
17       \RequirePackage{datetime2}
18     }
19     \ExplSyntaxOff
20     </crs|bama|phd|rp|le|ex|bk|bmr|art>
```

- **background**: adds background watermark support for the courses and reports if the `copyright` option is `true`. Currently, only the course class uses this through `\backgroundsetup{contents={Copyright Ghent-University, All Rights Reserved}}`, but you can set your own watermark if you want by calling `\backgroundsetup{contents={<yourwatermark>}}`

```
21     (*crs|rp)
22     \ExplSyntaxOn
23     \bool_if:NT \l_@@_copyright_bool {
24       \RequirePackage[contents={},color=watermarkcolor,scale=3]{background}
25     }
26     \ExplSyntaxOff
27     </crs|rp>
```

- **crop**: handles the `cameraready` option for the PhD class, embedding the smaller page into an A4 page with cut marks.

```
28     (*phd)
29     \ExplSyntaxOn
30     \bool_if:NT \l_@@_cameraready_bool {
31       \RequirePackage[cam,center,width=21truecm,height=29.7truecm]{crop}
32       \RequirePackage[nopagecolor=white]{pagecolor}
33     }
34     \ExplSyntaxOff
35     </phd>
```

- **thumbs**: handles thumb indexes for courses and reports. You can customize them by calling `\usepackage[<options>]{thumbs}` in your customization file. Be sure to apply the correct `ignorehoffset` and `ignorevoffset` values if you use `cameraready=true` as class option. You can customize the thumb content (e.g., number) and colour by overwriting the `\@addthumb` command in your customization file.

```

36 \bama|rp|phd|crs)\newcommand{\@addthumb}{-}
37 < *phd|crs>
38 \ExplSyntaxOn
39 \bool_if:NT \l_@@_thumbs_bool {
40   \IfPackageLoadedTF{crop}{% Thumbs should be loaded after crop!
41     \PassOptionsToPackage{ignorehoffset=false,ignorevoffset=false}{thumbs}% crop
42   }{
43     \PassOptionsToPackage{ignorehoffset=true,ignorevoffset=true}{thumbs}% no crop
44   }
45   \RequirePackage[
46     height=25.4mm,
47     width=auto,
48     distance=2mm,
49     bottomthumbmargin=auto,
50     txtcentered=true,
51     topthumbmargin=3in
52   ]{thumbs}
53
54   \renewcommand*{\@addthumb}{-%
55     \addthumb{\chaptername~\thechapter}% Full chapter name
56     {\Large\bfseries\thechapter}% Chapter name in thumb (\thechapter = 1, 2, ...)
57     {white}% Chapter name colour
58     {gray!50}% Thumb colour
59   }
60 }
61 \ExplSyntaxOff
62 < /phd|crs>

```

### 1.5.2 Geometry

The `geometry` package is used to set the paper size for the documents. Based on the paper width and height, we define the `\gridunit` length from the official grid layout. It is calculated by dividing the long paper edge by 7, and then again by 4. You can use this length in your own graphics, and you can technically override it in your customization file using `\setlength\gridunit{<length>}`, although this is not recommended.

The paper size and margins are then set based on the official Office templates:

```
63 <*crs|rp|ex>
64 \setlength\@PW{210mm}
65 \setlength\@PH{297mm}
66 \@setgridunit
67 \RequirePackage[heightrounded,paperwidth=\@PW,paperheight=\@PH,
68                 top=2.54cm, bottom=2.54cm, left=2\gridunit, right=2.97cm]{geometry}
69 </crs|rp|ex>
70 <*phd>
71 \setlength\@PW{160mm}
72 \setlength\@PH{240mm}
73 \@setgridunit
74 \RequirePackage[heightrounded,paperwidth=\@PW,paperheight=\@PH,
75                 top=2.54cm, bottom=2.54cm, inner=2cm, outer=2cm, twoside]
76                 {geometry}
77 </phd>
78 <*bama>
79 \setlength\@PW{210mm}
80 \setlength\@PH{297mm}
81 \@setgridunit
82 \RequirePackage[heightrounded,paperwidth=\@PW,paperheight=\@PH,
83                 top=2.54cm, bottom=2.54cm, left=2\gridunit, right=2\gridunit]{geometry}
84 </bama>
85 <*le>
86 \setlength\@PW{210mm}
87 \setlength\@PH{297mm}
88 \@setgridunit
89 \RequirePackage[heightrounded,a4paper, footskip=4\gridunit,
90                 top=5\gridunit, bottom=4\gridunit, left=2\gridunit, right=4.07cm]{geometry}
91 </le>
92 <*art>
93 \setlength\@PW{210mm}
94 \setlength\@PH{297mm}
95 \@setgridunit
96 \RequirePackage[heightrounded,paperwidth=\@PW,paperheight=\@PH,
97                 top=2\gridunit, bottom=2\gridunit, left=2\gridunit, right=2\gridunit]{geometry}
98 </art>
```

For the `bookcover` class, the dimensions are dependent on the cover type (`phd` or `course`):

```
99 <*bkC>
100 \ExplSyntaxOn
101 \exp_args:Nx \str_case:nnF { \l_@@_covertype_tl } {
102   { phd } {
103     \setlength\@PW{160mm}
104     \setlength\@PH{240mm}
105   }
106   { course } {
107     \setlength\@PW{210mm}
108     \setlength\@PH{297mm}
109   }
110 }{
```

```

111 \msg_error:nxx { ugentdocs } { cover-type-not-implemented } { \l_@@_covertime_t1 }
112 }
113 \setgridunit
114 \ExplSyntaxOff
115 </bkc>

```

### 1.5.3 Recommended packages

Besides the packages listed above required for the classes to work, some other commonly used packages are recommended for use:

---

|                             |                                                 |
|-----------------------------|-------------------------------------------------|
| <code>algorithm2e</code>    | Algorithms and pseudocode                       |
| <code>biblatex</code>       | References                                      |
| <code>booktabs</code>       | Prettier tables                                 |
| <code>caption</code>        | Styling of figure and table captions            |
| <code>listings</code>       | Code display                                    |
| <code>longtable</code>      | Multi-page tables                               |
| <code>lscape</code>         | Landscape pages                                 |
| <code>mhchem</code>         | Chemical equations made easy                    |
| <code>multirow</code>       | Table cells spanning multiple rows              |
| <code>pdfpages</code>       | Inclusion of PDF pages into the document        |
| <code>siunitx</code>        | SI units and quantities                         |
| <code>subcaption</code>     | Subfigure captions                              |
| <code>threeparttable</code> | Tables with footnotes                           |
| <code>totalcount</code>     | Total counts of figures and tablecounts         |
| <code>xspace</code>         | Correct space after a command that outputs text |

---

## 1.6 Macros

In the following sections, the macros used in the documents are explained. If a macro is mandatory, it is noted in the margin, and a placeholder text is set by default or an warning message is printed.

### 1.6.1 Inset text and quotes

`\insettext [bama-phd-crs-rp] {<title>}{<content>}`

Formats the `title` and `content` into a text box. By default, the colours are faculty-based (`insetboxcolor`).

Examples:

`\insettext{An example title}{This is the content.}`

An example title

This is the content.

`\insettext{}{This is the content without a title.}`

This is the content without a title.

`\colorlet{insetboxcolor}{ugent@accent}`

`\insettext{An example title}{This is the content.}`

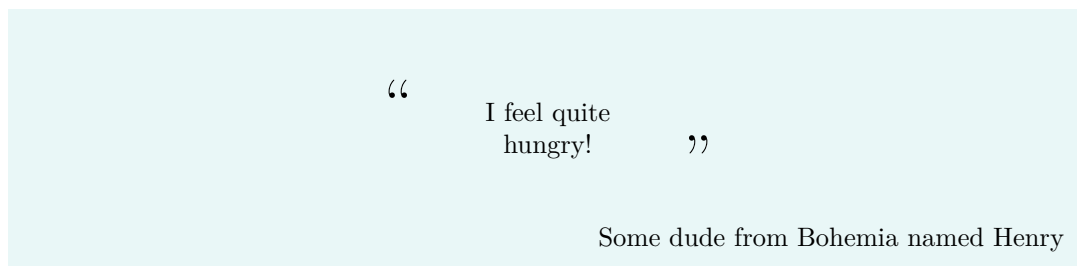
An example title

This is the content.

Implementation:

```
116 <*bama|phd|crs|rp>
117 \newcommand{\insettext}[2]{
118   \par\noindent
119   \begin{adjustbox}{center}%
120     \begin{tikzpicture}%
121       \node[align=flush left, text width=\linewidth-6mm, inner sep=3mm] (body) {#2};
122       \ifblank{#1}{}{%
123         \node[align=flush left, text width=\linewidth-6mm, inner sep=3mm,
124           fill=insetboxcolor, text=white, font=\bfseries,
125           above=0pt of body, anchor=south] (title) {#1};
126       }%
127       \begin{scope}[on background layer]
128         \ifblank{#1}{}%
129           \node[fill=insetboxcolor!10, fit=(body), inner sep=0mm] {};
130         }{%
131           \node[fill=insetboxcolor!10, fit=(body)(title), inner sep=0mm] {};
132         }%
133       \end{scope}
134     \end{tikzpicture}%
135   \end{adjustbox}%
136   \par
137 }
138 </bama|phd|crs|rp>
```

`\insetquote [bama-phd-crs-rp] {{quote}} {{citation}}`  
 Formats the quote and citation into a text box using `insettext`. By default, the colours are faculty-based (`insetboxcolor`).  
 Example:  
`\insetquote{I feel quite hungry!}{Some dude from Bohemia named Henry}`



Implementation:

```

139 <(*bama|phd|crs|rp)
140 \newlength{\@quotetextwidth}
141 \newlength{\@quoteinnerxsep}
142 \setlength{\@quoteinnerxsep}{10mm}
143
144 \newcommand{\@insetquotepicture}[2]{
145   \begin{tikzpicture}[baseline]
146     \node[align=#1, text width=\@quotetextwidth,
147       inner xsep=\@quoteinnerxsep, inner ysep=6mm] (qtext) {#2};
148     \node[font=\Huge, anchor=north west] at (qtext.north west) {'`'};
149     \node[font=\Huge, anchor=south east] at (qtext.south east) {'''};
150   \end{tikzpicture}
151 }
152
153 \newcommand{\insetquote}[2]{
154   \insettext{}%
155   \settowidth{\@quotetextwidth}{#1}%
156   \ifdim\@quotetextwidth>\dimexpr\linewidth-6mm-2\@quoteinnerxsep\relax
157     \setlength{\@quotetextwidth}{\dimexpr\linewidth-6mm-2\@quoteinnerxsep\relax}%
158     \@insetquotepicture{justify}{#1}\par
159   \else
160     \begin{center}
161       \@insetquotepicture{center}{#1}\par
162     \end{center}
163   \fi
164   \ifblank{#2}{-}{\raggedleft #2\par}%
165 }%
166 }
167 </(*bama|phd|crs|rp)

```

## 1.6.2 Document data

|                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>\title</code><br>[crs-bama-phd-rp-bkc-bmr-ex-art]<br>mandatory<br>tag               | <code>[\short title] {\title}</code><br>This macro sets the title of the document. It is $\text{\LaTeX}$ -native, but is extended here with an optional short title argument that additionally sets the <code>\@shorttitle</code> tag. It also sets the <code>\pdftitle</code> tag of the <code>hyperref</code> package (if it is loaded), so that the PDF-document meta-information is correct.                                                                                                                                                                                                               |
| <code>\titel</code> [phd]<br>mandatory<br>tag                                             | <code>{\dutch title}</code><br>This macro sets the Dutch title that will later be used in the PhD dissertation colophon page – if the main document language is not Dutch.                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <code>\subtitle</code><br>[crs-bama-phd-rp-bkc]<br>tag                                    | <code>[\short subtitle] {\subtitle}</code><br>This macro sets the subtitle of the document through the <code>\@subtitle</code> and <code>\@shortsubtitle</code> tags. You may use this to further clarify the title or to indicate the nature of this document. The latter is to be considered when you want to provide multiple documents as parts of the full course text (e.g., Course Notes, Theoretical Exercises, Practical Exercises). This macro also sets the <code>\subject</code> tag of the <code>hyperref</code> package (if it is loaded), so that the PDF-document meta-information is correct. |
| <code>\subtitel</code> [phd-bkc]<br>tag                                                   | <code>{\dutch subtitle}</code><br>This macro sets the Dutch subtitle that will later be used in the PhD dissertation colophon page if the main document language is not Dutch.                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <code>\extra</code> [rp]<br>tag                                                           | <code>{\extra title}</code><br>Specifies some extra comment (e.g., the nature of the document) below the title or subtitle of the report class.                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <code>\coverimage</code> [phd-crs-bkc]<br>tag                                             | <code>{\image path}</code><br>Sets the filename of the front cover image for courses and PhD dissertations. The cover image is automatically fitted and cropped to the cover, but it is best to set an approximately correctly sized image. If the image is not defined for a course text, the faculty icon will be used instead.                                                                                                                                                                                                                                                                              |
| <code>\frontcoverlogos</code><br>[bama-rp-phd-crs-bkc]<br>tag                             | <code>{\graphics}</code><br>Sets the logos in the bottom right corner of the cover page of most classes, Used for, e.g., publisher logos (course) or company logos (bama or phd). The FBW PhD cover does not support this (there is no space).<br>Example use – see also <code>example-ugentbama-1.pdf</code> :<br><br><pre> \frontcoverlogos{   \includegraphics[height=2\gridunit]{example-image-a}   \hspace{\gridunit}   \includegraphics[height=2\gridunit]{example-image-b} } </pre>                                                                                                                     |
| <code>\backcoverlogos</code> [phd-crs-bkc]<br>tag                                         | <code>{\graphics}</code><br>Sets the logos in the bottom right corner of the back cover page of the PhD and course classes, used for, e.g., a publisher logo.                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <code>\degree</code> [crs-ex-bkc-phd-bama]<br>mandatory<br>degrees_seq<br>degreecalls_seq | <code>{\full degree}</code><br>Sets the official degree name in full. You have to type it in the appropriate language yourself – possibly mixed “Dutch (English)”. This must be the official title of your diploma. For bachelor and master programmes in Dutch, it must be the Dutch title. For programmes in English it may be the English title. For PhD degrees, language constraints are less strict.                                                                                                                                                                                                     |

Consult the Flemish Higher Education Register ([in English](#) or [in Dutch](#)) for correct bachelor and master degree titles. Consult the Doctoral bylaws of the university for PhD degree titles. The degree(s) are used on the cover pages of the `bama`, `phd`, `course`, and `exam` classes, and on the title page of the `phd` class.

`\doctype` [bkc-phd-bama-rp] `{\document type}`  
**mandatory tag** Sets the document type for use in the `phd` and `bama` cover pages. Should be one of the doctype dictionary keys, being `dissertation-ba`, `dissertation-ma`, or `dissertation-phd`. The `report` class currently doesn't use this macro or tag, although you could set `\extra{\@doctype}` and `\doctype{projreport}`, probably.

`\wordcount` [bama-phd-rp] `{\word count}`  
**tag** Sets the word count of your document for printing on the cover page of the `bama` and `report` classes. The `phd` class doesn't use it currently. If not called or set empty, the word count is not printed out. The `<word count>` can also be set to `\runwordcount`, which counts the words automatically (see below).

`\runwordcount` [bama-phd-rp] Runs `texcount` using `shell-escape` (see code below), which automatically counts the words and sets the `\@wordcount` tag. Command arguments that expand to more text (e.g., a `\translatekey` call) only count the arguments, so results may be inaccurate, but it's the best we have.

You should also run your compiler with the flag '`--shell-escape`'. For notes on how to do this for your editor or compiler, visit [the TeX StackExchange wiki](#).

⚠ Enabling `shell-escape` potentially risks the execution of malicious code from dubious packages. Be sure to only use reputable packages and disable `shell-escape` when not used. The packages required by the `ugentdocs` classes should be safe, but better safe than sorry...

```

168 (*bama|phd|rp)
169 \ExplSyntaxOn
170 \cs_new:Nn \@_runwordcount: {
171   \ShellEscape{texcount--1--sum--merge--q~\jobname.tex->~\jobname.wc}
172   \file_if_exist:nTF { \jobname.wc } {
173     \file_get:nN { \jobname.wc } { } \l_tmpa_tl
174     \tl_to_str:N \l_tmpa_tl
175     \xdef\@wordcount{\l_tmpa_tl}
176   }{
177     \gdef\@wordcount{?}
178   }
179 }
180 \NewDocumentCommand{\runwordcount}{-}{
181   \@_runwordcount:
182 }
183 \ExplSyntaxOff
184 </bama|phd|rp>

```

`\grants` [phd-art] `{\grant text}`  
**tag** Specifies any grants that supported the research. Used to print a message in the PhD colophon page and the article title page: “This research was supported by `<grant text>`”

`\doi` [phd-art] `{\DOI}`  
**tag** Specify the correct Digital Object Identifier (without the `https://doi.org/`) of your PhD for display on the colophon page of the `phd` class or your article for display in the article info and footer of the `article` class. If the `hyperref` package is loaded, the full URL will be linked.

`\isbn` [crs-phd-bkc] `{\ISBN}`  
**tag** Specify your International Standard Book Number (if you requested one in time). The ISBN will be used to generate the barcode on the back cover automatically. If no ISBN is given, no barcode or placeholder is produced.

|                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>\embargo</code> [bama-phd-bkc]                           | <p><code>{\start = YYYY-MM-DD, end = YYYY-MM-DD}</code></p> <p>Generates the correct embargo message in your PhD colophon or Ba/Ma dissertation copyright signing page. Adds the word 'CONFIDENTIAL' (translated) to your cover and title pages. If no optional dates are given, the document is considered under full embargo. If the dates are given as ISO format, they interact with the <code>localizedates</code> option (see Section 1.2.2). The document is then considered to be under temporary embargo, and the dates replace the <code>__START__</code> and <code>__END__</code> placeholders of the <code>embargotempbama</code> or <code>embargotempphd</code> dictionary keys (see Section 1.2.1). This message is then printed using the <code>\@embargotempwithdates</code> macro, which interacts with the current document language.</p> |
| <code>\copyrightnotices</code><br>[crs-rp-bama-phd-art]<br>tag | <p><code>{\notice content}</code></p> <p>Used to override the default <code>\@copyrightnotices</code> content (see Section 2.5). Can be used to load a signed copyright page for the bama class using the <code>pdfpages</code> package and: <code>\copyrightnotices{\includepdf[pages={1}]{copyright_signed.pdf}}</code></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <code>\extranotices</code> [crs-rp]<br>tag                     | <p><code>{\extra copyright notices}</code></p> <p>Adds additional copyright notices to the default course and report copyright notices (see Section 2.5). For example:</p> <pre> \extranotices{   The graphics in this document have been typeset using \textrm{TikZ}.\   This document has been \textrm{\TeX}-ed on a GNU/Linux workstation. } </pre>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <code>\abstract</code> [art]<br>mandatory<br>tag               | <p><code>{\abstract text}</code></p> <p>Specifies the abstract of the article.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <code>\graphicalabstract</code> [art]<br>tag                   | <p><code>{\graphical abstract content}</code></p> <p>Specifies the graphical abstract of the article.<br/>Can be <code>\includegraphics[width=\textwidth]{GraphicalAbstractFile}</code>.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <code>\highlights</code> [art]                                 | <p><code>{\highlight items}</code></p> <p>Specifies the highlights of the article.<br/>Should be input as “<code>\item highlight1 \item highlight2 ...</code>”</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <code>\keywords</code> [art]                                   | <p><code>{\comma separated keywords}</code></p> <p>Specifies the keywords of the article. Should be input as “<code>keyword1, keyword2, ...</code>”</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <code>\journal</code> [art]<br>tag                             | <p><code>{\journal title}</code></p> <p>Specifies the journal in which the article was published or to which it was submitted.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

### 1.6.3 People

`\affiliation`  $\{\langle affiliation \rangle\}$

[crs-bama-phd-rp-bkc-le-ex-art] Adds an affiliation to the sequence. It can then be used as, e.g., “a” or “1” (depending on the `affiliationformat` option) in the `\author` macro. Specifying an affiliation in the `\author` macro not currently present in the sequence also adds that affiliation to the sequence. Any affiliation added is added as plain “`\affiliation{<affiliation>}`” to the `affiliationscalls` sequence.

`\author`  $[\langle corresponding \rangle] [\langle email \rangle] [\langle orcid \rangle] \{\langle title \rangle\} \{\langle Surname, Firstname \rangle\} \{\langle affiliation \rangle\}$

[crs-bama-phd-rp-bkc-le-ex-art] This macro adds an author to the document. The author name should be in BibTeX format (i.e., “Surname, Firstname”). Use multiple calls for multiple authors.

`mandatory`

`authors_seq`

`authoraffs_seq`

`authorlist_seq`

`authorcalls_seq`

`authorcorr_seq`

`authoremails_seq`

`authororcids_seq`

`authorsurnames_seq`

`authorfirstnames_seq`

The affiliation can have multiple formats, e.g., start with a newline: ‘\’, start with ‘, ’ for regular inline, or even ‘&’ for horizontal alignment in the **bama** & **report** cover pages. Optional argument `corresponding` sets the author as corresponding, `email` specifies the author email, and `orcid` the ORCID. These are stored in the `authorcorr`, `authoremails`, and `authororcids` sequences.

The authors are used in the **bama**, **report** (optional), and **phd** cover pages, the **bama** autograph / copyright page, the **article** graphical abstract and title page, the **course** (optional) and **phd** colophon, the **phd** title page, and the **bookcover** spine. The `pdfauthor` tag of the `hyperref` package (if it is loaded), is set using the `authorlist` so that the PDF-document meta-information is correct.

The formatted author name (see Section 1.3) is stored with the title in the `authors` sequence (e.g., “prof. Firstname Surname”) and the full name and title with affiliation (e.g., “prof. Firstname Surname, Ghent University”) is stored in the `authoraffs` sequence. The `authorlist` sequence stores “Surname, F.” formatted names for printing of a citation-style list, and the plain call – e.g., `\author{prof.}{Surname, Firstname}{, Ghent University}` – is stored in the `authorcalls` sequence for usage later in the `\generatebookcover` macro. These sequences can be used following the instructions in Section 1.3.

`\lecturer` [crs-rp-bkc-ex]  $\{\langle title \rangle\} \{\langle Surname, Firstname \rangle\} \{\langle affiliation \rangle\}$

`lecturers_seq`

`lecturerswaff_seq`

`lecturerscalls_seq`

Usage similar to `\author`. The lecturers can be the same or independent from the authors of, e.g., a course text. The lecturers are used in the **report** cover page (optional), the **course** and **exam** cover pages, and the **bookcover** spine (precedence over authors).

`\supervisor` [bama-phd-bkc]  $\{\langle title \rangle\} \{\langle Surname, Firstname \rangle\} \{\langle affiliation \rangle\}$

`mandatory`

`supervisors_seq`

`supervisorswaff_seq`

`supervisorscalls_seq`

`allsupervisors_seq`

`allsupervisorswaff_seq`

`allsupervisorstutors_seq`

Adds a person supervising the dissertation. Usage similar to `\author`. The supervisors are used in the **bama**, **report** (optional), and **phd** cover pages, and the **phd** examination committee page. The `allsupervisors` sequence additionally stores the co-supervisors and external supervisors (see below), and the `allsupervisorstutors` additionally includes `tutors` (see below). Both are used in the **bama** autograph / copyright page.

`\cosupervisor` [bama]  $\{\langle title \rangle\} \{\langle Surname, Firstname \rangle\} \{\langle affiliation \rangle\}$

`cosupervisors_seq`

`cosupervisorswaff_seq`

Adds a person co-supervising the Ba/Ma dissertation (optional). Used in the **bama** cover page and autograph / copyright page. See also `\supervisor`.

`\extsupervisor` [bama]  $\{\langle title \rangle\} \{\langle Surname, Firstname \rangle\} \{\langle affiliation \rangle\}$

`extsupervisors_seq`

`extsupervisorswaff_seq`

Adds an external supervisor of the Ba/Ma dissertation (optional). Used in the **bama** cover page and autograph / copyright page. See also `\supervisor`.

`\tutor` [bama]  $\{\langle title \rangle\} \{\langle Surname, Firstname \rangle\} \{\langle affiliation \rangle\}$

`tutors_seq`

`tutorswaff_seq`

Adds a tutor or mentor of the Ba/Ma dissertation (optional). Used in the **bama** cover page and autograph / copyright page. See also **\supervisor**.

|                                 |                                                                                                                                                                                                                                                                                                                        |
|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>\jurymember</b> [phd]        | <code>{\title}} {\langle Surname, Firstname\rangle} {\langle affiliation\rangle}</code>                                                                                                                                                                                                                                |
| <b>mandatory</b>                | Adds a jury member to your PhD dissertation. This excludes the jury chair (see below).                                                                                                                                                                                                                                 |
| <b>jurymemberswaff_seq</b>      | Usage similar to <b>\author</b> . Used in the PhD examination committee page.                                                                                                                                                                                                                                          |
| <b>\jurychair</b> [phd]         | <code>{\title}} {\langle Surname, Firstname\rangle} {\langle affiliation\rangle}</code>                                                                                                                                                                                                                                |
| <b>mandatory</b>                | Specifies the jury chair of your PhD dissertation. Used in the PhD examination committee                                                                                                                                                                                                                               |
| <b>tag</b>                      | page. Sets the <b>\@jurychairaff</b> tag in addition to the <b>\@jurychair</b> tag.                                                                                                                                                                                                                                    |
| <b>\dean</b> [phd]              | <code>{\title}} {\langle Surname, Firstname\rangle}</code>                                                                                                                                                                                                                                                             |
| <b>mandatory</b>                | Specifies the current dean of your faculty. Used in the PhD examination committee page.                                                                                                                                                                                                                                |
| <b>tag</b>                      |                                                                                                                                                                                                                                                                                                                        |
| <b>\rector</b> [phd]            | <code>{\title}} {\langle Surname, Firstname\rangle}</code>                                                                                                                                                                                                                                                             |
| <b>mandatory</b>                | Specifies the current rector of the university. Used in the PhD examination committee page.                                                                                                                                                                                                                            |
| <b>tag</b>                      |                                                                                                                                                                                                                                                                                                                        |
| <b>\coverdesigner</b> [phd-crs] | <code>{\langle Surname, Firstname\rangle}</code>                                                                                                                                                                                                                                                                       |
| <b>tag</b>                      | Credits the cover designer of your cover page image. Used in the PhD colophon page.                                                                                                                                                                                                                                    |
| <b>\studentnr</b> [bama-ex-rp]  | <code>{\langle student number\rangle}</code>                                                                                                                                                                                                                                                                           |
| <b>tag</b>                      | Specifies the student number. For reports and Ba/Ma dissertations, this is used in the cover page if set. For multiple students for reports or bachelor's dissertations, it is best to specify the student numbers in the affiliation section of the <b>\author</b> macro, with '&' to align them (see also examples). |

#### 1.6.4 Contact

|                                     |                                                                                                                                                                          |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>\address</b> [phd-le-rp]         | <code>{\langle address lines\rangle}</code>                                                                                                                              |
| <b>mandatory</b>                    | Address of the author(s) of the <b>letter</b> , <b>report</b> , or <b>phd</b> . Newlines are allowed and encouraged.                                                     |
| <b>tag</b>                          | Used in the letter's header, the report cover page (optional), and the PhD colophon page.                                                                                |
| <b>\email</b>                       | <code>[\langle domain\rangle] {\langle local-part\rangle}</code>                                                                                                         |
| [phd-crs-bama-bkc-ex-le-rp-bmr-art] | E-mail address of the sending person, or the administrative person tracking the letter or report.                                                                        |
| <b>emails_seq</b>                   | Used in the <b>letter</b> header and <b>report</b> cover page (optional). You can specify multiple email addresses by using the command multiple times.                  |
| <b>\phone</b> [le-rp]               | <code>{\langle phone number\rangle}</code>                                                                                                                               |
| <b>phones_seq</b>                   | Add phone numbers. Used in the <b>letter</b> header and <b>report</b> cover page (optional). The wasysym package's <b>\phone</b> macro is redefined to <b>\Phone</b> : ☎ |
| <b>\fax</b> [le]                    | <code>{\langle fax number\rangle}</code>                                                                                                                                 |
| <b>faxes_seq</b>                    | Add fax numbers. Used in the <b>letter</b> header.                                                                                                                       |
| <b>\mobile</b> [le-rp]              | <code>{\langle mobile number\rangle}</code>                                                                                                                              |
| <b>mobiles_seq</b>                  | Add mobile numbers. Used in the <b>letter</b> header and <b>report</b> cover page (optional).                                                                            |

#### 1.6.5 Course macros

|                          |                                                                                                  |
|--------------------------|--------------------------------------------------------------------------------------------------|
| <b>\course</b> [ex-crs]  | <code>{\langle course code\rangle} {\langle course name\rangle}</code>                           |
| <b>mandatory</b>         | Code and name of the curriculum course this course material or exam belongs to. Not sure         |
| <b>courses_seq</b>       | if there's a clear structure for course codes, but you can find them on the "studiefiche" of the |
| <b>courseswcodes_seq</b> | course.                                                                                          |
| <b>coursescodes_seq</b>  |                                                                                                  |

|                                   |                                                                                                                                                                                                                                   |
|-----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>\courseversion</code> [crs] | <code>{\version number}</code>                                                                                                                                                                                                    |
| tag                               | Sets the current course version, to keep track of changes over time. Used on the colophon / copyright page and in the header/footer.                                                                                              |
| <code>\publisher</code> [crs]     | <code>{\publisher information}</code>                                                                                                                                                                                             |
| tag                               | Sets the publisher information. Can be multiline to include an address.                                                                                                                                                           |
| <code>\publishercode</code> [crs] | <code>{\publisher code}</code>                                                                                                                                                                                                    |
| tag                               | This macro sets the publisher code of the document. It is printed on the course colophon / copyright page. This is code that the publisher uses for its internal administration. It may be a proprietary code, or an ISBN number. |

### 1.6.6 Exam macros

|                                  |                                                                                                                                                                                                                                   |
|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>\exampart</code> [ex]      | <code>{\exam part}</code>                                                                                                                                                                                                         |
| tag                              | Describes which part of the course the exam covers. The evaluation of a course often consists of multiple elements (e.g. a written and oral exam). Used in the exam cover page.                                                   |
| <code>\examseries</code> [ex]    | <code>{\number or name of the exam series}</code>                                                                                                                                                                                 |
| tag                              | Set the exam series number or name, e.g., “1 (eerste examenkans-inhaal)”. Used in the exam cover page and footers.                                                                                                                |
| <code>\examduration</code> [ex]  | <code>{\HHh}</code>                                                                                                                                                                                                               |
| tag                              | Specifies the total length of the exam in a unit of time, e.g., ‘4h’. Used on the exam cover page.                                                                                                                                |
| <code>\examstart</code> [ex]     | <code>{\HHhMM}</code>                                                                                                                                                                                                             |
| tag                              | Specifies the start time of the exam, preferably in the format ‘HHhMM’, e.g., ‘08h30’. Used on the exam cover page.                                                                                                               |
| <code>\examend</code> [ex]       | <code>{\HHhMM}</code>                                                                                                                                                                                                             |
| tag                              | Specifies the end time of the exam, preferably in the format ‘HHhMM’, e.g., ‘12h30’. Used on the exam cover page.                                                                                                                 |
| <code>\room</code> [ex]          | <code>{\room number}</code>                                                                                                                                                                                                       |
| <code>rooms_seq</code>           | Specifies the rooms in which the exam will take place. This is useless info for the student when reading the exam, but may be of convenience for you as author or supervisor of the exam. Used in the cover page of the exam.     |
| <code>\extrainfo</code> [ex]     | <code>{\extra information text}</code>                                                                                                                                                                                            |
| tag                              | Specifies the extra information to describe the materials that can be used during the examination and cautioning the students not to commit fraud.                                                                                |
| <code>\question</code> [ex]      | <code>[\weight]{\question}</code>                                                                                                                                                                                                 |
|                                  | Adds a question to the exam, with automatic number counting. The <code>&lt;question&gt;</code> can be any content. Using the optional argument (e.g., <code>weight=3</code> ) adds the weight of the question in the left margin. |
| <code>\subquestion</code> [ex]   | <code>[\weight]{\question}</code>                                                                                                                                                                                                 |
|                                  | Works entirely similar to the <code>\question</code> , but uses letters (e.g., “a”) and is indented slightly.                                                                                                                     |
| <code>\pointoverview</code> [ex] | Prints the point overview table, including a total row.                                                                                                                                                                           |
| <code>\bilingual</code> [ex]     | <code>[\language 1] [\language 2] {\text 1} {\text 2}</code>                                                                                                                                                                      |
|                                  | Typesets content ( <code>&lt;text 1&gt;</code> and <code>&lt;text 2&gt;</code> ) in two languages side-by-side. By default,                                                                                                       |

<language 1> is `english` and <language 2> is `dutch`. Specifying only one optional argument overrides English. Fully supported by the `babel` package, so logos, translatekeys, etc. are automatically translated if the dictionary is present for that language (see Section 1.2.1).

|                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>\mcsymb</code> [ex]                                | <code>{\new symbol}</code>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Default: <code>\Square</code> : <input type="checkbox"/> | Sets the symbol to be used as multiple choice mark.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <code>\mc</code> [ex]                                    | <code>{\choice option}</code>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|                                                          | Typesets a multiple choice answer option.<br>For bilingual, use <code>\mc{\bilingual{english option}{dutch option}}</code> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <code>\gridpage</code> [ex]                              | <code>{\watermark}</code>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|                                                          | Creates a full page containing the <watermark> (can be empty), with a dotted grid with half a <code>\gridunit</code> spacing. Can be used for, e.g., scrap paper.                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <code>\answerspace</code> [ex]                           | <code>[\style=grid/lines/none] [\lines=number of lines]</code>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|                                                          | Creates an answer space with an outline box. If <code>lines</code> is not specified, it will fill the remainder of the page (or create a full page). If the number of <code>lines</code> exceeds the remaining page capacity, it continues on the next page. The line or grid spacing dimension can be set using <code>\answerspacing{&lt;length&gt;}</code> . Specifying no <code>style</code> optional argument just prints the outline box, whilst <code>style=grid</code> produces a <code>darkgray</code> dotted grid, and <code>style=lines</code> produces a <code>darkgray</code> lined box. |

### 1.6.7 Letter macros

|                                   |                                                                                                                                                                                                                                                                         |
|-----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>\sender</code> [le]         | <code>{\title and name} {\role}</code>                                                                                                                                                                                                                                  |
| mandatory tag                     | Sets the person writing the letter. Does not use the <code>nameformat</code> option. Additionally sets the <code>\@senderrole</code> tag to <role> (can be left empty). Used in the letter's header and closing.                                                        |
| <code>\returnaddress</code> [le]  | <code>{\return address information}</code>                                                                                                                                                                                                                              |
| mandatory tag                     | This is a short return address, listed in small font on top of the destination address, visible in a windowed envelope (European format) It should fit on a single line. The goal is to get the undelivered letter back to the person that can take action accordingly. |
| <code>\to</code> [le]             | <code>{\addressee name}</code>                                                                                                                                                                                                                                          |
| mandatory tag                     | Specifies the name of the addressee. Used in the envelope window (5 lines estate, including <code>\returnaddress</code> and the other 'to' macros).                                                                                                                     |
| <code>\toorganization</code> [le] | <code>{\organization name}</code>                                                                                                                                                                                                                                       |
| tag                               | Sets the name of the organization that employs the addressee. Used in the envelope window (5 lines estate, including <code>\returnaddress</code> and the other 'to' macros).                                                                                            |
| <code>\toaddress</code> [le]      | <code>{\multiline address}</code>                                                                                                                                                                                                                                       |
| mandatory tag                     | Address of the addressee. Newlines are allowed. Used in the envelope window (5 lines estate, including <code>\returnaddress</code> and the other 'to' macros).                                                                                                          |
| <code>\subject</code> [le]        | <code>{\subject title}</code>                                                                                                                                                                                                                                           |
| mandatory tag                     | Short descriptive title that describes the contents of the letter.                                                                                                                                                                                                      |
| <code>\reference</code> [le]      | <code>{\reference number}</code>                                                                                                                                                                                                                                        |
| tag                               | Sets the reference number to be used in the letter's heading text.                                                                                                                                                                                                      |
| <code>\opening</code> [le]        | <code>{\Dear prof. X,}</code>                                                                                                                                                                                                                                           |
|                                   | Opening address of the letter.                                                                                                                                                                                                                                          |

|                                            |                                                                                                                                                                                                                                                                                   |
|--------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>\closing</code> [le]                 | <code>{\langle<i>Kind regards</i>\rangle}</code>                                                                                                                                                                                                                                  |
| <code>mandatory</code><br><code>tag</code> | Closing clause of the letter.                                                                                                                                                                                                                                                     |
| <code>\signature</code> [le]               | <code>{\langle<i>signature content</i>\rangle}</code>                                                                                                                                                                                                                             |
| <code>tag</code>                           | Add a signature between the closing statement of the letter and the sender's name. This can be a text message, an image using <code>\includegraphics</code> , or overridden to empty ( <code>\signature{}</code> ). By default, it leaves some vertical space for manual signing. |
| <code>\carboncopy</code> [le]              | <code>{\langle<i>CC content</i>\rangle}</code>                                                                                                                                                                                                                                    |
| <code>tag</code>                           | List of persons receiving a copy of this letter. Format at will. Used in the trailer of the letter.                                                                                                                                                                               |
| <code>\enclosed</code> [le]                | <code>{\langle<i>enclosed items description</i>\rangle}</code>                                                                                                                                                                                                                    |
| <code>tag</code>                           | List of enclosed documents. Format at will. Used in the trailer of the letter.                                                                                                                                                                                                    |
| <code>\closeletter</code> [le]             | Close the letter (with the closing greetings and underwriting) such that the letter can be continued if desired with attachments. This macro generates a <code>\clearpage</code> . If not used, it is automatically invoked at the end of the letter.                             |

## 1.7 Making titles and covers

This section contains the macros needed to display your front cover and your title, colophon, copyright,... pages. It also contains their implementation. If you do not wish to customize that, you do not need to pay attention to the code.

`\maketitle` A native L<sup>A</sup>T<sub>E</sub>X macro, overridden to support the generation of cover pages, title pages, colophon pages, etc.

For the `bama`, `phd`, `course`, `report`, and `exam` classes, this generates the cover page using `\@frontcover` (see Section 2.4):

```
185 <*bama|phd|rp|crs|ex>
186 \ExplSyntaxOn
187 \renewcommand\maketitle{%
188 \pagestyle{empty}
189 %
190 % Cover page
191 </bama|phd|rp|crs|ex>
192 <*phd|crs>
193 % Do not print thumbs on the first pages
194 \bool_if:NT \l_@@_thumbs_bool {
195   \stoptthumb
196 }
197 % Do not count page number of the cover page
198 \bool_if:NF \l_@@_bare_bool {
199   \begingroup
200   \pagenumbering{gobble}
201 </phd|crs>
202 <*bama|phd|rp|crs|ex>
203 % Insert front cover
204 \begin{titlepage}
205   \setlength\parskip{0pt}%
206   \setlength\parindent{0pt}%
207   %
208   \AddToHookNext{shipout/foreground}{%
209     \begin{tikzpicture}[remember~picture,overlay]
210       \node[anchor=south~west, inner~sep=0pt]
211         at (current~page.south~west) {%
212           \@frontcover
213         };
214     \end{tikzpicture}%
215   }%
216   \null
217 \end{titlepage}%
218 </bama|phd|rp|crs|ex>
219 <*phd|crs>
220 \endgroup
221 \setcounter{page}{0}%
222 }
223 </phd|crs>
224 <bama>\null\par
```

Then, the remaining front pages are added. For the `bama`, `report`, and `course` classes, this is just a copyright page using `\@copyrightnotices` (See Section 2.5):

```
225 <*bama|rp>
226 \ifx\@copyrightnotices\@empty\else
227 \noindent\@copyrightnotices
228 \fi
229 </bama|rp>
```

```

230 %
231 <*crs>
232 ~\par\relax
233 \clearpage
234 \bool_if:NT \l_@@_copyright_bool {
235   \backgroundsetup{contents={Copyright-Ghent-University,~All-Rights-Reserved}}
236 }
237 \null\vfill
238 \ifx\@copyrightnotices\@empty\else
239 \@copyrightnotices
240 \clearpage
241 \fi
242 </crs>

```

For the exam class, this is simply the extra info.

```

243 <*ex>
244 ~\par\relax
245 \clearpage
246 \@extrainfo{}
247 </ex>

```

For the phd class, this is a blank page, the committee page, the title page, and the colophon page:

```

248 <*phd>
249 % Page 1: blank
250 \clearpage\thispagestyle{empty}\null
251
252 % Page 2: committee
253 \clearpage\thispagestyle{empty}
254 \null\vfill % flush to bottom
255 \noindent\begin{minipage}[b]{\textwidth}
256 %
257 \textbf{\getseqcaption{supervisors}{}}\hfill\break
258 %
259 \printseq{supervisorswaff}{\{\}\{\}\{\}}
260 \vskip 2em
261 %
262 %
263 \textbf{\translatekey{jury}}\hfill\ll[1ex]
264 %
265 \textit{\translatekey{jurychair}}\hfill\break
266 \@jurychair{}\ifdefined\@jurychairaff{}\@jurychairaff{}
267 \vskip 1em
268 %
269 \textit{\translatekey{jurymembers}}\hfill\break
270 {\printseq{jurymemberswaff}{\{\}\{\}\{\}}}%
271 \vskip 2em%
272 %
273 %
274 \textbf{\translatekey{dean}\tl_if_empty:NF \l_@@_fselector_tl {%
275   {\~\translatekey[lowercase]{of}\~\translatekey[lowercase]{the-de}\~\@faculty%
276   }}\hfill\break
277 \@dean\phantom{.}%
278 \vskip 2em
279 %
280 \textbf{\translatekey{rector}\~\translatekey[lowercase]{of}
281   {\~\translatekey{org-deugent}}\hfill\break
282 \@rector\phantom{.}%
283 \end{minipage}%
284

```

```

285 % Page 3: title
286 \clearpage\thispagestyle{empty}
287 \null\vfill % Bottom-align
288 \noindent\begin{minipage}[b]{\textwidth}
289   \begingroup
290     \raggedright
291     {\Huge\bfseries\nohyphens\@title\par}%
292
293     \ifx\@subtitle\@empty\else
294       \vspace{.5\baselineskip}
295       {\Large\@subtitle\par}%
296     \fi
297   \endgroup
298
299   \vspace{5\baselineskip}%
300   {\Large\printseq{authors}{\\}{\\}{\\}\par}%
301
302   \bool_if:NTF \l_@@_embargo_bool {
303     \vspace{5\baselineskip}
304     {\large\translatekey[uppercase]{confidential}\par}
305     \vspace{5\baselineskip}
306   }{
307     \vspace{10\baselineskip}%
308   }
309
310   {\small \@doctype{~}\translatekey[lowercase]{submittedto}%
311     \tl_if_empty:NF \l_@@_fselector_tl {%
312       {~}\translatekey[lowercase]{the-de}~\@faculty{~}\translatekey[lowercase]{of}}%
313       {~}\translatekey{org-deugent},~\translatekey{phdfulfil}%
314       {~}\printseq{degrees}{~\&~}{,~}{~}\translatekey{andlist}~\par}%
315
316   \vspace{.3\baselineskip}%
317   {\small\translatekey{org-ugent},~\@location,~\@date}%
318 \end{minipage}%
319
320 % Page 4: copyright page (verso, bottom-left)
321 \clearpage\thispagestyle{empty}\null\vfill
322 \@copyrightnotices\par
323 </phd>
324 %
325 <*bama|phd|rp|crs|ex>
326 % Relax a bit
327 \setcounter{footnote}{0}%
328 \global\let\thanks\relax
329 \global\let\maketitle\relax
330 \global\let\@thanks\@empty
331 \global\let\title\relax
332 \global\let\author\relax
333 \global\let\date\relax
334 \global\let\and\relax
335 \pagestyle{fancy}
336 \thispagestyle{empty}
337 }
338 \ExplSyntaxOff
339 </bama|phd|rp|crs|ex>

```

The `letter` class also uses `\maketitle` to typeset the header, including the logos, the faculty and team header, and the info ribbon (`\@letterheader`, see Section 1.6.7). It also typesets the first page, with the foldline, the from and to address, and the sender information:

```

340 <*|e>
341 \ExplSyntaxOn
342 \newcommand\maketitle{%

```

```

343 \pagestyle{empty}
344 \thispagestyle{empty}
345 \AddToHook{shipout/foreground}{%
346 \begin{tikzpicture}[inner-sep=0pt,outer-sep=0pt,overlay]
347 \clip (0,0) rectangle(\paperwidth,-\paperheight);
348 \begin{scope}[shift={(\gridunit,-\@PH)}]
349 \ugentlogo{4\gridunit}{ugent@main}{0.0}
350 \end{scope}
351 \begin{scope}[shift={(\gridunit,-3\gridunit)}]
352 \faclogo{3\gridunit}{ugent@\@fselector}{0}
353 \end{scope}
354 \path (\@PW-\gridunit,-\gridunit)
355 node[anchor=north-east,text~width=61.5mm,align=flush~left] {
356 \small{\nohyphens{\bfseries\textcolor{ugent@main}{\@faculty[uppercase]}}}\*
357 \textcolor{ugent@main}{\MakeUppercase{\@team}}
358 };
359
360 \ifnum\value{page}>1
361 \path (2\gridunit,-3\gridunit)
362 node[anchor=north-west] { \@letterheader };
363 \fi
364 \end{tikzpicture}
365 }
366
367 \AddToHookNext{shipout/foreground}{%
368 % Adapted from uantwerpendocs v4.12, (C) Walter Daems, LPPL 1.3c
369 \begin{tikzpicture}[inner-sep=0pt,outer-sep=0pt,overlay]
370 \clip (0,0) rectangle(\paperwidth,-\paperheight);
371 %
372
373 \bool_if:NT \l_@@_foldline_bool {
374 \draw (1cm,-98mm) -- (1.5cm,-98mm);
375 }
376 %
377 \path (2\gridunit,-44mm)
378 node[anchor=north-west,text~width=80mm,align=flush~left] {
379 \scriptsize\textcolor{gray}{\uline{\@returnaddress}}\*
380 \normalsize\@to\*
381 \ifx\@toorganization\@empty\else\@toorganization\*\fi%
382 \@toaddress
383 };
384
385 \path (\@PW-\gridunit,-3\gridunit)
386 node[anchor=north-east,text~width=61.5mm,align=flush~left] {
387 \textcolor{ugent@main}{\textbf{\@sender}}
388 \ifx\@senderrole\@empty\*[1.75ex]\else \*\@senderrole\*[1.75ex]\fi
389 \ifseqempty{emails} {}{E~\printseq{emails}
390 {\phantom{E~}}{\phantom{E~}}{\phantom{E~}}\}
391 \ifseqempty{phones} {}{T~\printseq{phones}
392 {\phantom{T~}}{\phantom{T~}}{\phantom{T~}}\}
393 \ifseqempty{faxes} {}{F~\printseq{faxes}
394 {\phantom{F~}}{\phantom{F~}}{\phantom{F~}}\}
395 \ifseqempty{mobiles} {}{M~\printseq{mobiles}
396 {\phantom{M~}}{\phantom{M~}}{\phantom{M~}}\}
397 \vskip 1.75ex
398 \@address\*[1.75ex]
399 \@ifpackageloaded{hyperref}{
400 \href{https://www.ugent.be}{www.ugent.be}
401 }{
402 www.ugent.be
403 }
404 };
405 \end{tikzpicture}
406 }
407 \null

```

```

408 \vspace{4\gridunit}
409 \@letterheader\\[\gridunit]
410 {\bfseries\@subject}
411 }
412 \ExplSyntaxOff
413 </le>

```

The `article` class uses a simple title, no cover page is included. It includes a “cover” page containing the graphical abstract, highlights, and copyright notice (if those are given). The title page contains the title, author names with affiliations and ORCID badges, the affiliation list, optional grant message, and the article info and abstract table. A footnote is included with the author emails and ORCIDs.

```

414 <*art>
415 \ExplSyntaxOn
416 \renewcommand\maketitle{%
417 % First page (if applicable)
418 \bool_lazy_or:nnT
419 { ! \tl_if_empty_p:o { \@graphicalabstract } }
420 { ! \tl_if_empty_p:N \g_@@_highlights_tl }
421 { \thispagestyle{empty}
422 \color{covertitlecolor}{
423 \fontsize{20}{28}\selectfont\@title\par
424 }
425 \vskip 0.5\gridunit
426 \color{coverdatacolor}{
427 \fontsize{14}{17}\selectfont
428 \printseq{authorlist}{~\&~}{,~}{\translatekey{andlist}~}
429 \par
430 }
431
432 \tl_if_empty:oF { \@graphicalabstract }{
433 \color{covertitlecolor}{
434 \fontsize{20}{28}\selectfont
435 \vskip\gridunit
436 \translatekey{graphicalabstract}\par
437 }
438 \@graphicalabstract
439 }
440 \tl_if_empty:NF \g_@@_highlights_tl {
441 \vskip\gridunit
442 \color{covertitlecolor}{
443 \fontsize{20}{28}\selectfont
444 \translatekey{highlights}\par
445 }
446 \color{coverdatacolor}{
447 \fontsize{14}{17}\selectfont
448 \@_printhighlights:
449 }
450 }
451 \ifx\@copyrightnotices\@empty\else
452 \null\vfill
453 \@copyrightnotices
454 \fi
455 }
456 \newpage
457 \thispagestyle{titlepage}
458 % Title
459 \color{covertitlecolor}{\fontsize{20}{28}\selectfont\@title\par}
460 % Author and affiliation list
461 \vskip 0.5\gridunit
462 \color{coverdatacolor}{
463 \fontsize{14}{17}\selectfont

```

```

464 \@@_printauthorlist:
465 \par
466 \vskip 0.5\gridunit
467 \fontsize{10}{12}\selectfont
468 \@@_printaffiliationlist:
469 \ifx\@grants\@empty\else
470 \vskip 0.25\gridunit
471 {\translatekey{supportedby}~\@grants.}
472 \fi
473 \vskip 0.5\gridunit
474 \hrule \medskip
475 \noindent
476 % Article info
477 \begin{minipage}[t]{0.3\linewidth}
478 \raggedright
479 \fontsize{14}{17}\selectfont
480 \translatekey[uppercase]{articleinfo} \par
481 \smallskip \hrule \medskip
482 \normalsize
483 % keywords
484 \clist_if_empty:NF \g_@@_keywords_clist {
485 \textit{\translatekey{keywords}} } \par
486 \clist_map_inline:Nn \g_@@_keywords_clist { ##1 \par }
487 \medskip
488 }
489 % dates
490 \tl_if_empty:oF {\@submitteddate} {
491 \translatekey{submitted}~\@submitteddate \par
492 }
493 \tl_if_empty:oF {\@accepteddate} {
494 \translatekey{accepted}~\@accepteddate \par
495 }
496 \tl_if_empty:oF {\@publisheddate} {
497 \translatekey{published}~\@publisheddate \par
498 }
499 % journal
500 \tl_if_empty:oF { \@journal } {
501 \medskip
502 \translatekey{published}~\translatekey[lowercase]{in}:
503 {}~\textit{\@journal} } \par
504 }
505 % doi
506 \tl_if_empty:oF { \@doi }{
507 \medskip{DOI~
508 \@ifpackageloaded{hyperref}{
509 \exp_args:NV \href \l_@@_doiurl_str {\@doi}
510 }{
511 \@doi
512 }
513 }
514 }
515 \end{minipage}
516 \hfill
517 % Abstract
518 \begin{minipage}[t]{0.65\linewidth}
519 \fontsize{14}{17}\selectfont
520 \translatekey[uppercase]{abstract} \par
521 \smallskip \hrule \medskip
522 \normalsize
523 \@abstract
524 \end{minipage}
525 \par \medskip \hrule
526 }
527 \@@_printauthorfootnote:
528 }

```

```

529 \ExplSyntaxOff
530 </art>

```

`\makefinalpage` [phd-crs] Inserts the final pages and cover using `\@backcover` (see Section 2.4). An extra blank page is included (the back of the cover).

`\makebookcover` [bkc] This macro creates a book cover for the bookcover class. This is already defined in the `bookcover` package, so we need to renew it. If the spine width is too small, the spine text will not be printed. Uses the `\@frontcover` and `\@backcover` (see Section 2.4). For courses, the lecturers are preferred on the spine over the authors.

```

531 <*bkc>
532 \ExplSyntaxOn
533 \bool_new:N \l_@@_printonspine_bool
534 \AtBeginDocument{
535   \fp_compare:nNnTF { \spinewidth } < { 10.0mm } {
536     \msg_warning:nnx { bookcover } { spine-too-small } { \fp_to_decimal:n{\spinewidth/1mm} }
537     \bool_set_false:N \l_@@_printonspine_bool
538   }{
539     \msg_info:nnx { bookcover } { spine-big-enough } { \fp_to_decimal:n{\spinewidth/1mm} }
540     \bool_set_true:N \l_@@_printonspine_bool
541   }
542 }
543
544 \renewcommand\makebookcover{
545   \begin{bookcover}
546     \bookcovercomponent{normal}{front}{\@frontcover}
547     \makeatletter
548     \bookcovercomponent{color}{bg~spine}{spinecolor}
549     \bool_if:NT \l_@@_printonspine_bool {
550       \bookcovercomponent{logo}{spine}{spinetextcolor}
551       \bookcovercomponent{title}{spine}{\renewcommand{\@}[1][~]{\@title{}}}
552       \bookcovercomponent{authoryear}{spine}{
553         \exp_args:Nx \str_case:nn { \l_@@_covertime_t1 } {
554           { phd } {
555             \printseq{authors}{~\&~}{,~}{\translatekey{andlist}~}
556           }
557           { course } {
558             \ifseqempty{lecturers}{
559               \printseq{authors}{~\&~}{,~}{\translatekey{andlist}~}
560             }{
561               \printseq{lecturers}{~\&~}{,~}{\translatekey{andlist}~}
562             }
563           }
564         }
565       }
566     }
567     \makeatother
568     \bookcovercomponent {normal}{back}{\@backcover}
569   \end{bookcover}
570 }
571 \ExplSyntaxOff
572 </bkc>

```

`\generatebookcover` [phd-crs] This macro generates a `<filename>-cover.tex` file from your current document for the creation of a full book cover (back/spine/front). It copies over all relevant information.

## 2 Style

This section contains the actual style of the `ugentdocs` classes. If you don't need to customize the style (which we do not recommend anyway), you can best skip this whole section as it's very code-heavy. While the same from L<sup>A</sup>T<sub>E</sub>X's point of view, we refer to the commands in this section not as macros but as “customization points” or `custom` in short, as they are not intended to be used within the document but serve as a starting place for customization in a `<ugentclass>-customization.sty` file – see also the note on customization on page 4.



So a word of caution: do not use customization points within your document directly! Override them in a customization file that you load with `\usepackage`.

### 2.1 Cross-references

The `hyperref` package is used for creating links within documents, such as table of contents (TOC), citations, URLs,... If this package is loaded for the `crs`, `bama`, `phd`, `article`, or `report` classes, the style sets the TOC colour to `toccolor` and any other link colour to `hypercolor` (see Section 1.1.1). It additionally sets the `pdftitle`, `pdfsubject`, and `pdfauthor` metadata, in addition to the `pdfkeywords` for the `article` class:

```
573 <*crs|bama|phd|r|art>
574 \ExplSyntaxOn
575 \tl_new:N \g_@@_pdfauthor_tl
576 \seq_new:N \l_@@_pdfauthor_seq
577 \tl_new:N \l_@@_pdfauthor_item_tl
578 \cs_new_protected:Npn \@@_pdfauthor_add:n #1{
579   \tl_set:Nn \l_@@_pdfauthor_item_tl {#1}
580   \tl_replace_all:Nnn \l_@@_pdfauthor_item_tl { , } { \xmpcomma }
581   \seq_put_right:NV \l_@@_pdfauthor_seq \l_@@_pdfauthor_item_tl
582 }
583
584 \AtBeginDocument{
585   \ifpackageloaded{hyperref}{
586     \pretocmd{\tableofcontents}{\begingroup\hypersetup{linkcolor=toccolor}}{}{}
587     \apptocmd{\tableofcontents}{\endgroup}{}{}
588
589     \begingroup
590     \def\{~}
591     \seq_clear:N \l_@@_pdfauthor_seq
592     \cs_if_exist:NTF \xmpcomma {
593       \seq_map_function:NN \g_@@_authorlist_seq \@@_pdfauthor_add:n
594     }{
595       \seq_set_eq:NN \l_@@_pdfauthor_seq \g_@@_authorlist_seq
596     }
597     \tl_gset:Ne \g_@@_pdfauthor_tl { \seq_use:Nn \l_@@_pdfauthor_seq { ,~ } }
598   \endgroup
599
600   \pdfstringdefDisableCommands{
601     \let\leavevmode\@empty
602     \def\{~}
603     \def\xspace{}
604   }
605   \hypersetup{
606     breaklinks=true,
607     colorlinks=true,
608     citecolor=hypercolor,
609     filecolor=hypercolor,
610     linkcolor=hypercolor,
611     pageanchor=true,
```

```

612     pdfpagemode=UseOutlines,
613     urlcolor=hypercolor,
614     pdftitle=\@title,
615     pdfsubject=\@subtitle,
616     pdfauthor=\g_@@_pdfauthor_tl
617 }
618 </crs|bama|phd|rp|art>
619 <*art>
620     \hypersetup{
621         pdfkeywords = { \clist_use:Nn \g_@@_keywords_clist { ,~ } }
622     }
623 </art>
624 <*crs|bama|phd|rp|art>
625     }{}
626 }
627 \ExplSyntaxOff
628 </crs|bama|phd|rp|art>
629 <*crs|bama|phd|rp|art>
630 \AddToHook{package/hyperxmp/after}{\hypersetup{keeppdfinfo}}
631 </crs|bama|phd|rp|art>

```

## 2.2 Headers and Footers

The `fancyhdr` package is used to make the headers and footers. Using this, we can set left/centre/right (L/C/R) areas of the headers and footers.

For the `course` class, we define separate headers and footers for two-sided and one-sided documents. For two-sided even pages, we put the page number in the left header, the chapter title in the right header, and “Ghent University” (translated) with the faculty acronym (e.g., FBW) in the left footer. For two-sided odd pages, we put the page number in the right header, the section title in the left header, the course version in the left footer, and the title of the course and short subtitle in the right footer. For one-sided courses, we put the chapter title in the left header, the page number in the right header, the course version in the left footer, “Ghent University” (translated) and the faculty abbreviation in the centre footer, and the course title in the right footer. For both document types, we set the header height to 13.7pt, and the footer and header rule or line thickness to 1 pt. Page numbering is in arabic for all pages. For a plain page style, i.e., the title page of a chapter or section, we only print the page number in the centre of the footer.

The choices above results in the following code:

```

632 <*crs>
633 \fancyhf{}
634 \if@twoside
635     \fancyhead[LE]{\small\thepage}
636     \fancyhead[RE]{\small\leftmark}
637     \fancyfoot[LE]{
638         \small\translatekey{org-ugent}
639         \ifx\@fselector\@empty\else -- \@facultyacronym\fi
640     }
641
642     \fancyhead[LO]{\small\rightmark}
643     \fancyhead[RO]{\small\thepage}
644     \fancyfoot[LO]{
645         \ifx\@courseversion\@empty\else
646             \small\translatekey{version}~\@courseversion
647         \fi
648     }
649     \fancyfoot[RO]{

```

```

650 \small{\renewcommand{\}[1][~]\@title{}}
651 \ifdefined\@shortsubtitle{}\{ --- \@shortsubtitle}
652 }
653 \else
654 \fancyhead[L]{\small\leftmark}
655 \fancyhead[R]{\small\thepage}
656 \fancyfoot[L]{
657 \ifx\@courseversion\@empty\else
658 \small\translatekey{version}~\@courseversion
659 \fi
660 }
661 \fancyfoot[C]{
662 \small\translatekey{org-ugent}
663 \ifx\@fselector\@empty\else -- \@facultyacronym\fi
664 }
665 \fancyfoot[R]{
666 \small{\renewcommand{\}[1][~]\@title{}}
667 }
668 \fi
669 \fancypagestyle{plain}{%
670 \fancyhf{}
671 \renewcommand*{\headrulewidth}{0pt}
672 \renewcommand*{\footrulewidth}{0pt}
673 \fancyfoot[C]{\small\thepage}
674 }
675 \setlength{\headheight}{13.7pt}
676 \renewcommand*{\headrulewidth}{1pt}
677 \renewcommand*{\footrulewidth}{1pt}
678 \pagenumbering{arabic}
679 \end{crs}

```

For the **bama** and **report** classes, the frontmatter – e.g., copyright page, summary, abbreviations list, or AI use disclaimer – uses a different style. For the frontmatter of a two-sided document, the even pages show the page number in the left header, and the odd pages show it in the left footer. The frontmatter of a one-sided document simply shows the page number in the right footer. No header line is drawn for the frontmatter. For the mainmatter, the chapter marks are formatted as, e.g., “1. Chapter title”. These are shown on the left header of odd pages for two-sided documents, and the left header of all pages for one-sided documents. Additionally, the page number is shown alternating on the outer corner of the footer (left for even, right for odd) of two-sided documents, and always in the right footer of one-sided documents. For one-sided documents, a small UGent logo is additionally shown in the left footer. For plain page styles such as chapter or section titles, the same style is kept as for the mainmatter, albeit without the header. Finally, the global header height is set to 21pt, and the footer skip to 1.5 cm.

The choices above results in the following code (adapted from Joris Meys’ LaTeX at UGent):

```

680 \begin{bama}rp
681 % Frontmatter
682 \apptocmd{\frontmatter}{\pagestyle{frontmatter}}{}{}
683 % Auto set when calling frontmatter
684 \if@twoside
685 \fancypagestyle{frontmatter}{
686 \fancyhf{}
687 \renewcommand{\headrulewidth}{0pt}
688 \fancyfoot[R0]{\thepage}
689 \fancyfoot[LE]{\thepage}
690 }
691 \else
692 \fancypagestyle{frontmatter}{
693 \fancyhf{}
694 \renewcommand{\headrulewidth}{0pt}

```

```

695 \fancyfoot[R]{\thepage}
696 }
697 \fi
698
699 % Mainmatter
700 \renewcommand{\chaptermark}[1]{\markboth{\thechapter. \ #1}{}}
701 % Set chapter mark to e.g. 1. Chapter title
702 \renewcommand{\sectionmark}[1]{%
703 \ifnum\c@chapter=\z@
704 \markboth{\thesection. \ #1}{}%
705 \else
706 \markright{\thesection. \ #1}%
707 \fi
708 }
709 \apptocmd{\mainmatter}{\pagestyle{mainmatter}}{}{}
710 % Auto set when calling mainmatter
711
712 \if@twoside
713 \fancypagestyle{mainmatter}{
714 \fancyhf{}
715 \fancyhead[LO]{ \leftmark}
716 % \fancyhead[RE]{ \rightmark}
717 \fancyfoot[RO]{\thepage}
718 \fancyfoot[LE]{\thepage}
719 \renewcommand{\headrulewidth}{0.15pt}
720 }
721 \else
722 \fancypagestyle{mainmatter}{
723 \fancyhf{}
724 \fancyhead[L]{ \leftmark}
725 \fancyfoot[R]{\thepage}
726 \fancyfoot[L]{
727 \begin{tikzpicture}[overlay,remember picture]
728 \begin{scope}[shift={(current page.south west)}, xshift=2\gridunit-0.45cm]
729 \ugentlogo{1.8cm}{ugent@main}{0.0}
730 \end{scope}
731 \end{tikzpicture}
732 }
733 \renewcommand{\headrulewidth}{0.15pt}
734 }
735 \fi
736
737 % for the title pages
738 \if@twoside
739 \fancypagestyle{plain}{
740 \fancyhf{}
741 \fancyfoot[RO]{\thepage}
742 \fancyfoot[LE]{\thepage}
743 \renewcommand{\headrulewidth}{0pt}
744 \renewcommand{\footrulewidth}{0pt}
745 }
746 \else
747 \fancypagestyle{plain}{
748 \fancyhf{}
749 \fancyfoot[R]{\thepage}
750 \fancyfoot[L]{
751 \begin{tikzpicture}[overlay,remember picture]
752 \begin{scope}[shift={(current page.south west)}, xshift=2\gridunit-0.45cm]
753 \ugentlogo{1.8cm}{ugent@main}{0.0}
754 \end{scope}
755 \end{tikzpicture}
756 }
757 \renewcommand{\headrulewidth}{0pt}
758 \renewcommand{\footrulewidth}{0pt}
759 }

```

```

760 \fi
761
762 \setlength{\headheight}{21pt}
763 \setlength{\footskip}{1.5cm}
764 </bama|rp>

```

The `phd` class uses simpler headers and footers. For regular pages, only headers are used. For two-sided documents, the page numbers are shown on the outer header corners. The chapter is shown in the right header on even pages, and the section is shown in the left header on odd pages. For one-sided documents, this becomes the chapter mark in the left header and the page number in the right header. For plain pages, the page number is shown in the centre of the footer. The header height is set to 13.7pt, and the header and footer line widths to 0pt. The description above results in the following code:

```

765 <*phd>
766 \if@twoside
767   \fancyhf{}
768   \fancyhead[LE]{\small\thepage}
769   \fancyhead[RE]{\small\leftmark}
770   \fancyhead[LO]{\small\rightmark}
771   \fancyhead[RO]{\small\thepage}
772 \else
773   \fancyhf{}
774   \fancyhead[L]{\small\leftmark}
775   \fancyhead[R]{\small\thepage}
776
777 \fi
778 \fancypagestyle{plain}{%
779   \fancyhf{}
780   \fancyfoot[C]{\small\thepage}
781 }
782 \setlength{\headheight}{13.7pt}
783 \renewcommand*{\headrulewidth}{0pt}
784 \renewcommand*{\footrulewidth}{0pt}
785 </phd>

```

The footer of the `exam` class is simply the page number and total page count in the centre. The right header displays “EXAMINER VERSION” for the `examiner=true` option, and the student number for `examiner=false` (default). Additionally, a watermark is drawn for the examiner version. This results in the following code:

```

786 <*ex>
787 \fancyhf{}
788 \ExplSyntaxOn
789 \bool_if:NTF \l_@@_examiner_bool {
790   \fancyhead[R]{\small EXAMINER~VERSION}
791   \AddToHook{shipout/background}{
792     \put(0.5\@PW,-0.5\@PH){\makebox(0,0){\rotatebox{\@WMA}{%
793       \parbox{\@PD}{\centering\color{watermarkcolor}%
794         \fontsize{105}{130}\selectfont Examiner~Version}}}}%
795   }
796 }{
797   \fancyhead[R]{\small \translatekey{studentnr}:
798     {~\phantom{\large 00000000}~\translatekey{name}:~\hspace{3cm}}
799 }
800 \fancyfoot[L]{\small{\renewcommand{\}{[1][~]{~}\@shorttitle{}}}
801 \fancyfoot[R]{\small
802   \ifx\@examseries\@empty~\else\translatekey{series}~\@examseries\fi}
803 {~----~\@academicyear}
804 \ExplSyntaxOff
805
806 \setlength{\headheight}{13.7pt}

```

```

807 \renewcommand*{\headrulewidth}{0pt}
808 \renewcommand*{\footrulewidth}{1pt}
809 </ex>

```

For the `article` class, this is the short title in the centre header, a left footer “Published” or “Published in: journal” (if journal is given) when a publication date is given, else “Preprint” or “Preprint submitted to journal”, and the page count in the right footer

```

810 <*art>
811 \fancyhf{}
812 \ExplSyntaxOn
813 \fancyhead[C]{\small {\renewcommand{\}[1][~]{~}\@shorttitle{}}}
814 \fancyfoot[L]{
815   \tl_if_empty:oTF { \@publisheddate }{
816     \translatekey{preprint}
817     \bool_lazy_and:nnT
818     { ! \tl_if_empty_p:o { \@submitteddate } }
819     { ! \tl_if_empty_p:o { \@journal } }
820     { }~\translatekey[lowercase]{submittedto}~\@journal }
821   }{
822     \translatekey{published}
823     \tl_if_empty:oF { \@journal }
824     { ~\translatekey[lowercase]{in}~\@journal }
825     \tl_if_empty:oF { \@doi }{
826       .~{\small DOI~
827         \@ifpackageloaded{hyperref}{
828           \exp_args:NV \href \l_@@_doiurl_str {\@doi}
829         }{
830           \@doi
831         }
832       }
833     }
834   }
835 }
836 \fancyfoot[R]{\small \thepage/\ztotpages}
837 \ExplSyntaxOff
838
839 \setlength{\headheight}{13.7pt}
840 \renewcommand*{\headrulewidth}{0pt}
841 \renewcommand*{\footrulewidth}{1pt}
842
843 \pagestyle{fancy}
844 \fancypagestyle{titlepage}[fancy]{
845   \fancyhead{}
846 }
847 </art>

```

For the `letter` class, we don’t use the `fancyhdr` package. Instead, we define a custom header using TikZ:

`\@letterheader` [custom] This consists of 3 parts, the date on the left, the page number and total pages in the middle, and the reference number on the right. The labels above the date, page number, and reference are shown in [UGent Blue](#). Doing this in a TikZ picture allows us to position the header differently between the first and later pages. Implementation:

```

848 <*le>
849 \fancyhf{}
850 \newcommand{\@letterheader}{
851   \begin{tikzpicture}[anchor=north west,align=left,outer sep=0,inner sep=0]
852     \path
853     (0,0) node { \small\strut\textcolor{ugent@main}{\translatekey[uppercase]{date}} }

```

```

854      (4cm,0) node { \small\strut\textcolor{ugent@main}{\translatekey[uppercase]{page}} }
855      (8cm,0) node { \small\strut\textcolor{ugent@main}{\translatekey[uppercase]{ourref}} }
856      (0,-2.5ex) node { \strut \@date }
857      (4cm,-2.5ex) node { \strut \thepage/\ztotpages }
858      (8cm,-2.5ex) node { \strut \@reference };
859 \end{tikzpicture}
860 }
861 </le>

```

## 2.3 Chapter and section titles

A total of 5 chapter styles are available: `plain`, `fancy`, `fancycompact`, `uantwerpen`, and `legacyplain`. The style is set through the `\l_@@_chaptitilestyle_tl` variable, which can be overridden in a customization file.

The `plain` style (default for `report` and `bama`):

### 1. AN EXAMPLE TITLE

The `fancy` style (default for `phd`):



### An example title

---

The `fancycompact` style (default for `course`):



### An example title

---

The `uantwerpen` style (legacy from `uantwerpendocs`):



### An example title

---

The `legacyplain` style (legacy from my old templates):



### An example title

The styles set the `\@titlestylechapter` and `\@titlestyleappendix` customization points:

`\@titlestylechapter` Style of the chapter titles. Automatically set at the beginning of the document.  
[custom]  
`\@titlestyleappendix` Style of the appendix chapter titles. Automatically set after calling `\appendix`.  
[custom]

Implementation:

```

862 <*phd|crs|bama|rp|art>
863 \RequirePackage[explicit]{titlesec}
864 </phd|crs|bama|rp|art>
865 <*phd|crs|bama|rp>
866 \ExplSyntaxOn
867 \newcommand{\@titlestyleappendix}{}
868
869 \newcommand{\@titlestylechapter}{
870   \exp_args:Nx \str_case:nnF { \l_@@_chaptitstyle_tl } {
871     { plain } {
872       \titleformat{\chapter}
873       [block] % shape
874       {\fontsize{16}{19} \selectfont \color{titlecolor} \bfseries } % format
875       {\thechapter. \ } % the label
876       { 0ex } %separator space
877       {\MakeUppercase{\uline{##1}}} %before code
878       [\@addthumb] %after code
879
880       \titleformat{name=\chapter,numberless}
881       [block] % shape
882       {\fontsize{16}{19} \selectfont \color{titlecolor} \bfseries } % format
883       {} % the label
884       {0ex}%separator space
885       {\uline{\MakeUppercase{##1}}} %before code
886
887       % Change the spacing above the chapter. This is left - above - below
888       \titlespacing*{\chapter}{0pt}{-3em}{12pt}
889
890       \renewcommand{\@titlestyleappendix}{ % Adds "appendix" to title
891         \titleformat{\chapter}
892         [display] % shape
893         {\fontsize{18}{22}\selectfont\color{titlecolor}} % format
894         {\MakeUppercase{\chaptertitlename\ \thechapter}} % the label
895         {-2ex} %separator space
896         {\fontsize{24}{32}\selectfont\bfseries\raggedright\MakeUppercase{
897           \uline{####1}}} %before code
898         [\@addthumb] %after code
899       }
900     }
901     { fancy } {
902       \titleformat{\chapter}
903       [display] % shape
904       {}{}{0pt} % format, label, sep (unused: box+number are drawn manually)
905       {%
906         \begin{tikzpicture}[remember=picture, overlay]
907           % Number coloured box
908           \node[fill=titlecolor, minimum-height=3\gridunit, minimum-width=
909             4\gridunit+\the\hoffset, inner-sep=0pt, anchor=north-east]
910             (numbox)
911             at ([xshift=\the\hoffset,yshift=-3\gridunit]current-page.north-east) {};
912
913           % Chapter number
914           \node[white, font=\fontsize{70}{70}\selectfont\bfseries, anchor=center]
915             at ([xshift=1.5\gridunit]numbox.west |- numbox.center) {\thechapter};
916

```

```

917 % Chapter name
918 \node[white, font=\bfseries\normalsize, rotate=90, anchor=center, inner~sep=2pt]
919 at ([xshift=3.5\gridunit]numbox.west |- numbox.center) {\chaptername};
920
921 \end{tikzpicture}%
922 \group_begin:
923 \skip_set:Nn \topsep { \dim_eval:n { \topsep } }
924 \skip_set:Nn \partopsep { \dim_eval:n { \partopsep } }
925 \skip_set:Nn \parskip { \dim_eval:n { \parskip } }
926 \vspace*{20pt}
927 \begin{flushright}
928 \color{titlecolor}\huge\bfseries##1%
929 \end{flushright}%
930 \vspace*{-10pt}%
931 {\color{titlecolor}\rule{\textwidth}{1pt}}
932 \group_end:
933 }
934 [\@addthumb] %after code
935
936 \titleformat{name=\chapter,numberless}
937 [block]
938 {}{}{0pt}
939 {%
940 \group_begin:
941 \skip_set:Nn \topsep { \dim_eval:n { \topsep } }
942 \skip_set:Nn \partopsep { \dim_eval:n { \partopsep } }
943 \skip_set:Nn \parskip { \dim_eval:n { \parskip } }
944 \begin{flushright}
945 \color{titlecolor}\huge\bfseries##1%
946 \end{flushright}%
947 \vspace*{-10pt}%
948 {\color{titlecolor}\rule{\textwidth}{1pt}}
949 \group_end:
950 }
951
952 \titlespacing*{\chapter}{0pt}{0pt}{20pt}
953
954 % No thumb on chapter page
955 \bool_if:NT \l_@@_thumbs_bool {
956 \apptocmd{\@addthumb}{\stopthumb}{}{}
957 \AddToHook{shipout/foreground}{\continuethumb}
958 }
959
960 }
961 { fancycompact} {
962 \titleformat{\chapter}
963 [display] % shape
964 {}{}{0pt} % format, label, sep (unused: box+number are drawn manually)
965 {%
966 \begin{tikzpicture}[remember~picture, overlay]
967 % Number coloured box
968 \node[fill=titlecolor, minimum~height=3\gridunit, minimum~width=
969 4\gridunit+\the\hoffset, inner~sep=0pt, anchor=north~east]
970 (numbox)
971 at ([xshift=\the\hoffset,yshift=-3\gridunit]current~page.north~east) {};
972
973 % Chapter number
974 \node[white, font=\fontsize{70}{70}\selectfont\bfseries, anchor=center]
975 at ([xshift=1.5\gridunit]numbox.west |- numbox.center) {\thechapter};
976
977 % Chapter name
978 \node[white, font=\bfseries\normalsize, rotate=90,
979 anchor=center,inner~sep=2pt]
980 at ([xshift=3.5\gridunit]numbox.west |- numbox.center) {\chaptername};
981

```

```

982 % Chapter title
983 \node[titlecolor, font=\huge\bfseries,
984 anchor=south-east, align=flush-right, text~width=0.85\textwidth]
985 at ([xshift=-10pt,yshift=10pt]numbox.west |- numbox.south) {##1};
986
987 % Rule
988 \draw[titlecolor, line~width=1pt]
989 ([xshift=-\the\hoffset]current~page~text~area.west |- numbox.south)
990 -- (numbox.south-east);
991 \end{tikzpicture}%
992 \vspace*{40pt}
993 }
994 [\@addthumb] %after code
995
996 \titleformat{name=\chapter,numberless}
997 [block]
998 {}{}{0pt}
999 {%
1000 \group_begin:
1001 \skip_set:Nn \topsep { \dim_eval:n { \topsep } }
1002 \skip_set:Nn \partopsep { \dim_eval:n { \partopsep } }
1003 \skip_set:Nn \parskip { \dim_eval:n { \parskip } }
1004 \begin{flushright}
1005 \color{titlecolor}\huge\bfseries##1%
1006 \end{flushright}%
1007 \vspace*{-10pt}%
1008 {\color{titlecolor}\rule{\textwidth}{1pt}}
1009 \group_end:
1010 }
1011
1012 \titlespacing*{\chapter}{0pt}{0pt}{20pt}
1013
1014 % No thumb on chapter page
1015 \bool_if:NT \l_@_thumbs_bool {
1016 \apptocmd{\@addthumb}{\stopthumb}{}{}
1017 \AddToHook{shipout/foreground}{\continuethumb}
1018 }
1019 }
1020 { uantwerpen } {
1021 % Adapted from uantwerpendocs v4.12, (C) Walter Daems, LPPL 1.3c
1022 \def\@makechapterhead##1{%
1023 \vspace*{1ex}%
1024 \begin{flushright}
1025 \makebox[0pt][l]{\color{titlecolor}\rule[-0.4em]{10cm}{1.8em}}\textcolor{white}
1026 {\LARGE\textbf{~\chaptername~}}
1027 \raisebox{-24pt}{
1028 \@UACHapNum
1029 }\hspace*{-8pt}
1030 \par\nobreak
1031 \interlinepenalty\@M
1032 \huge\textbf{\textcolor{titlecolor}{\rule[-0.5ex]{0em}{2.6ex}~##1}}
1033 \par\nobreak
1034 \end{flushright}
1035 \rule{\textwidth}{1pt}
1036 \vspace{5\p@}%
1037 \@addthumb % Add thumb for every numbered chapter
1038 \par\nobreak
1039 }
1040 \def\@schapter##1{%
1041 \@makeschapterhead{##1}%
1042 \@afterheading
1043 }
1044 \def\@makeschapterhead##1{%
1045 \vspace*{1ex}%
1046 \begin{flushright}

```

```

1047         \LARGE\textbf{\textcolor{titlecolor}{\rule[-0.5ex]{0em}{2.6ex}~##1}}
1048         \end{flushright}
1049         \rule{\textwidth}{1pt}
1050         \vspace{5\p@}\par
1051     }
1052 }
1053 { legacyplain }{
1054     \newcommand*{\@legacychapshape}[3]{%
1055         % args: label text, text col, font style
1056         \begin{tikzpicture}[baseline=(o), overlay]
1057             \node[draw, text~width=3cm, align=flush~right, anchor=base~east,
1058                 ##2, fill=titlecolor] (n) at (-10pt, 0) {\textbf{##1}};
1059             \node[inner~sep=0, outer~sep=0] (o) at (0,0) {};
1060         \end{tikzpicture}%
1061     }
1062
1063     \titleformat{\chapter}[block]
1064     {\Large\bfseries}{-}{20pt}{%
1065         \makebox[0pt][r]{\@legacychapshape{\thechapter}{white}{\fontsize{16}{18}\selectfont}}%
1066         ##1%
1067     }[\@addthumb]
1068
1069     \titleformat{name = \chapter, numberless}[block]
1070     {\Large\bfseries}{-}{0pt}{%
1071         \makebox[0pt][r]{\@legacychapshape{0}{ugent@main}{\large}}%
1072         ##1%
1073     }
1074     \titlespacing*{\section}{0pt}{-20pt}{10pt}
1075 }
1076 }{
1077     \PackageError{ugentdocs}
1078     { The~chapter~styling~specified~is~not~implemented }
1079     { See~the~ugentdocs~manual. }
1080 }
1081 }
1082
1083 \def\appendix{
1084     \cleardoublepage
1085     \setcounter{chapter}{0}
1086     \renewcommand*{\thechapter}{\Alph{chapter}}
1087     \renewcommand*{\chaptername}{appendixname}
1088 }
1089
1090 \ExplSyntaxOff
1091 %% Adapted from uantwerpendocs v4.12, (C) Walter Daems, LPPL 1.3c
1092 \newcommand*{\@UAChapNum}{%
1093     \begin{tikzpicture}
1094         \foreach \theta in {0,5,...,355} {
1095             \node[color=white] at (\theta:0.025)
1096             {\fontsize{72}{12}\selectfont\textbf{\thechapter}};
1097         }
1098         \node[color=titlecolor!50] at (0,0)
1099         {\fontsize{72}{12}\selectfont\textbf{\thechapter}};
1100     \end{tikzpicture}%
1101 }
1102 </phd|crs|bama|rp>

```

`\@titlestylesection` The section style is the same for all documents: Plain bold and black section titles. Auto-  
[custom] matically set at the beginning of the document.

Implementation:

```
1103 <*phd|crs|bama|rp|art>
```

```

1104 \newcommand{\@titlestylesection}{
1105   \titleformat{\section}
1106     [block] % shape
1107     {\fontsize{14}{17} \selectfont \bfseries } % format
1108     {\thesection \ } % the label
1109     { 0ex } %separator space
1110     { ##1 } %before code
1111     { } %after code
1112
1113   % Change the spacing above the chapter. This is left - above - below
1114   \titlespacing*{\section}{0pt}{6pt}{0pt}
1115 }
1116 </phd|crs|bama|rp|art>

```

## 2.4 Covers

The covers consist of layout dimensions based on the official grid layout, the cover body content, and the cover layout for plain and fancy covers. We will go over those in the sections below.

### 2.4.1 Cover dimensions

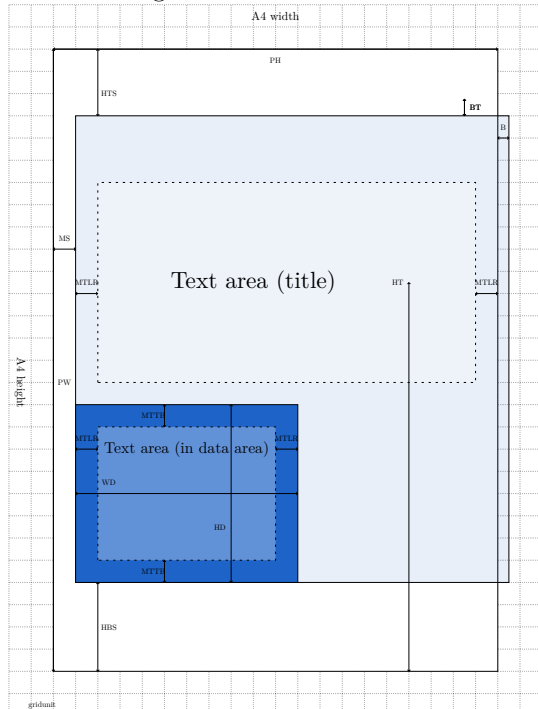
A few common dimensions are defined:

```

1117 <*phd|bkc|crs|bama|rp|ex>
1118 \ExplSyntaxOn
1119 \newlength{\@B}      % Bleed outside crop / cameraready
1120 \newlength{\@HBS}    % Height bottom strip
1121 \newlength{\@HTS}    % Height top strip
1122 \newlength{\@MS}     % Margin Spine (front/back cover)
1123 \newlength{\@MTLR}   % Margin Text Left Right
1124 \newlength{\@MTTB}   % Margin Text Top Bottom
1125 \newlength{\@HT}     % Height Title
1126 \newlength{\@WD}     % Width Data area
1127 \newlength{\@HD}     % Height Data area
1128 \newlength{\@BT}     % Bleed Top
1129 \newlength{\@WI}     % Width Image
1130 \newlength{\@HI}     % Height Image
1131 \ExplSyntaxOff
1132 </phd|bkc|crs|bama|rp|ex>

```

A scheme is given here as to what these dimensions represent based on the `\gridunit`:



Next, we set the lengths based on the Office templates:

```

1133 <*phd|bkc|crs|bama|rp|ex>
1134 \ExplSyntaxOn
1135 \setlength{\@B}{3mm}

```

```

1136 \bool_if:NTF \l_@@_bwphdcover_bool {
1137   % BW phd cover
1138   \setlength\@HBS{4\gridunit}
1139   \setlength\@HTS{0mm}
1140   \setlength\@BT{\@B}
1141   \setlength\@MS{0mm}
1142   \setlength\@MTLR{2\gridunit}
1143   \setlength\@MTTB{\gridunit}
1144   \setlength\@WD{0mm}
1145   \setlength\@HD{0mm}
1146   \setlength\@HT{2\@HBS}
1147 }{
1148   % UGent cover
1149   \setlength\@HBS{4\gridunit}
1150   \tl_if_empty:NTF \l_@@_fselector_tl {
1151     \setlength\@HTS{0mm}
1152     \setlength\@BT{\@B}
1153   }{
1154     \setlength\@HTS{3\gridunit}
1155     \setlength\@BT{0mm}
1156   }
1157   \setlength\@MS{\gridunit}
1158   \setlength\@MTLR{\gridunit}
1159   \setlength\@MTTB{\gridunit}
1160   \setlength\@WD{12\gridunit}
1161   \setlength\@HD{10\gridunit}
1162   \pgfmathsetlength{\@HT}{0.5*\@PH+0.5*\@HBS-0.5*\@HTS+0.5*\@HD}
1163 }
1164 \ExplSyntaxOff
1165 </phd|bkc|crs|bama|rp|ex>

```

For the bama, report, and exam, the title position and text margin differ slightly:

```

1166 <*bama|rp|ex>
1167 \ExplSyntaxOn
1168 \setlength\@HT{0.9\@PH}
1169
1170 \bool_if:NTF \l_@@_coverbg_bool {
1171   \setlength\@MTLR{2\gridunit}
1172 }{
1173   \setlength\@MTLR{\gridunit}
1174 }
1175 \ExplSyntaxOff
1176 </bama|rp|ex>

```

And the course data area width is slightly narrower:

```

1177 <*phd|bkc|crs>
1178 \ExplSyntaxOn
1179 \exp_args:Nx \str_case:nnF { \l_@@_coverttype_tl } {
1180   { phd } { }
1181   { course } {
1182     \setlength\@WD{10\gridunit}
1183   }
1184 }{
1185   \msg_error:nnx { ugentdocs } { cover-type-not-implemented } { \l_@@_coverttype_tl }
1186 }
1187 \ExplSyntaxOff
1188 </phd|bkc|crs>

```

### 2.4.2 Cover bodies

The cover body text itself differs between all classes, so we set it here. For the `bama` and `report` classes, the code was adapted from Joris Meys' LaTeX at UGent.

`\@coverbodybama` [custom] The `bama` cover body consists of the title, subtitle (if present), word count (if given), confidentiality (if applicable), author name(s), student nr. (one, if given), (co/external) supervisors and tutor (if given), the "Submitted to..." text, and the academic year:

```

1189 <*bama|rp>
1190 \ExplSyntaxOn
1191 \tl_new:N \l_@@_authortable_tl
1192 \ExplSyntaxOff
1193 </bama|rp>
1194 <*bama>
1195 \ExplSyntaxOn
1196 \newcommand{\@coverbodybama}{
1197   \node[anchor=north-west, inner~sep=0pt, text~width=\@PW-\@MTLR-\gridunit,
1198     minimum~height=22.05cm, align=flush~left] at (\@MTLR,\@HT)
1199   {%
1200     \raggedright
1201     \begin{spacing}{2.5}
1202       {\fontsize{25}{30}\selectfont\color{covertitlecolor}\bfseries
1203         \MakeUppercase{\uline{\@title}}}}
1204     \end{spacing}
1205
1206     \vskip 1em
1207
1208     {\fontsize{15}{18}\selectfont\color{covertitlecolor}
1209       \MakeUppercase{\@subtitle}}
1210
1211     \vskip 1em
1212
1213     \begingroup\color{coverdatacolor}
1214     \ifx\@wordcount\@empty\else
1215       \translatekey{wordcount}:~\@wordcount
1216     \fi
1217
1218     \bool_if:NTF \l_@@_embargo_bool {
1219       \vskip 5em
1220       {\fontsize{15}{18}\selectfont\translatekey[uppercase]{confidential}}
1221       \vskip 5em
1222     }{
1223       \vskip 10em
1224     }
1225
1226     \tl_set:Nx \l_@@_authortable_tl { \printseq{authorswaff}{\cr}{\cr}{\cr} }
1227     {\fontsize{15}{18}\selectfont
1228       \leavevmode\vbox{\halign{##\hfil&\hskip1em##\hfil\cr
1229         \l_@@_authortable_tl
1230         \cr}}
1231     }
1232
1233     \ifx\@studentnr\@empty\else
1234       \par\translatekey{studentnr}:~\@studentnr
1235     \fi
1236
1237     \vskip 1em
1238
1239     {\fontsize{12}{15}\selectfont
1240       \getseqcaption{supervisors}{
1241         :~\printseq{supervisors}{~\&~}{,~}{\translatekey{andlist}~}\}
1242     }

```

```

1243
1244 {\fontsize{12}{15}\selectfont
1245 \getseqcaption{cosupervisors}{
1246 :~\printseq{cosupervisors}{~\&~}{,~}{\translatekey{andlist}~}\}
1247 }
1248
1249 {\fontsize{12}{15}\selectfont
1250 \getseqcaption{extsupervisors}{
1251 :~\printseq{extsupervisors}{~\&~}{,~}{\translatekey{andlist}~}\}
1252 }
1253
1254 \ifseqempty{tutors}{}{
1255 \vskip 1em
1256 {\fontsize{12}{15}\selectfont
1257 \getseqcaption{tutors}{
1258 :~\printseq{tutors}{~\&~}{,~}{\translatekey{andlist}~}
1259 }
1260 }
1261
1262 \vskip 1em
1263 {\@doctype}{~\translatekey[lowercase]{submittedto}%
1264 \ifx\@selector\@empty\else}%
1265 {}~\translatekey[lowercase]{the-de}~\@faculty{}~\translatekey[lowercase]{of}%
1266 \fi}%
1267 {}~\translatekey{org-deugent},~\translatekey{bmfulfil}%
1268 {}~\printseq{degrees}{~\&~}{,~}{\translatekey{andlist}~}}
1269
1270 \vskip 1em
1271 \translatekey{acyear}:~\@academicyear
1272 \endgroup
1273 };
1274 }
1275 \ExplSyntaxOff
1276 </bama>
1277 <rp|ex>\newcommand{\@coverbodybama}{}

```

`\@coverbodyreport` [custom] The report cover body consists of the title, subtitle, and extra title (if present), word count (if given), author name(s), student nr. (one, if given), lecturers (if given), address (if given), and the academic year (if given):

```

1278 <*rp>
1279 \ExplSyntaxOn
1280 \newcommand{\@coverbodyreport}{
1281 \node[anchor=north-west, inner-sep=0pt, text-width=\paperwidth-\@MTLR-\gridunit,
1282 minimum-height=22.05cm, align=flush-left] at (\@MTLR,\@HT)
1283 {%
1284 \raggedright
1285 \begin{spacing}{2.5}
1286 {\fontsize{25}{30}\selectfont\color{covertitlecolor}\bfseries
1287 \MakeUppercase{\uline{\@title}}}
1288 \end{spacing}
1289
1290 \vskip 1em
1291
1292 {\fontsize{15}{18}\selectfont\color{covertitlecolor}
1293 \MakeUppercase{\@subtitle}}
1294
1295 \vskip 2em
1296
1297 \begin{group}\color{coverdatacolor}
1298 \ifx\@extra\@empty\else
1299 {\fontsize{12}{15}\selectfont\@extra}
1300 \fi

```

```

1301
1302 \ifx\@wordcount\@empty\else
1303 \translatekey{wordcount}:-\@wordcount
1304 \fi
1305
1306 \ifseqempty{authors}{
1307 \vskip 10em
1308 }{
1309 \vskip 5em
1310 \tl_set:Nx \l_@@_authortable_tl { \printseq{authorswaff}{\cr}{\cr}{\cr} }
1311 {\fontsize{12}{15}\selectfont
1312 \leavevmode\vbox{\halign{##\hfil&\hskip1em##\hfil\cr
1313 \l_@@_authortable_tl
1314 \cr}}
1315 }
1316 \ifx\@studentnr\@empty\else
1317 \translatekey{studentnr}:-\@studentnr
1318 \fi
1319 \vskip 5em
1320 }
1321
1322 \ifseqempty{lecturers}{}{
1323 {\fontsize{12}{15}\selectfont
1324 \getseqcaption{lecturers}{}:-\printseq{lecturers}{-&~}{,~}{\translatekey{andlist}~}}
1325 \vskip 2 em
1326 }
1327
1328 \ifx\@address\@empty\else
1329 {\fontsize{12}{15}\selectfont\@address}
1330 \vskip 2 em
1331 \fi
1332
1333 \ifx\@academicyear\@empty\else
1334 {\fontsize{12}{15}\selectfont\translatekey{acyear}:-\@academicyear}
1335 \fi
1336 \endgroup
1337 };
1338 }
1339 \ExplSyntaxOff
1340 </rp>
1341 \bama|ex)\newcommand{\@coverbodyreport}{}

```

\@coverbodyexam [custom] The exam cover body consists of the course titles, the exam part, the course codes, the exam series, the exam date, a fill-in section for the student's surname, name, and ID, the exam duration, start time, and end time, the examination room, lecturers, and degree:

```

1342 (*ex)
1343 \ExplSyntaxOn
1344 \newcommand{\@coverbodyexam}{
1345 % Top data
1346 \node[anchor=north-west,text~width={\paperwidth-\@MTLR-\gridunit},align=flush~left]
1347 at (\@MTLR,{\paperheight-\@HTS-\gridunit}) {%
1348 \color{covertitlecolor}{
1349 \fontsize{18}{22}\selectfont%
1350 \textsf{\textbf{\printseq{courses}{\}\{\}\{\}\}}\par
1351 \ifx\@exampart\@empty\else
1352 \textsf{\textbf{\@exampart}}\par
1353 \fi
1354 \fontsize{12}{18}\selectfont%
1355 \textsf{\printseq{coursecodes}{\}\{\}\{\}\}}
1356 }
1357 \color{coverdatacolor}{
1358 \vskip 2em

```

```

1359     \fontsize{12}{18}\selectfont%
1360     \textsf{
1361         \ifx\@examseries\@empty{}~\else\translatekey{series}~\@examseries{}\fi
1362     }
1363     \vskip 2em
1364     \fontsize{14}{19}\selectfont%
1365     \textsf{\translatekey{exam}~\@date{}}
1366 }
1367 };
1368
1369 % Fill-in of surname, name, and student ID
1370 \node[anchor=south-west,align=left,inner~sep=0pt]
1371 at (\@MTLR,18){%
1372     \fontsize{12}{18}\selectfont%
1373     \color{coverdatacolor}{%
1374         \textsf{\translatekey{lastname}}
1375     }
1376 };
1377 \foreach \nn in {0,1,...,33} {
1378     \draw[fill=white] (\@MTLR,17) ++({0.5*\nn},0) rectangle +(0.5,0.8);
1379 }
1380
1381 \node[anchor=south-west,align=left,inner~sep=0pt]
1382 at (\@MTLR,16){%
1383     \fontsize{12}{18}\selectfont%
1384     \color{coverdatacolor}{%
1385         \textsf{\translatekey{firstname}}
1386     }
1387 };
1388 \foreach \nn in {0,1,...,23} {
1389     \draw[fill=white] (\@MTLR,15) ++({0.5*\nn},0) rectangle +(0.5,0.8);
1390 }
1391
1392 \node[anchor=south-west,align=left,inner~sep=0pt]
1393 at (\@MTLR+26*0.5cm,16){%
1394     \fontsize{12}{18}\selectfont%
1395     \color{coverdatacolor}{%
1396         \textsf{\translatekey{studentnr}}
1397     }
1398 };
1399 \foreach \nn in {0,1,...,7} {
1400     \draw[fill=white] (\@MTLR+26*0.5cm,15) ++({0.5*\nn},0) rectangle +(0.5,0.8);
1401 }
1402
1403 % Bottom data
1404 \node[anchor=south-west,align=flush~left,inner~sep=0pt,text~width={\paperwidth-\@MTLR-
\gridunit}]
1405 at (\@MTLR,5\gridunit){%
1406     \color{coverdatacolor}{
1407         \fontsize{12}{21}\selectfont%
1408         \textsf{\translatekey{examduration}:~\@examduration}\\
1409         \textsf{\begin{tabular}{@{}rl}%
1410             \translatekey{examstart}:~& \@examstart\\
1411             \translatekey{examend}:~& \@examend
1412         \end{tabular}}
1413         \vskip 2em
1414         \textsf{\getseqcaption{rooms}{:
1415             {}~\printseq{rooms}{~\&~}{,~}{\translatekey{andlist}~}}}}
1416         \vskip 2em
1417         \begin{tabular}{@{}l@{~\,}p{14.5cm}}
1418             \getseqcaption{lecturers}{
1419                 & \textbf{\printseq{lecturers}{~\&~}{,~}{\translatekey{andlist}~}}
1420             \end{tabular}
1421         \vskip 2em
1422         \textsf{\printseq{degrees}{\\}{\\}{\\}}

```

```

1423     }
1424   };
1425 }
1426 \ExplSyntaxOff
1427 </ex>
1428 \bama|rp>\newcommand{\@coverbodyexam}{\}

```

`\@coverbodycourse` [custom] The course cover body consists of the title, subtitle (if present), lecturers (if given), degrees (if given), and the academic year:

```

1429 <*bk|crs>
1430 \newcommand\@coverbodycourse{
1431   \newlength\@parboxheight
1432   \newlength\@parboxwidth
1433   \pgfmathsetlength{\@parboxheight}{\@HD-2*\@MTTB}
1434   \pgfmathsetlength{\@parboxwidth}{\@WD-2*\@MTLR}
1435
1436   \node[anchor=north west, inner sep=0pt, text=coverdatacolor]
1437   at (\@MS+\@MTLR, \@HBS+\@HD-\@MTTB) {
1438     \parbox[t][\@parboxheight][t]{\@parboxwidth}{
1439       \raggedright
1440       {\fontsize{35}{42}\selectfont\bfseries
1441         \MakeUppercase{\uline{\@title}}}\par}
1442       %
1443       \ifx\@subtitle\@empty\else
1444         \vspace{5pt}
1445         \hyphenpenalty=100000
1446         {\fontsize{30}{36}\selectfont\bfseries
1447           \@subtitle}
1448       \fi
1449       \par
1450       \vfill
1451       \par
1452       {\fontsize{18}{22}\selectfont \printseq{lecturers}{\{\}\{\}\{\}\}}%
1453       %
1454       \vskip 2 em
1455       %
1456       {\fontsize{15}{20}\selectfont
1457         \printseq{degrees}{\{\}\{\}\{\}\}\}
1458         \translatekey{acyear}~\@academicyear}%
1459     }
1460   };
1461 }
1462 </bk|crs>

```

`\@coverbodyphd` [custom] The phd cover body consists of the title, subtitle (if present), author(s), supervisors, academic year, and the “Submitted to...” text. A FBW variant of the PhD cover exists with only the title, subtitle, and author(s) listed:

```

1463 <*bk|phd>
1464 \ExplSyntaxOn
1465 \newcommand\@coverbodyphd{
1466   % Title, subtitle, author
1467   \bool_if:NTF \l_@_bwphdcover_bool {
1468     \node[anchor=south~east, text-width=\@PW-2*\@MTLR, align=flush-right, text=covertitlecolor]
1469     at (\@PW-\@MTLR, \@HT) {
1470       {\fontsize{28}{30}\selectfont\bfseries\nohyphens{\@title}\par}%
1471       \ifx\@subtitle\@empty\else\vspace{4pt}\hyphenpenalty=100000%
1472       {\fontsize{20}{28}\selectfont\bfseries\@subtitle\par}%
1473       \fi%
1474       \vspace{30pt}\hyphenpenalty=100000%
1475       {\fontsize{20}{24}\selectfont\printseq{authors}{\{\}\{\}\{\}\}};

```

```

1476 }{
1477   \node[anchor=west, text~width=\@PW-2*\@MTLR-\@MS, align=flush~left, text=covertitlecolor]
1478   at (\@MS+\@MTLR, \@HT) {
1479     {\fontsize{28}{30}\selectfont\bfseries\nohyphens{\@title}\par}%
1480     \ifx\@subtitle\@empty\else\vspace{5pt}\hyphenpenalty=100000%
1481     {\fontsize{20}{28}\selectfont\bfseries\@subtitle\par}
1482     \fi
1483   };
1484
1485   \node[anchor=north~west, text~width=\@WD-2*\@MTLR, align=flush~left, text=coverdatacolor]
1486   at (\@MS+\@MTLR, \@HBS+\@HD-\@MTTB) {
1487     {\fontsize{20}{24}\selectfont\bfseries\printseq{authors}{\}\{\}\{\}\}%
1488     \\\[15pt]
1489     {\fontsize{14}{17}\selectfont\getseqcaption{supervisors}{:\newline}
1490     \printseq{supervisors}{\}\{\}\{\}\}%
1491     \\\[15pt]
1492     {\fontsize{11}{15}\selectfont\translatekey{acyear}~\@academicyear}};
1493
1494   \node[anchor=south~west, text~width=\@WD-2*\@MTLR, align=flush~left, text=coverdatacolor]
1495   at (\@MS+\@MTLR, \@HBS+\@MTTB){%
1496     \fontsize{11}{15}\selectfont\nohyphens{%
1497       \@doctype{~}\translatekey[lowercase]{submittedto}%
1498       \ifx\@fselector\@empty\else{%
1499         {~}\translatekey[lowercase]{the-de}~\@faculty{~}\translatekey[lowercase]{of}%
1500         \fi}%
1501       {~}\translatekey{org-deugent},%
1502       {~}\translatekey{phdfulfil}~\printseq{degrees}{~\&~}{,~}{\translatekey{andlist}~}}};
1503   }
1504
1505   \bool_if:NT \l_@@_embargo_bool {
1506     \@printconfidentialcover
1507   }
1508 }
1509 \ExplSyntaxOff
1510 </bk|phd>

```

`\@printconfidentialcover` Prints the confidentiality word for PhD covers. This appears in the top right of the front [custom] cover:

```

1511 <*phd|bk|crs>
1512 \ExplSyntaxOn
1513 \newcommand{\@printconfidentialcover}{
1514   \bool_if:NTF \l_@@_bwphdcover_bool {
1515     \node[anchor=north~east,font=\fontsize{15}{18}\selectfont,covertitlecolor]
1516     at (\@PW-\@gridunit,\@PH-\@gridunit)
1517     {\textbf{\translatekey[uppercase]{confidential}}};
1518   }
1519 }{
1520   \node[anchor=north~east,font=\fontsize{15}{18}\selectfont,ugent@main]
1521   at (\@PW-\@gridunit,\@PH-\@gridunit)
1522   {\textbf{\translatekey[uppercase]{confidential}}};
1523 }
1524 }
1525 \ExplSyntaxOff
1526 </phd|bk|crs>

```

`\@coverbody` [custom] Finally, the appropriate cover body is selected:

```

1527 <*phd|bk|crs|bama|rp|ex>
1528 \ExplSyntaxOn
1529 \newcommand*\@coverbody{
1530   \exp_args:Nx \str_case:nnF { \l_@@_covertime_t1 } {

```

```

1531 { phd } { \@coverbodyphd }
1532 { course } { \@coverbodycourse }
1533 { bama } { \@coverbodybama }
1534 { report } { \@coverbodyreport }
1535 { exam } { \@coverbodyexam }
1536 }{
1537 \msg_error:nxx { ugentdocs } { cover~type~not~implemented } { \l_@@_coverttype_tl }
1538 }
1539 }
1540 \ExplSyntaxOff
1541 </phd|bkc|crs|bama|rp|ex>

```

### 2.4.3 Front and back covers

This section contains the visual layout or canvas of the covers. These are used in the `\maketitle` and `\makefinalpage` commands.

`\@frontcover` [custom] The front cover of the document.

For `bama`, `report`, and `exam`, this consists of the logo placements, an optional background colour area, the `\@coverbody`, and `frontcoverlogos`:

```

1542 <*bama|rp|ex>
1543 \ExplSyntaxOn
1544 \newcommand{\@frontcover}{
1545 \begin{tikzpicture}[inner-sep=0pt, outer-sep=0pt]
1546 \clip (0,0) rectangle (\@PW,\@PH);
1547
1548 % Faculty logo
1549 \begin{scope}[shift={(0,\@PH-3*\gridunit)}]
1550 \faclogo{3*\gridunit}{ugent@\@fselector}{0}
1551 \end{scope}
1552
1553 % Coloured background
1554 \bool_if:NT \l_@@_coverbg_bool {
1555 \fill[coverbgcolor] (\gridunit,4*\gridunit) rectangle (\@PW,\@PH-\@HTS);
1556 \begin{group
1557 \colorlet{hypercolor}{coverttitlecolor}
1558 }
1559
1560 % Cover body
1561 \@coverbody
1562
1563 % UGent logo
1564 \begin{scope}[shift={(0,0)}]
1565 \ugentlogo{4*\gridunit}{ugent@main}{0}
1566 \end{scope}
1567
1568 % Front cover logos
1569 \ifx\@frontcoverlogos\@empty\else
1570 \node[anchor=south-east, inner-sep=0pt,
1571 text-width=\paperwidth-(2+\@ugenttextw/\@logounit)*\gridunit,
1572 minimum-height=2*\gridunit, align=flush-right]
1573 at (\paperwidth-\gridunit,\gridunit)
1574 {\@frontcoverlogos};
1575 \fi
1576
1577 \bool_if:NT \l_@@_coverbg_bool {
1578 \end{group}
1579 }
1580 \end{tikzpicture}

```

```

1581 }
1582 \ExplSyntaxOff
1583 </bama|rp|ex>

```

For the phd and course, the layout is similar, but a faintly coloured area is always included, and a coloured data area is present:

```

1584 (*phd|bk|crs)
1585 \ExplSyntaxOn
1586 \newcommand{\@frontcover}{%
1587   \begin{tikzpicture}[inner~sep=0pt,outer~sep=0pt]
1588     \useasboundingbox (0,0) rectangle (\@PW,\@PH);
1589
1590     % Faculty logo
1591     \bool_if:NTF \l_@@_bwphdcover_bool {
1592       \begin{scope}[shift={(\@PW,0)}]
1593         \faclogo{3\gridunit}{ugent@\@fselector}{1}
1594       \end{scope}
1595     } {
1596       \begin{scope}[shift={(\@MS-\@gridunit,\@PH-\@HTS)}]
1597         \faclogo{3\gridunit}{ugent@\@fselector}{0}
1598       \end{scope}
1599     }
1600
1601     % Image zone
1602     {\ifx\@coverimage\@empty%
1603       \fill[coverbgcolor] (\@MS,\@HBS) rectangle (\@PW+\@B,\@PH-\@HTS+\@BT);%
1604       \@coverblankimage
1605     }%
1606     \begin{scope}%
1607       \pgfmathsetlength{\@WI}{\@PW+\@B-\@MS}
1608       \pgfmathsetlength{\@HI}{\@PH-\@HBS-\@HTS+\@BT}
1609       \clip (\@MS,\@HBS) rectangle (\@PW+\@B,\@PH-\@HTS+\@BT);
1610       \node[anchor=south-west, inner~sep=0pt] at (\@MS, \@HBS)%
1611         {\adjustbox{min-width=\@WI, min-height=\@HI, keepaspectratio}{%
1612           \includegraphics[width=\@WI]{\@coverimage}%
1613         }}%
1614     };%
1615     \end{scope}
1616   \fi}
1617
1618   % Front cover data area
1619   \fill[coverareacolor] (\@MS,\@HBS) rectangle (\@MS+\@WD,\@HBS+\@HD);
1620
1621   % Cover body
1622   \@coverbody
1623
1624   % UGent logo
1625   \pgfmathsetmacro{\@ugentlogoxoffset}{max(\@MS-\@gridunit,0)}
1626   \begin{scope}[shift={(\@ugentlogoxoffset pt,0mm)}]
1627     \ugentlogo{\@HBS}{ugent@main}{0}
1628   \end{scope}
1629
1630   % Front cover logos
1631   \ifx\@frontcoverlogos\@empty\else
1632     \node[anchor=south-east, inner~sep=0pt,
1633       text-width=\@PW-(2+\@ugenttextw/\@logounit)*\@gridunit,
1634       minimum-height=2*\@gridunit, align=flush-right]
1635       at (\@PW-\@gridunit,\@gridunit)
1636       {\@frontcoverlogos};
1637   \fi
1638
1639   \end{tikzpicture}
1640 }

```

```

1641 \ExplSyntaxOff
1642 </phd|bk|crs>

```

`\@coverblankimage` [custom] When no cover image is provided for the course or phd classes, `\@coverblankimage` is executed. For phds, it's just blank. For courses, it's the faculty icon:

```

1643 <*phd|bk|crs>
1644 \ExplSyntaxOn
1645 \newcommand*\@coverblankimage{
1646   \exp_args:Nx \str_case:nnF { \l_@@_coverttype_tl } {
1647     { phd } { }
1648     { course } {
1649       \bool_if:NF \l_@@_neutralcolors_bool {
1650         \newlength{\@WFI} % Width Faculty Icon
1651         \newlength{\@FIOffset} % Faculty Icon offset
1652         \pgfmathsetlength{\@WFI}{\@PW-\@MS-4*\gridunit}
1653         \pgfmathsetlength{\@FIOffset}{0.5*(\@ficonw/\@logounit)}
1654         \begin{scope}[shift={(\@PW-\gridunit-0.5*\@WFI,\@PH-\@HTS-\gridunit-\@WFI)}]
1655           \ficon{\@WFI}{coverbgcolor!60}{\@FIOffset}
1656         \end{scope}
1657       }
1658     }
1659   }{
1660     \msg_error:nnx { ugentdocs } { cover-type-not-implemented } { \l_@@_coverttype_tl }
1661   }
1662 }
1663 \ExplSyntaxOff
1664 </phd|bk|crs>

```

`\@backcover` [custom] The back cover of the documents.

The bama, report, and exam classes don't use one:

```

1665 <*bama|rp|ex>
1666 \newcommand{\@backcover}{}
1667 </bama|rp|ex>

```

The course and phd classes share the same cover, which includes an auto-generated ISBN barcode, and optional backcoverlogos:

```

1668 <*phd|bk|crs>
1669 \newcommand\@backcover{%
1670   \begin{tikzpicture}[inner sep=0pt,outer sep=0pt]
1671     \useasboundingbox (0,0) rectangle (\@PW,\@PH);
1672
1673     % ISBN barcode
1674     \pgfmathsetmacro{\@isbnscale}{0.81}% GS1 minimum scale
1675     \pgfmathsetlengthmacro{\@isbnheight}{0.75*25.01mm}
1676     \pgfmathsetlengthmacro{\@grph}{\@isbnscale*\@isbnheight+15pt}% box+spacing+text
1677     \begin{scope}[shift={(10mm, 0.5*\@HBS - 0.5*\@grph)}]
1678       \ifx\@isbn\@empty% ISBN text and barcode placeholder
1679         \fill[coverareacolor] (0,0) rectangle (34.2mm, \@isbnscale*\@isbnmoduleht);
1680       \else
1681         \node[anchor=south] at (0.5*34.2mm,0)
1682         {\edef\@_isbnbarcodecall{\noexpand\EANBarcode[%
1683           scale=\@isbnscale,module_height=\@isbnheight]}{%
1684           ISBN\space\@isbn%
1685         }}%
1686         \@_isbnbarcodecall};
1687       \fi
1688     \end{scope}

```

```

1689 \node[anchor=south, font=\usefont{OT1}{ocrb}{m}{n}\fontsize{5}{5}\selectfont,
1690 text=black, inner sep=0pt]
1691 at (0.5*34.2mm, \@isbnscale*\@isbnheight+ 10pt) {
1692 \ifx\@isbn\empty% {ISBN: XXX-X-XXX-XXXXX-X}
1693 \else {ISBN: \@isbn}
1694 \fi
1695 };
1696 \end{scope}
1697
1698 % Back cover logos
1699 \pgfmathsetmacro{\@backcoverlogosxoffset}{min(\@PW-\@MS,\@PW-10mm)}
1700 \begin{scope}[inner sep=0pt, shift = {(\@backcoverlogosxoffset pt, 0.5*\@HBS)}]
1701 \node[anchor=east, inner sep=0pt]
1702 at (0, 0)
1703 {\@backcoverlogos};
1704 \end{scope}
1705
1706 % Full background
1707 \fill[coverbgcolor] (0-\@B,\@HBS) rectangle (\@PW-\@MS,\@PH-\@HTS+\@BT);
1708 \end{tikzpicture}
1709 }
1710 </phd|bkc|crs>

```

## 2.5 Copyright notices

This section defines the copyright notices of the `bama`, `phd`, `course`, `report`, and `article` classes. These can be overridden using the `\copyrightnotices` macro (see Section 1.6.2).

For the `bama` class, the autograph fields code is not shown here, since it is too complex to customize. The copyright notices of the `bama` class include the `\@bamadisclaimer` in both English and Dutch for an English dissertation, a line with the location and date, and the autograph page:

```

1711 <*bama>
1712 \ExplSyntaxOn
1713 \renewcommand{\@copyrightnotices}{%
1714   \clearpage
1715   \str_if_eq:VnTF \l_@@_language_tl {dutch} {
1716     \@bamadisclaimer
1717   }{
1718     \begingroup % Has to be with selectlanguage for the date translation
1719     \selectlanguage{dutch}
1720     \@bamadisclaimer
1721     \endgroup
1722     \[\baselineskip]
1723     \selectlanguage{english}
1724     \@bamadisclaimer
1725   }
1726   \[\baselineskip]
1727   \@location,~\@date
1728   \[\baselineskip]
1729   \@_autographpage:
1730
1731   \vspace*{\stretch{1}}
1732   \clearpage
1733 }
1734 \newcommand{\@bamadisclaimer}{
1735   {\translatekey{the-de}~\getseqcaption[lowercase]{authors}}{
1736     {\translatekey[lowercase]{and}~\getseqcaption[lowercase]{allsupervisors}}{
1737       \bool_if:NTF \l_@@_embargo_bool {
1738         \bool_if:NTF \l_@@_embargotemp_bool {
1739           {\@embargotempwithdates}
1740         }{
1741           {\translatekey{embargofullbama}}
1742         }
1743       }{
1744         {\translatekey{arrbama}}
1745       }
1746     }
1747   \ExplSyntaxOff
1748 </bama>

```

For a `phd`, it contains the colophon page, which consists of the author contact information, the title of the dissertation in Dutch (for English dissertations), the cover image designer, the scientific integrity clause, any applicable grants, the confidentiality or copyright notice itself, and the citation format, ISBN, and DOI (where applicable):

```

1749 <*phd>
1750 \ExplSyntaxOn
1751 \renewcommand{\@copyrightnotices}{%
1752   \noindent\begin{minipage}[b]{\textwidth}
1753     \textbf{Contact}\[\
1754     \smallskip
1755     \printseq{authorswaff}{~|~}{~|~}{~|~}\[\

```

```

1756 \address
1757 \str_if_eq:VnF \l_@@_language_tl {dutch} {
1758 \[\baselineskip]
1759 \textbf{Titel~van~het~doctoraat~in~het~Nederlands:}\
1760 {\renewcommand{\}[1] [] {-}\@titel{}\ifx\@subtitel\@empty\else{}:~\@subtitel\fi}
1761 }
1762 \ifx\@coverdesigner\@empty\else
1763 \[\baselineskip]
1764 \textbf{\translatekey{coverdesigner}:}\
1765 \@coverdesigner
1766 \fi
1767 %
1768 \[\baselineskip]
1769 \translatekey{integrityclause}
1770 %
1771 \ifx\@grants\@empty\else
1772 \[\baselineskip]
1773 {\translatekey{supportedby}~\@grants.}
1774 \fi
1775 \bool_if:NTF \l_@@_embargo_bool {
1776 \[\baselineskip]
1777 {\textbf{\translatekey{confidentiality}}}\
1778 \bool_if:NTF \l_@@_embargotemp_bool {
1779 \@embargotempwithdates
1780 }{
1781 \translatekey{embargofullphd}
1782 }
1783 }{
1784 \[\baselineskip]
1785 \textbf{\translatekey{crdisclaimer}~\textcopyright{}~\the\year}\
1786 {\translatekey{arrphd}}}%
1787 }
1788 \[\baselineskip]
1789 {\textbf{\translatekey{pleaserefer}:}\
1790 \printseq{authorlist}{~\&~}{,~}{\translatekey{andlist}~}~(\the\year).~
1791 {\renewcommand{\}[1] [] {-}\@title{}\ifx\@subtitel\@empty\else{}:~\@subtitel\fi}.
1792 }~\@doctype{.~Ghent~University,~Belgium.}%
1793 \ifx\@isbn\@empty\else
1794 \[\baselineskip]{\small ISBN~\@isbn}%
1795 \fi
1796 \ifdefempty{\@doi}{\{
1797 \ifx\@isbn\@empty\[\baselineskip]\else\\\fi
1798 {\small DOI~
1799 \@ifpackageloaded{hyperref}{
1800 \exp_args:NV \href \l_@@_doiurl_str {\@doi}
1801 }{
1802 \@doi
1803 }
1804 }
1805 }
1806 \end{minipage}
1807 }
1808 \ExplSyntaxOff
1809 </phd>

```

For courses, the copyright page consists of the course version, the course codes, the authors, a “typeset using L<sup>A</sup>T<sub>E</sub>X and the `ugentdocs` package” notice, user-defined `\@extranotices` (see Section 1.6.2), the publisher information and code, and a general copyright notice:

```

1810 <*CRS>
1811 \renewcommand{\@copyrightnotices}{
1812 \null\par
1813 \vspace*{\stretch{1}}

```

```

1814 {
1815   \setlength\parindent{0em}
1816   \ifx\@courseversion\empty\else\small\translatekey{version}~\@courseversion\\\fi
1817   \printseq{courseswcodes}{\{\}\{\}\{\}\}
1818   \ifseqempty{authors}{\{}{
1819     \vskip 1em
1820     \getseqcaption{authors}{\{::~\printseq{authors}{~\&~}{,~}{\translatekey{andlist}~}
1821   }
1822
1823   \translatekey{typeset}~\textrm{\LaTeX{}}~\translatekey[lowercase]{and}
1824   {\}~\translatekey[lowercase]{the-het}~\texttt{ugentdocs}~\translatekey[lowercase]{package}.\
1825   \@extranotices
1826
1827   \vskip 1em
1828   \@publisher\
1829   \@publishercode
1830
1831   \vskip 1em
1832   \copyright{~\the\year~\translatekey{org-ugent},
1833   \translatekey[lowercase]{arr}.
1834 }
1835 }
1836 </crs>

```

For a **report**, the copyright simply contains the “typeset using L<sup>A</sup>T<sub>E</sub>X and the **ugentdocs** package” notice, user-defined `\@extranotices` (see Section 1.6.2), and a general copyright notice:

```

1837 <*rp>
1838 \renewcommand{\@copyrightnotices}{
1839   \null\par
1840   \vspace*{\stretch{1}}
1841   {
1842     \setlength\parindent{0em}
1843     \translatekey{typeset}~\textrm{\LaTeX{}}~\translatekey[lowercase]{and}
1844     {\}~\translatekey[lowercase]{the-het}~\texttt{ugentdocs}~\translatekey[lowercase]{package}.\
1845     \@extranotices
1846
1847     \copyright{~\the\year~\translatekey{org-ugent},
1848     \translatekey[lowercase]{arr}.
1849   }
1850 }
1851 </rp>

```

## 2.6 Bookcover components

A few custom bookcover components are defined here for the spine, being the title, the authoryear, and the UGent logo.

```

1852 <*bkC>
1853 \newbookcovercomponenttype{title}{
1854   \newlength{\@HST} % Height spine title
1855   \pgfmithsetlength{\@HST}{3*\gridunit}
1856   \vspace{\@HST}\centering
1857   \rotatebox[origin=c]{-90}{%
1858     \begin{tabular}{@{}l@{}}
1859       {\renewcommand{\@}[1]{}{~}%
1860         \fontsize{15}{0}\selectfont\color{spinetextcolor}\textbf{#1}}
1861       \ifx\@subtitle\@empty\else
1862         \\[0.25em]
1863         {\fontsize{10}{0}\selectfont\color{spinetextcolor}\@subtitle}
1864       \fi
1865     \end{tabular}
1866   }%
1867   \vfill
1868 }
1869 \ExplSyntaxOn
1870 \newbookcovercomponenttype{authoryear}{
1871   \vfill\centering
1872   \bool_if:NTF \l_@@_bwphdcover_bool {
1873     \rotatebox[origin=c]{-90}{
1874       \fontsize{13}{0}\selectfont\color{spinetextcoloralt}\textbf{\vphantom{Ag}#1%
1875         \hspace{30pt}\the\year%
1876       }
1877     }
1878   }{
1879     \rotatebox[origin=c]{-90}{
1880       \fontsize{13}{0}\selectfont\color{spinetextcoloralt}\textbf{\vphantom{Ag}#1}
1881     }
1882   }
1883   \vspace{10mm}
1884 }
1885 \ExplSyntaxOff
1886 \newbookcovercomponenttype{logo}{
1887   \vspace{0mm}\centering
1888   \rotatebox{-90}{
1889     \begin{tikzpicture}[overlay,x=1pt,y=1pt]
1890       \begin{scope}[shift={(0,-7.75mm)}]
1891         \ugentlogo{15.5mm}{#1}{0.0}
1892       \end{scope}
1893     \end{tikzpicture}%
1894   }
1895   \vfill
1896 }
1897 </bkC>

```

## 3 Examples

Below you can find an example for every class. They also serve as their quick-start documentation.

Remember to

- Use a modern compiler: no pdfL<sup>A</sup>T<sub>E</sub>X, use LuaL<sup>A</sup>T<sub>E</sub>X or X<sub>Y</sub>L<sup>A</sup>T<sub>E</sub>X instead!
- Compile your source file twice or thrice. Most modern editors do this automatically

### 3.1 ugentcourse

```
%% Options: ugent*, gugc, kortrijk
%% language      Sets the document main language. Determines, i.a., logo
%%               and copyright text. Can be overridden locally for the text
%%               using \selectlanguage or \foreignlanguage (babel package)
%%               Options: english* / dutch
%% localizedates  Localizes any dates using the current language,
%%               provided the dates are supplied in ISO format YYYY-MM-DD
%%               Options: true*/false
%% nameformat     Format all names as "surname firstname"
%%               or "firstname surname"
%%               Options: surnamefirst, surnamelast*
%% affiliationformat  Format affiliation indexes as "a,b,c" (alph)
%%               or "1,2,3" (arabic)
%%               Options: alph*, arabic
%% xxpt           Sets the font size to e.g. 10pt or 11pt
%% twoside        If you want a two-sided document, change to oneside if you
%%               want a recto only document
%% openright      Causes you chapters to start on a right-hand page when
%%               your document is two-sided
%% cameraready    Embeds the official 24 cm x 18 cm into an A4 page and
%%               trigger alignment and cut marks for your printing service.
%%               This will also apply to the generated bookcover file.
%%               Options: true, false*
%% bare           Removes front and back cover. Many
%%               print services require this format for the contents.
%%               Options: true, false*
%% thumbs         Adds chapter thumbs to the side of the pages
%%               Options: true*, false
%% copyright      Prints a copyright watermark
%%               Options: true, false*
%% *default

%% This is just for some dummy text, please remove in your copy
\usepackage{xantlipsum}

%% This package allows to generate a PDF with clickable links
\usepackage[hyperindex=true]{hyperref}
%% You must load the hyperref package yourself, to allow putting it
%% in the correct order with the other packages you load!

%% Use this package if you want text spanning multiple columns in a table,
%% e.g., in a two-column summary at the start of your document.
\usepackage{multicol}

%% Use this package if you want multi-row tables
\usepackage{multirow}

%% Use these packages if you want prettier tables
\usepackage{booktabs}
\usepackage{threeparttable}

%% Use this package for exact float placements (e.g., in a multicol environment)
\usepackage{float}

%% Use biblatex for references
\usepackage[backend=biber, style=authoryear]{biblatex}
\addbibresource{biblatex-examples.bib} %% Change this to your own bibliography

%% Use this package if you want uniform and clean quantities and units
%% following SI conventions.
\usepackage{siunitx}
\sisetup{mode = text}

%% Use this package if you want to easily typeset chemical equations.
\usepackage[version=4]{mhchem}

%% You may want to use common fonts such as Arial (still within house style)
%% Works with installed fonts, and with font files placed
%% next to the document or in a fonts/ folder (e.g., on Overleaf).
%% Use * to refer to the font itself in the options.
%%\trysetsansfont[Arial]{Arial}[
%% BoldFont      = *,
%% BoldFeatures   = {FakeBold=2.5},
%% ItalicFont     = *,
%% ItalicFeatures = {FakeSlant=0.15},
%% BoldItalicFont = *,
%% BoldItalicFeatures = {FakeBold=2.5, FakeSlant=0.15},
%%]{}
%%\tryoverridemathfont[Arial]{Arial}{}

%% Year defaults to the current year, override with:
\year=2026

%% Specify academic year
\academicyear{2026--2027}

%% Document data -----
%% Set title and subtitle
\title{<Document or course title>}
\subtitle{<Course Notes>}
```

```

%% Specify a fancy photo for your cover page and its designer
%%\coverimage{Images/ugent-oeshoe}
%%\coverdesigner{De Kat, Krokettje}

%% Change title colour if it clashes with your image
%% \letcolor{covertitlecolor}{black}

%% Add publisher logo, e.g., Academia Press
\frontcoverlogos{\includegraphics[height=2\gridunit]{example-image-a}}
\backcoverlogos{\includegraphics[height = 2\gridunit]{example-image-a}}

%% Specify the degree(s):
\degree{Master of Arts in de wijsbegeerte}

%% Specify your ISBN
\isbn{978-92-95055-12-4}

%% You can skip copyright notices (replace all content with empty):
%% \copyrightnotices{}

%% You can specify additional copyright notices on the copyright page
\makeatletter
\extranotices{
  De figuren in dit document zijn opgemaakt met \texttt{TikZ}.\
  Dit document werd ge-\texttt{\TeX}-ed op een GNU/Linux desktop.
  \ifx\empty\@coverdesigner\else
    \Omslagontwerp: \@coverdesigner.
  \fi
}
\makeatother

%% People -----
%% Authors
\author{\Tupolev, Rudolf}{, Ghent University, Belgium}
\author{\Tupolev, Adolf}{, Ghent University, Belgium}

%% Mention who lectures the course
\lecturer{prof. dr.}\Gretarsson, Elma}{, Ghent University, Belgium}
\lecturer{prof. dr.}\Blum, Stephen}{, Ghent University, Belgium}

%% Course-specific preamble -----
%% Specify the course(s) this document apply to:
%% - first argument is the course number
%% - second argument is the course name
\course{I009160}{Veldbiologie: Soortherkenning en Habitatbeoordeling}
\course{I009000}{Veldwerkmethoden voor Hydrologische Systemen}

%% Better keep track of the different versions of your course
%% (and the corresponding publication year)
\courseversion{1.3}

%% Leave this as is if you use Academia Press as print shop
\publisher{Academia Press |
  Coupure Rechts 88 |
  9000 Gent |
  T +32 9 233 80 88 |
  E info@academiapress.be}

%% The publisher may provide you with a code, that you can provide on
%% your PDF copy (if you distribute any to your students.
%% This can also just be your ISBN code:
\makeatletter
\publishercode{ISBN \@isbn}
\makeatother

%% Document -----
\begin{document}

%% Create the cover and title pages
\maketitle

%% Creates a bookcover file \jobname-cover.tex
%% It currently assumes a 80 g/m2 paper with a bulk of 1.25 cm3/g, resulting in
%% a caliper (paper thickness) of 0.1 mm:
%% Spine width = page count / 2 * grammage * bulk = page count / 2 * caliper
%% If you're using a different paper type, override the spine width
%% in the \jobname-cover.tex file using the formula above.
\generatebookcover

%% Frontmatter -----
%% Causes the first pages to be Roman numbered
\frontmatter

\chapter*{Voorwoord}
\kant[1]

%% Sets the table of contents (automatically for you)
\tableofcontents

%% Mainmatter -----
%% Changes the numbering system to arabic and restart from 1
\mainmatter

\chapter*{<An unnumbered chapter>}
\kant[5]

\chapter{Tutorial}
\section{\texttt{\LaTeX} 101}
\label{S:Tutorial}
\insettext{Tutorial}{
  In this small example section (Section \ref{S:Tutorial}),
  we will show some of the functionality you will need most often.
  Online guides such as \href{https://www.overleaf.com/learn/latex/}{those from Overleaf}
  are more complete and useful, or a simple internet search, Stack Overflow or
  -- increasingly -- LLMs can be used to find answers to
  ``How do I do this in \texttt{\LaTeX}?''}
}

Still, some basics may be helpful. Adding a new paragraph is as simple as pressing enter twice:

No need for multiple \verb!\!, \verb!\newline!, or \verb!\par!.
You can adjust the indentation and spacing of the paragraph using\
\verb!\setlength{\parindent}{0pt}!\
and\
\verb!\setlength{\parskip}{0.75\baselineskip}!.

Citations are input using BibLaTeX, e.g.,\
\verb!\textcite{sigfridsson}!: \textcite{sigfridsson}\
\verb!\autocite{aristotle:physics}!: \autocite{aristotle:physics}.\
The bibliography is printed at the end of this section using\
\verb!\printbibliography!.

Figures such as Figure \ref{F:FigExample} are added as follows:

```

```

\begin{figure}[ht]
\centering
\includegraphics[width = 0.5\linewidth]{example-image-a} %% Your figure path
\caption[<Short figure caption>]{<This is the long caption of your figure.>}
\label{F:FigExample}
\end{figure}

Tables such as Table \ref{T:TabExample} are added as follows:

\begin{table}[htbp]
\centering
\begin{threeparttable}
\caption[<Short table caption>]{<This is the long caption of your table.>}
\label{T:TabExample}
\begin{tabular}{lrl}
\toprule
\multicolumn{2}{*}{\textit{Variable}} & \multicolumn{2}{c}{\textit{Value}}\\
\cmidrule{lr}{2-3}
& \textit{Number}\textit{tnote{a}} & \textit{Unit} \\
\midrule
One & 1.01 & \unit{\gram\per\metre} \\
Two & 52.4 & \unit{\milli\gram\per\cubic\metre\per\hour} \\
\bottomrule
\end{tabular}
\begin{tablenotes}
\footnotesize\raggedright
\item[a] This is a footnote over multiple columns and rows
\end{tablenotes}
\end{threeparttable}
\end{table}

You can use inline math such as \verb!$X_{\text{sludge}}$! ($X_{\text{sludge}}$)
or have equations with a label, such as Equation \ref{E:EqExample}:

\begin{equation}
e^{-j\pi} + 1 = 0
\label{E:EqExample}
\end{equation}

Or multiple, aligned equations without label or number:

\begin{align}
f(t) &= \{\mathcal{L}\}^{-1}\{F(s)\}(t) \nonumber \\
&= \{\frac{1}{2\pi i}\} \lim_{T \rightarrow \infty} \int_{\gamma - iT}^{\gamma + iT} e^{-st} F(s) ds \nonumber
\end{align}

You can use different lists, such as description, itemize, or enumerate:

\begin{description}
\item[Term 1] A first description
\item[Term 2] A second description
\end{description}

\begin{itemize}
\item[\Box] A first item with custom bullet
\item[\CheckedBox] A second item with custom bullet
\end{itemize}

\begin{enumerate}
\item A first numbered item
\item A second numbered item
\end{enumerate}

You can use the \verb!siunitx! package for units and quantities, e.g.,\n
\verb!\qty{1.2e5}{\metre}!\: \qty{1.2e5}{\metre}\n
\verb!\unit{\cubic\metre\per\second}!\: \unit{\cubic\metre\per\second}.

Chemical equations can be easily typeset using \verb!mhchem!, e.g.,\n
\verb!\ce{H2O + e- -> 1/2H2 + OH-}!\: \ce{H2O + e- -> 1/2H2 + OH-}

For all else, we trust you can find what you need with a bit of decent searching.

\insetquote{Good luck!}{The ugentdocs devs}

\printbibliography
%% Fix underfull vbox messages for these \kant chapters, but
%% if you use this in your document the text will not fill the page fully
\raggedbottom

\chapter{<Second chapter>}
\kant[6]

\section{<A section>}
\kant[7]

\subsection{<A subsection>}
\kant[8]

%% Appendix -----
%% Changes the chapter numbering to letters and uses 'Appendix' or
%% 'Bijlage' (in Dutch) as chapter name.
\appendix

\chapter{<First appendix>}
\chapter{<Second appendix>}

%% Typeset the final page (back cover)
\makefinalpage

\end{document}
\endinput
%%
%% End of file `example-ugentcourse.tex'.

```

## 3.2 ugentbama

```

%% Options: ugent*, gugc, kortrijk
%% language Sets the document main language. Determines, i.a., logo
%% and copyright text. Can be overridden locally for the text
%% using \selectlanguage or \foreignlanguage (babel package)
%% Options: english* / dutch
%% localizedates Localizes any dates using the current language,
%% provided the dates are supplied in ISO format YYYY-MM-DD
%% Options: true*/false

```

```

%% nameformat      Format all names as "surname firstname"
%%                or "firstname surname"
%%                Options: surnamefirst, surnamefirst*
%% affiliationformat Format affiliation indexes as "a,b,c" (alph)
%%                or "1,2,3" (arabic)
%%                Options: alph*, arabic
%% xxpt            Sets the font size to e.g. 10pt or 11pt
%% twoside         If you want a two-sided document, change to oneside if you
%%                want a recto only document
%% openright       Causes you chapters to start on a right-hand page when
%%                your document is two-sided
%% coverbg        Adds a coloured background area to the cover page
%%                Options: true, false*
%% *default

%% This is just for some dummy text, please remove in your copy
\usepackage{kantlipsum}

%% This package allows to generate a PDF with clickable links
\usepackage[hyperindex=true]{hyperref}
%% You must load the hyperref package yourself, to allow putting it
%% in the correct order with the other packages you load!

%% Use this package if you want text spanning multiple columns in a table,
%% e.g., in a two-column summary at the start of your document.
\usepackage{multicol}

%% Use this package if you want multi-row tables
\usepackage{multirow}

%% Use these packages if you want prettier tables
\usepackage{booktabs}
\usepackage{threeparttable}

%% Use this package for exact float placements (e.g., in a multicol environment)
\usepackage{float}

%% Use biblatex for references
\usepackage[backend=biber, style=authoryear]{biblatex}
\addbibresource{biblatex-examples.bib} %% Change this to your own bibliography

%% Use this package if you want uniform and clean quantities and units
%% following SI conventions.
\usepackage{siunitx}
\sisetup{mode = text}

%% Use this package if you want to easily typeset chemical equations.
\usepackage[version=4]{mhchem}

%% You may want to use common fonts such as Arial (still within house style)
%% Works with installed fonts, and with font files placed
%% next to the document or in a fonts/ folder (e.g., on Overleaf).
%% Use * to refer to the font itself in the options.
%% \trysetsansfont[Arial]{Arial}[
%% BoldFont      = *,
%% BoldFeatures   = {FakeBold=2.5},
%% ItalicFont     = *,
%% ItalicFeatures = {FakeSlant=0.15},
%% BoldItalicFont = *,
%% BoldItalicFeatures = {FakeBold=2.5, FakeSlant=0.15},
%% ]{}
%% \tryoverridemathfont[Arial]{Arial}{}

%% Date defaults to today if not specified, input date via ISO format YYYY-MM-DD
\date{2026-08-19}

%% Year defaults to the current year, override with:
\year=2026

%% Specify academic year
\academicyear{2026--2027}

%% Set location, defaults to translated 'Ghent'
%% \location{Somewhere else}

%% Document data -----
%% Set title and subtitle
\title{<This is quite a long example document title with not much information>}
\subtitle{<This is your subtitle>}

%% You can specify company logos. Height should be (at most) 2\gridunit
%% (or about 2.12cm), multiple logos should be spaced 1\gridunit
\frontcoverlogos{
  \includegraphics[height=2\gridunit]{example-image-a}
  \hspace{1\gridunit}
  \includegraphics[height=2\gridunit]{example-image-b}
}

%% Specify your degree and doctype (dissertation=ma/dissertation=ba)
\degree{Master of Science in Psychology}
\doctype{dissertation=ma}

%% Specify word count
\wordcount{2501}
%% You can also let wordcount be fetched automatically by using
%% \wordcount{\runwordcount}
%% To use this, you need to add --shell-escape to your latex build command.
%% !!See the docs for notes on accuracy and safety!!

%% If your manuscript is under an embargo, use the \embargo macro.
%% If the embargo is temporary (1, 2 or 5 years), please
%% specify (language agnostic) start and end date of the embargo period:
\embargo[start = 2027-05-21, end = 2032-05-20]

%% If you have a signed copyright page (after extracting the one in this
%% document), you can include it back in using
%% \usepackage{pdfpages}
%% \copyrightnotices{\includepdf[pages={1}]{copyright_signed.pdf}}

%% People -----
%% Author
\author{}{Peppe, Ludo}{}
\studentnr{<studentnr>}

%% Specify your supervisors (NL: promotoren) and their affiliation
\supervisor{prof. dr. ir.}{Walput, Eddie}{, Ghent University, Belgium}
\supervisor{prof. dr. ir.}{Dhaese, Gaston}{, Ghent University, Belgium}

%% Specify cosupervisors and external supervisors (if any) and their affiliation
\cosupervisor{ing.}{Thijs, Pol}{, Universiteit Gent, Belgi\`e}
\externalsupervisor{prof. dr.}{Protut, Lydia}{, Cynalco Medics, U.S.A.}

%% Specify your tutor or mentor

```

```

\tutor{}{, Marcel}{}

%% Document -----
\begin{document}

%% Create the cover and title pages
\maketitle

%% Frontmatter -----
%% Causes the first pages to be Roman numbered
\frontmatter

\chapter*{Acknowledgements}
\kant[1]

%% Sets the table of contents (automatically for you)
\tableofcontents

%% AI use disclaimer
\newpage
\begin{itemize}
\item[{$\Box$}] No use of GAI tools
\item[{$\Box$}] One or multiple GAI tools used
\end{itemize}

Indicate and describe the use case if one or multiple GAI tools have been used:

\newcolumntype{L}[1]{>\raggedright\arraybackslash}p{#1}}
\newcolumntype{Y}{>\raggedright\arraybackslash}X}
\begin{tabularx}{\linewidth}{\c|L{0.24\linewidth}|Y|L{0.2\linewidth}|}
\hline
& GAI-tool used as & Description & Used tool(s) \\
\hline
$\Box$ & Ideation & For example: brainstorm with the tool on a specific subject, preparation of a discussion by generation arguments, etc. & (...) \\
\hline
$\Box$ & Search engine & For example: searching for additional literature on a specific subject, etc. & (...) \\
\hline
$\Box$ & Writing assistant & For example: correction of spelling and typing mistakes, rewrite a text in a formal style, generating text, etc. & (...) \\
\hline
$\Box$ & Designer & For example: creating new, unique images, rewriting your text in a more academic style, etc. & (...) \\
\hline
$\Box$ & Exercise tool & For example: using the tool as a buddy, requesting additional explanation on a specific subject, requesting additional exercises to complete, etc. & (...) \\
\hline
$\Box$ & Data analysis & For example: calculating statistics, generating scatter plots, etc. & (...) \\
\hline
$\Box$ & Improving efficiency & For example: summarize existing text, adjust reference list to BibTeX-style, generate LaTeX tables, etc. & (...) \\
\hline
$\Box$ & Other & For example: generate program code, generate tables and graphs from online data, etc. & (...) \\
\hline
\end{tabularx}

%% Mainmatter -----
%% Changes the numbering system to arabic and restart from 1
\mainmatter

\chapter*{Samenvatting}
\makeatletter
\begin{multicols}{2}
[
\begin{center}
\textbf{\renewcommand{\thechapter}{1}{}{}}
\Large\title-\[tex]
\large \subtitle-\[0.5ex]
\printseq{authors}{- \& -}{,}{\translatekey{andlist}-}
\end{center}
]
\kant[2]
\kant[3]
\kant[4]
\end{multicols}
\makeatother

\chapter*{Summary}
\makeatletter
\begin{multicols}{2}
[
\begin{center}
\textbf{\renewcommand{\thechapter}{1}{}{}}
\Large\title-\[tex]
\large \subtitle-\[0.5ex]
\printseq{authors}{- \& -}{,}{\translatekey{andlist}-}
\end{center}
]
\kant[2]
\kant[3]
\kant[4]
\end{multicols}
\makeatother

\chapter*{<An unnumbered chapter>}
\kant[5]

\chapter{Tutorial}
\section{\texttrm{LaTeX} 101}
\label{S:Tutorial}
\insettext{Tutorial}{
In this small example section (Section \ref{S:Tutorial}),
we will show some of the functionality you will need most often.
Online guides such as \href{https://www.overleaf.com/learn/latex/}{those from Overleaf}
are more complete and useful, or a simple internet search, Stack Overflow or
-- increasingly -- LLMs can be used to find answers to
``How do I do this in \texttrm{LaTeX}?''
}

Still, some basics may be helpful. Adding a new paragraph is as simple as pressing enter twice:

No need for multiple \verb!\!, \verb!\newline!, or \verb!\par!.
You can adjust the indentation and spacing of the paragraph using\\
\verb!\setlength{\parindent}{0pt}!\\
and\\
\verb!\setlength{\parskip}{0.75\baselineskip}!.

Citations are input using BibLaTeX, e.g.,\\
\verb!\textcite{sigfridsson}!: \textcite{sigfridsson}\\
\verb!\autocite{aristotle:physics}!: \autocite{aristotle:physics}.\}

```

The bibliography is printed at the end of this section using\\  
\verb!\printbibliography!.

Figures such as Figure \ref{F:FigExample} are added as follows:

```
\begin{figure}[ht]
\centering
\includegraphics[width = 0.5\linewidth]{example-image-a} %% Your figure path
\caption[<short figure caption>]{<This is the long caption of your figure.>}
\label{F:FigExample}
\end{figure}
```

Tables such as Table \ref{T:TabExample} are added as follows:

```
\begin{table}[htbp]
\centering
\begin{threeparttable}
\caption[<Short table caption>]{<This is the long caption of your table.>}
\label{T:TabExample}
\begin{tabular}{lrl}
\toprule
\multicolumn{2}{*}{(Variable)} & \multicolumn{2}{c}{(Value)}\\
\cmidrule{1r}{2-3}
& Number\tnote{a} & & Unit \\
\midrule
One & 1.01 & \unit{\gram\per\metre} & \\
Two & 52.4 & \unit{\milli\gram\per\cubic\metre\per\hour} & \\
\bottomrule
\end{tabular}
\begin{tablenotes}
\footnotesize\raggedright
\item[a] This is a footnote over multiple columns and rows
\end{tablenotes}
\end{threeparttable}
\end{table}
```

You can use inline math such as \verb!\$X\_{sludge}\$! ( $X_{sludge}$ )  
or have equations with a label, such as Equation \ref{E:EqExample}:

```
\begin{equation}
e^{-j\pi} + 1 = 0
\label{E:EqExample}
\end{equation}
```

Or multiple, aligned equations without label or number:

```
\begin{align}
f(t) &= {\rm mathcal{L}}^{-1}\{F(s)\}(t) \nonumber \\
&= {\rm frac{1}{2\pi i}} \lim_{T\rightarrow\infty} \int_{\gamma - iT}^{\gamma + iT} e^{-st} F(s) \, ds \nonumber
\end{align}
```

You can use different lists, such as description, itemize, or enumerate:

```
\begin{description}
\item[Term 1] A first description
\item[Term 2] A second description
\end{description}

\begin{itemize}
\item[{$\Box$}] A first item with custom bullet
\item[{$\check{\Box}$}] A second item with custom bullet
\end{itemize}

\begin{enumerate}
\item A first numbered item
\item A second numbered item
\end{enumerate}
```

You can use the \verb!siunitx! package for units and quantities, e.g.,\\
\verb!\qty{1.2e5}{\metre}!: \qty{1.2e5}{\metre}\\
\verb!\unit{\cubic\metre\per\second}!: \unit{\cubic\metre\per\second}.

Chemical equations can be easily typeset using \verb!mhchem!, e.g.,\\
\verb!\ce{H2O + e- -> 1/2H2 + OH-}!: \ce{H2O + e- -> 1/2H2 + OH-}

For all else, we trust you can find what you need with a bit of decent searching.

```
\insetquote{Good luck!}{The ugentdocs devs}

\printbibliography
%% Fix underfull vbox messages for these \kant chapters, but
%% if you use this in your document the text will not fill the page fully
\raggedbottom

\chapter{<Second chapter>}
\kant[6]

\section{<A section>}
\kant[7]

\subsection{<A subsection>}
\kant[8]

%% Appendix -----
%% Changes the chapter numbering to letters and uses 'Appendix' or
%% 'Bijlage' (in Dutch) as chapter name.
\appendix

\chapter{<First appendix>}
\chapter{<Second appendix>}

\end{document}
\endinput
%%
%% End of file 'example-ugentbama-1.tex'.
```

```
%%
%% language          Options: ugent*, gugc, kortrijk
%%                   Sets the document main language. Determines, i.a., logo
%%                   and copyright text. Can be overridden locally for the text
%%                   using \selectlanguage or \foreignlanguage (babel package)
%%                   Options: english* / dutch
%% localizedates      Localizes any dates using the current language,
%%                   provided the dates are supplied in ISO format YYYY-MM-DD
%%                   Options: true*/false
%% nameformat         Format all names as "surname firstname"
%%                   or "firstname surname"
%%                   Options: surnamefirst, surnamefirst*
%% affiliationformat  Format affiliation indexes as "a,b,c" (alph)
%%                   or "1,2,3" (arabic)
%%                   Options: alph*, arabic
%% xopt               Sets the font size to e.g. 10pt or 11pt
```

```

%% twoside           If you want a two-sided document, change to oneside if you
%%                  want a recto only document
%% openright         Causes you chapters to start on a right-hand page when
%%                  your document is two-sided
%% coverbg           Adds a coloured background area to the cover page
%%                  Options: true, false*
%% *default

%% This is just for some dummy text, please remove in your copy
\usepackage{kantlipsum}

%% This package allows to generate a PDF with clickable links
\usepackage[hyperindex=true]{hyperref}
%% You must load the hyperref package yourself, to allow putting it
%% in the correct order with the other packages you load!

%% Use this package if you want text spanning multiple columns in a table,
%% e.g., in a two-column summary at the start of your document.
\usepackage{multicol}

%% Use this package if you want multi-row tables
\usepackage{multirow}

%% Use these packages if you want prettier tables
\usepackage{booktabs}
\usepackage{threeparttable}

%% Use this package for exact float placements (e.g., in a multicols environment)
\usepackage{float}

%% Use biblatex for references
\usepackage[backend=biber, style=authoryear]{biblatex}
\addbibresource{biblatex-examples.bib} %% Change this to your own bibliography

%% Use this package if you want uniform and clean quantities and units
%% following SI conventions.
\usepackage{siunitx}
\setupmode = text

%% Use this package if you want to easily typeset chemical equations.
\usepackage[version=4]{mhchem}

%% You may want to use common fonts such as Arial (still within house style)
%% Works with installed fonts, and with font files placed
%% next to the document or in a fonts/ folder (e.g., on Overleaf).
%% Use * to refer to the font itself in the options.
\trysetsansfont[Arial]{Arial}[
  BoldFont      = *,
  BoldFeatures  = {FakeBold=2.5},
  ItalicFont    = *,
  ItalicFeatures = {FakeSlant=0.15},
  BoldItalicFont = *,
  BoldItalicFeatures = {FakeBold=2.5, FakeSlant=0.15},
]{}
\tryoverridemathfont[Arial]{Arial}{}

%% Date defaults to today if not specified, input date via ISO format YYYY-MM-DD
\date{2026-08-19}

%% Year defaults to the current year, override with:
\year=2026

%% Specify academic year
\academicyear{2026--2027}

%% Set location, defaults to translated 'Ghent'
%% \location{Somewhere else}

%% Document data -----
%% Set title and subtitle
\title{Dit is een vrij lange voorbeeldtitel met niet al te veel informatie}
\subtitle{Dit is je subtitel}

%% You can specify company logos. Height should be (at most) 2\gridunit
%% (or about 2.12cm), multiple logos should be spaced 1\gridunit
%% \frontcoverlogos{
%%   \includegraphics[height=2\gridunit]{example-image-a}
%%   \hspace{1\gridunit}
%%   \includegraphics[height=2\gridunit]{example-image-b}
%% }

%% Specify your degree and doctype (dissertation-ma/dissertation-ba)
\degree{Bachelor of Science in de industriële wetenschappen}
\doctype{dissertation-ba}

%% Specify word count
\wordcount{2501}
%% You can also let wordcount be fetched automatically by using
%% \wordcount{\runwordcount}
%% To use this, you need to add --shell-escape to your latex build command.
%% !!See the docs for notes on accuracy and safety!!

%% If your manuscript is under an embargo, use the \embargo macro.
%% If the embargo is temporary (1, 2 or 5 years), please
%% specify (language agnostic) start and end date of the embargo period:
%% \embargo[start = 2027-05-21, end = 2032-05-20]

%% If you have a signed copyright page (after extracting the one in this
%% document), you can include it back in using
%% \usepackage{pdfpages}
%% \copyrightnotices{\includepdf[pages={1}]{copyright_signed.pdf}}

%% People -----
%% Specify the author and their title, and affiliation
\author{}{Peppe, Ludo}{& (<studentnr>)}
\author{}{Van Callenberghe, Palmyra}{& (<studentnr>)}
\author{}{Van Hoebeecke, Cesar}{& (<studentnr>)}

%% Specify your supervisors (NL: promotoren) and their affiliation
\supervisor{prof. dr. ir.}{Walput, Eddie}{, Ghent University, Belgium}
\supervisor{prof. dr. ir.}{Dhaese, Gaston}{, Ghent University, Belgium}

%% Specify cosupervisors and external supervisors (if any) and their affiliation
\cosupervisor{ing.}{Thijs, Pol}{, Universiteit Gent, België}
\externalsupervisor{prof. dr.}{Protut, Lydia}{, Cynalco Medics, U.S.A.}

%% Specify your tutor or mentor
\tutor{}{, Marcel}{}

%% Document -----
\begin{document}

%% Create the cover and title pages

```

```

\maketitle

%% Frontmatter -----
%% Causes the first pages to be Roman numbered
\frontmatter

\chapter*{Dankwoord}
\kant[1]

%% Sets the table of contents (automatically for you)
\tableofcontents

%% AI use disclaimer
\newpage
\begin{itemize}
  \item[{$\Box$}] Geen gebruik van GAI tools
  \item[{$\CheckedBox$}] Één of meerdere GAI tools gebruikt
\end{itemize}

Duid aan en omschrijf in geval van gebruik van één of meerdere GAI-tools hoe je deze hebt gebruikt:

\newcolumntype{L}[1]{>{\raggedright\arraybackslash}p{#1}}
\newcolumntype{Y}>{\raggedright\arraybackslash}X}
\begin{tabularx}{\linewidth}{|c|L{0.24\linewidth}|Y|L{0.2\linewidth}|}
  \hline
  & GAI-tool gebruikt als & Omschrijving & Gebruikte tool(s) \\
  \hline
  $\CheckedBox$ & Ideeënverstrekker & 
    Bijvoorbeeld: brainstorm met de tool over een bepaald thema, bereid een discussie voor door argumenten te laten genereren, enz. & (...) \\
  $\Box$ & Zoekmachine & 
    Bijvoorbeeld : extra literatuur zoeken over een bepaald onderwerp, enz. & (...) \\
  $\Box$ & Schrijffassistent & 
    Bijvoorbeeld: Spelings- en tipvauten laten verbeteren, een tekst formeler laten schrijven, genereren van tekst enz. & (...) \\
  $\Box$ & Ontwerper & 
    Bijvoorbeeld: maak een nieuwe, unieke afbeelding, laat je tekst herschrijven in een meer academische stijl, enz. & (...) \\
  $\Box$ & Defentool & 
    Bijvoorbeeld: gebruik de tool als een buddy en vraag extra uitleg bij specifieke leerstof, vraag om extra oefeningen te maken, enz. & (...) \\
  $\Box$ & Data-analyse & 
    Bijvoorbeeld: berekenen van statistieken, scatterplot genereren enz. & ( ... ) \\
  $\Box$ & Efficiëntie bevorderen & 
    Bijvoorbeeld: samenvatten van bestaande teksten, bronnenlijst in BibTeX-stijl zetten, LaTeX tabellen genereren, enz. & (...) \\
  $\Box$ & Op een andere manier & 
    Bijvoorbeeld: programmeercode genereren, tabellen en grafieken genereren van online data, enz. & (...) \\
\end{tabularx}

%% Mainmatter -----
%% Changes the numbering system to arabic and restart from 1
\mainmatter

\chapter*{Samenvatting}
\makeatletter
\begin{multicols}{2}
  [
    \begin{center}
      \textbf{\renewcommand{\l}[1][{}]{-}
        \Large@title-\l[lex]
        \large @subtitle\l[0.5ex]}
      \printseq{authors}{- \& -}{,}{\translatekey{andlist}-}
    \end{center}
  ]

  \kant[2]

  \kant[3]

  \kant[4]
\end{multicols}
\makeatother

\chapter*{<An unnumbered chapter>}
\kant[5]

\chapter{Tutorial}
\section{\textrm{\LaTeX} 101}
\label{S:Tutorial}
\insettext{Tutorial}{
  In this small example section (Section \ref{S:Tutorial}),
  we will show some of the functionality you will need most often.
  Online guides such as \href{https://www.overleaf.com/learn/latex/}{those from Overleaf}
  are more complete and useful, or a simple internet search, Stack Overflow or
  -- increasingly -- LLMs can be used to find answers to
  ``How do I do this in \textrm{\LaTeX}?''.
}

Still, some basics may be helpful. Adding a new paragraph is as simple as pressing enter twice:

No need for multiple \verb!\!, \verb!\newline!, or \verb!\par!.
You can adjust the indentation and spacing of the paragraph using\
\verb!\setlength{\parindent}{Opt}!\
and\
\verb!\setlength{\parskip}{0.75\baselineskip}!.

Citations are input using BibLaTeX, e.g.,\
\verb!\textcite{sigfridsson}!: \textcite{sigfridsson}\
\verb!\autocite{aristotle:physics}!: \autocite{aristotle:physics}.\
The bibliography is printed at the end of this section using\
\verb!\printbibliography!.

Figures such as Figure \ref{F:FigExample} are added as follows:

\begin{figure}[ht]
  \centering
  \includegraphics[width = 0.5\linewidth]{example-image-a} %% Your figure path
  \caption[<short figure caption>]{<This is the long caption of your figure.>}
  \label{F:FigExample}
\end{figure}

Tables such as Table \ref{T:TabExample} are added as follows:

\begin{table}[htbp]
  \centering
  \begin{threeparttable}
    \caption[<Short table caption>]{<This is the long caption of your table.>}
    \label{T:TabExample}
    \begin{tabular}{|l|}
      \toprule
      \multirow{2}{*}{(Variable)} & \multicolumn{2}{c}{(Value)} \\
      \cmidrule{1r}{2-3}
      & \text{Number} & \text{Unit} \\
      \midrule
      One & 1.01 & \unit{\gram\per\metre} \\
      Two & 52.4 & \unit{\milli\gram\per\cubic\metre\per\hour}
    \end{tabular}
  \end{threeparttable}
\end{table}

```

```

\bottomrule
\end{tabular}
\begin{tablenotes}
\footnotesize\raggedright
\item[a] This is a footnote over multiple columns and rows
\end{tablenotes}
\end{threeparttable}
\end{table}

You can use inline math such as \verb!$X_{sludge}$! ($X_{sludge}$)
or have equations with a label, such as Equation \ref{E:EqExample}:

\begin{equation}
e^{-j\pi} + 1 = 0
\label{E:EqExample}
\end{equation}

Or multiple, aligned equations without label or number:

\begin{align}
f(t) &= \{\mathcal{L}\}^{-1}\{F(s)\}(t) \nonumber \\
&= \{\frac{1}{2\pi i}\} \lim_{T \rightarrow \infty} \int_{\gamma - iT}^{\gamma + iT} e^{-st} F(s) \, ds \nonumber
\end{align}

You can use different lists, such as description, itemize, or enumerate:

\begin{description}
\item[Term 1] A first description
\item[Term 2] A second description
\end{description}

\begin{itemize}
\item[$\Box$] A first item with custom bullet
\item[$\check{\Box}$] A second item with custom bullet
\end{itemize}

\begin{enumerate}
\item A first numbered item
\item A second numbered item
\end{enumerate}

You can use the \verb!siunitx! package for units and quantities, e.g., \\
\verb!\qty{1.2e5}{\metre}!: \qty{1.2e5}{\metre} \\
\verb!\unit{\cubic\metre\per\second}!: \unit{\cubic\metre\per\second}.

Chemical equations can be easily typeset using \verb!mhchem!, e.g., \\
\verb!\ce{H2O + e- -> 1/2H2 + OH-}!: \ce{H2O + e- -> 1/2H2 + OH-}

For all else, we trust you can find what you need with a bit of decent searching.

\insetquote{Good luck!}{The ugents devs}

\printbibliography
%% Fix underfull vbox messages for these \kant chapters, but
%% if you use this in your document the text will not fill the page fully
\raggedbottom

\chapter{<Second chapter>}
\kant[6]

\section{<A section>}
\kant[7]

\subsection{<A subsection>}
\kant[8]

%% Appendix -----
%% Changes the chapter numbering to letters and uses 'Appendix' or
%% 'Bijlage' (in Dutch) as chapter name.
\appendix

\chapter{<First appendix>}
\chapter{<Second appendix>}

\end{document}
\endinput
%%
%% End of file `example-ugentbama-2.tex'.

```

## 3.3 ugentsphd

### Dutch

```

%%
%% language          Options: ugents*, gugs, kortrijk
%%                   Sets the document main language. Determines, i.a., logo
%%                   and copyright text. Can be overridden locally for the text
%%                   using \selectlanguage or \foreignlanguage (babel package)
%%
%% localizedates     Localizes any dates using the current language,
%%                   provided the dates are supplied in ISO format YYYY-MM-DD
%%                   Options: true*/false
%%
%% nameformat        Format all names as "surname firstname"
%%                   or "firstname surname"
%%                   Options: surnamefirst, surnamefirst*
%%
%% affiliationformat  Format affiliation indexes as "a,b,c" (alph)
%%                   or "1,2,3" (arabic)
%%                   Options: alph*, arabic
%%
%% xxpt              Sets the font size to e.g. 10pt or 11pt
%%
%% twoside           If you want a two-sided document, change to oneside if you
%%                   want a recto only document
%%
%% openright         Causes you chapters to start on a right-hand page when
%%                   your document is two-sided
%%
%% cameraready       Embeds the official 24 cm x 18 cm into an A4 page and
%%                   trigger alignment and cut marks for your printing service.
%%                   This will also apply to the generated bookcover file.
%%                   Options: true, false*
%%
%% bare              Removes front and back cover. Many
%%                   print services require this format for the contents.
%%                   Options: true, false*
%%
%% thumbs            Adds chapter thumbs to the side of the pages
%%                   Options: true*, false
%%
%% *default

```

```

%% This is just for some dummy text, please remove in your copy
\usepackage{kantlipsum}

%% This package allows to generate a PDF with clickable links
\usepackage[hyperindex=true]{hyperref}
%% You must load the hyperref package yourself, to allow putting it
%% in the correct order with the other packages you load!

%% Use this package if you want text spanning multiple columns in a table,
%% e.g., in a two-column summary at the start of your document.
\usepackage{multicol}

%% Use this package if you want multi-row tables
\usepackage{multirow}

%% Use these packages if you want prettier tables
\usepackage{booktabs}
\usepackage{threeparttable}

%% Use this package for exact float placements (e.g., in a multicols environment)
\usepackage{float}

%% Use biblatex for references
\usepackage[backend=biber, style=authoryear]{biblatex}
\addbibresource{biblatex-examples.bib} %% Change this to your own bibliography

%% Use this package if you want uniform and clean quantities and units
%% following SI conventions.
\usepackage{siunitx}
\sisetup{mode = text}

%% Use this package if you want to easily typeset chemical equations.
\usepackage[version=4]{mhchem}

%% You may want to use common fonts such as Arial (still within house style)
%% Works with installed fonts, and with font files placed
%% next to the document or in a fonts/ folder (e.g., on Overleaf).
%% Use * to refer to the font itself in the options.
\trysetsansfont[Arial]{Arial}[
  BoldFont          = *,
  BoldFeatures      = {FakeBold=2.5},
  ItalicFont        = *,
  ItalicFeatures    = {FakeSlant=0.15},
  BoldItalicFont    = *,
  BoldItalicFeatures = {FakeBold=2.5, FakeSlant=0.15},
]{}
\tryoverridemathfont[Arial]{Arial}{}

%% Date defaults to today if not specified, input date via ISO format YYYY-MM-DD
\date{2026-08-19}

%% Year defaults to the current year, override with:
\year=2026

%% Specify academic year
\academyyear{2026--2027}

%% Set location, defaults to translated 'Ghent'
%% \location{Somewhere else}

%% Document data -----
%% Set title and subtitle
\title{<Dit is een vrij lange voorbeeldtitel met niet al te veel informatie>}
\subtitle{<Dit is je subtitel>}

%% Add title and subtitle in Dutch for an English dissertation
%% \titel{<Dit is een vrij lange voorbeeldtitel met niet al te veel informatie>}
%% \subtitel{<Dit is je subtitel>}

%% Specify a fancy photo for your cover page and its designer
%% \coverimage{Images/ugent-oehe}
%% \coverdesigner{De Kat, Krokette}

%% Change title colour if it clashes with your image
%% \letcolor{covertitlecolor}{black}

%% You can specify company logos. Height should be (at most) 2\gridunit
%% (or about 2.12cm), multiple logos should be spaced 1\gridunit
\frontcoverlogos{
  \includegraphics[height=2\gridunit]{example-image-a}
  \hspace{1\gridunit}
  \includegraphics[height=2\gridunit]{example-image-b}
}

%% Add different publisher logo, e.g., University Press
\backcoverlogos{\includegraphics[height = 1\gridunit]{example-image-c}}

%% Specify your degree and doctype (dissertation-phd)
\degree{Doctor in Political Sciences}
\doctype{dissertation-phd}

%% Optionally specify your funding if any
\grants{FWO PhD Fellowship strategic basic research 1SXXXXXXN}

%% Specify your DOI if applicable
\doi{10.1000/182}

%% Specify your ISBN
\isbn{978-92-95055-12-4}

%% If your manuscript is under an embargo, use the \embargo macro.
%% If the embargo is temporary (1, 2 or 5 years), please
%% specify (language agnostic) start and end date of the embargo period:
\embargo[start = 2027-05-21, end = 2032-05-20]

%% People -----
%% Specify the author and their title, and affiliation
\author{Ir. De Bruyne, Henri}{\Universiteit Gent\
  Faculteit Politieke en Sociale Wetenschappen\
  Vakgroep Politieke Wetenschappen}

%% Specify your supervisors (NL: promotoren) and their affiliation
\supervisor{prof. dr. ir. Walput, Eddie}{, Ghent University, Belgium}
\supervisor{prof. dr. ir. Dhasee, Gaston}{, Ghent University, Belgium}

%% Specify the chair of the jury and their affiliation
\jurychair{prof. dr. Gooris, Willy}{, Universiteit Gent, Belgi"e}

%% Specify the members of the jury and their affiliations
\jurymember{prof. dr. Opdenbosch, Lydia}{, Universiteit Gent, Belgi"e}
\jurymember{prof. dr. Helsen, Rob}{, Butsel, N.V., Belgi"e}
\jurymember{prof. dr. Beirnaert, Mia}{, H. Hart, Belgi"e}

```

```

%% Specify the dean of the faculty and rector of Ghent University
\dean{prof. dr.}{Decaan, Nona}
\rector{prof. dr.}{De Sutter, Petra}

%% Contact -----
%% Set author's address
\address{Sint-Pietersnieuwstraat 41, 9000 Gent, Belgi~"e\\
M: henri.debruyne@ugent.be\\
T: +32 9 264 51 19
}

%% Document -----
\begin{document}

%% Create the cover and title pages
\maketitle

%% Creates a bookcover file \jobname-cover.tex
%% It currently assumes a 80 g/m² paper with a bulk of 1.25 cm³/g, resulting in
%% a caliper (paper thickness) of 0.1 mm:
%% Spine width = page count / 2 * grammage * bulk = page count / 2 * caliper
%% If you're using a different paper type, override the spine width
%% in the \jobname-cover.tex file using the formula above.
\generatebookcover

%% Frontmatter -----
%% Causes the first pages to be Roman numbered
\frontmatter

\chapter*{Dankwoord}
\kant[1]

%% Sets the table of contents (automatically for you)
\tableofcontents

%% Mainmatter -----
%% Changes the numbering system to arabic and restart from 1
\mainmatter

\chapter*{Samenvatting}
\makeatletter
\begin{multicols}{2}
[
\begin{center}
\textbf{\renewcommand{\l}[1][{}]{-}
\Large@title-\l[1ex]
\large \subtitle\l[0.5ex]}
\printseq{authors}{-~&-}{-}{\translatekey{andlist}-}
\end{center}
]

\kant[2]

\kant[3]

\kant[4]

\end{multicols}
\makeatother

\chapter*{<An unnumbered chapter>}
\kant[5]

\chapter{Tutorial}
\section{\textrm{\LaTeX} 101}
\label{S:Tutorial}
\insettext{Tutorial}{
In this small example section (Section \ref{S:Tutorial}),
we will show some of the functionality you will need most often.
Online guides such as \href{https://www.overleaf.com/learn/latex/}{those from Overleaf}
are more complete and useful, or a simple internet search, Stack Overflow or
-- increasingly -- LLMs can be used to find answers to
``How do I do this in \textrm{\LaTeX}?''}
}

Still, some basics may be helpful. Adding a new paragraph is as simple as pressing enter twice:

No need for multiple \verb!\\!, \verb!\newline!, or \verb!\par!.
You can adjust the indentation and spacing of the paragraph using\\
\verb!\setlength{\parindent}{0pt}!\\
and\\
\verb!\setlength{\parskip}{0.75\baselineskip}!.

Citations are input using BibLaTeX, e.g.,\\
\verb!\textcite{sigfridsson}!: \textcite{sigfridsson}\\
\verb!\autocite{aristotle:physics}!: \autocite{aristotle:physics}.\\
The bibliography is printed at the end of this section using\\
\verb!\printbibliography!.

Figures such as Figure \ref{F:FigExample} are added as follows:

\begin{figure}[ht]
\centering
\includegraphics[width = 0.5\linewidth]{example-image-a} %% Your figure path
\caption[<short figure caption>]{<This is the long caption of your figure.>}
\label{F:FigExample}
\end{figure}

Tables such as Table \ref{T:TabExample} are added as follows:

\begin{table}[htbp]
\centering
\begin{threeparttable}
\caption[<Short table caption>]{<This is the long caption of your table.>}
\label{T:TabExample}
\begin{tabular}{lrl}
\toprule
\multirow{2}{*}{(Variable)} & \multicolumn{2}{c}{(Value)}\\
\cmidrule{1r}{2-3}
& Number & \tnote{a} & Unit \\
\midrule
One & 1.01 & \unit{gram}{per}{metre} \\
Two & 52.4 & \unit{milli}{gram}{per}{cubic}{metre}{per}{hour} \\
\bottomrule
\end{tabular}
\begin{tablenotes}
\footnotesize\raggedright
\item[a] This is a footnote over multiple columns and rows
\end{tablenotes}
\end{threeparttable}
\end{table}

```

You can use inline math such as `\verb!$X_{sludge}$!` (`$X_{sludge}$`) or have equations with a label, such as `Equation \ref{E:EqExample}`:

```
\begin{equation}
  e^{-j\pi} + 1 = 0
  \label{E:EqExample}
\end{equation}
```

Or multiple, aligned equations without label or number:

```
\begin{align}
f(t) &= \{\mathrmcal{L}\}^{-1}\{\mathrm{F}(s)\}(t) \nonumber \\
&= \{\mathrm{frac}\{1\}{2\pi i}\} \lim_{T \rightarrow \infty} \int_{\gamma - iT}^{\gamma + iT} e^{st} F(s) ds \nonumber
\end{align}
```

You can use different lists, such as description, itemize, or enumerate:

```
\begin{description}
  \item[Term 1] A first description
  \item[Term 2] A second description
\end{description}

\begin{itemize}
  \item[\Box] A first item with custom bullet
  \item[\CheckedBox] A second item with custom bullet
\end{itemize}

\begin{enumerate}
  \item A first numbered item
  \item A second numbered item
\end{enumerate}
```

You can use the `\verb!siunitx!` package for units and quantities, e.g.,  
`\verb!\qty{1.2e5}{\metre}!:` `\qty{1.2e5}{\metre}`  
`\verb!\unit{\cubic\metre\per\second}!:` `\unit{\cubic\metre\per\second}`.

Chemical equations can be easily typeset using `\verb!mhchem!`, e.g.,  
`\verb!\ce{H2O + e- -> 1/2H2 + OH-}!:` `\ce{H2O + e- -> 1/2H2 + OH-}`

For all else, we trust you can find what you need with a bit of decent searching.

```
\insetquote{Good luck!}{The ugentdocs devs}

\printbibliography
%% Fix underfull vbox messages for these \kant chapters, but
%% if you use this in your document the text will not fill the page fully
\raggedbottom

\chapter{<Second chapter>}
\kant[6]

\section{<A section>}
\kant[7]

\subsection{<A subsection>}
\kant[8]

%% Some dummy chapters to have enough spine width
\foreach \i in {A,B,C,D,E} {
  \chapter{Dummy chapter \i}
  \foreach \j in {1,...,50} {
    \kant[22-24]
  }
}

%% Appendix -----
%% Changes the chapter numbering to letters and uses 'Appendix' or
%% 'Bijlage' (in Dutch) as chapter name.
\appendix

\chapter{<First appendix>}
\chapter{<Second appendix>}

%% Typeset the final page (back cover)
\makefinalpage

\end{document}
\endinput
%%
%% End of file `example-ugentphd-1.tex'.
```

## English

```
%%
%% language          Options: ugent*, gugc, kortrijk
%%                   Sets the document main language. Determines, i.a., logo
%%                   and copyright text. Can be overridden locally for the text
%%                   using \selectlanguage or \foreignlanguage (babel package)
%%                   Options: english* / dutch
%% localizedates     Localizes any dates using the current language,
%%                   provided the dates are supplied in ISO format YYYY-MM-DD
%%                   Options: true*/false
%% nameformat        Format all names as "surname firstname"
%%                   or "firstname surname"
%%                   Options: surnamefirst, surnamelast*
%% affiliationformat  Format affiliation indexes as "a,b,c" (alph)
%%                   or "1,2,3" (arabic)
%%                   Options: alph*, arabic
%% xxpt              Sets the font size to e.g. 10pt or 11pt
%% twoside            If you want a two-sided document, change to oneside if you
%%                   want a recto only document
%% openright         Causes you chapters to start on a right-hand page when
%%                   your document is two-sided
%% cameraready       Embeds the official 24 cm x 18 cm into an A4 page and
%%                   trigger alignment and cut marks for your printing service.
%%                   This will also apply to the generated bookcover file.
%%                   Options: true, false*
%% bare              Removes front and back cover. Many
%%                   print services require this format for the contents.
%%                   Options: true, false*
%% thumbs            Adds chapter thumbs to the side of the pages
%%                   Options: true*, false
%% *default

%% This is just for some dummy text, please remove in your copy
\usepackage{kantlipsum}

%% This package allows to generate a PDF with clickable links
```

```

\usepackage[hyperindex=true]{hyperref}
%% You must load the hyperref package yourself, to allow putting it
%% in the correct order with the other packages you load!

%% Use this package if you want text spanning multiple columns in a table,
%% e.g., in a two-column summary at the start of your document.
\usepackage{multicol}

%% Use this package if you want multi-row tables
\usepackage{multirow}

%% Use these packages if you want prettier tables
\usepackage{booktabs}
\usepackage{threeparttable}

%% Use this package for exact float placements (e.g., in a multicols environment)
\usepackage{float}

%% Use biblatex for references
\usepackage[backend=biber, style=authoryear]{biblatex}
\addbibresource{biblatex-examples.bib} %% Change this to your own bibliography

%% Use this package if you want uniform and clean quantities and units
%% following SI conventions.
\usepackage{siunitx}
\sisetup{mode = text}

%% Use this package if you want to easily typeset chemical equations.
\usepackage[version=4]{mhchem}

%% You may want to use common fonts such as Arial (still within house style)
%% Works with installed fonts, and with font files placed
%% next to the document or in a fonts/ folder (e.g., on Overleaf).
%% Use * to refer to the font itself in the options.
%%\trysetsansfont[Arial]{Arial}[
%% BoldFont = *,
%% BoldFeatures = {FakeBold=2.5},
%% ItalicFont = *,
%% ItalicFeatures = {FakeSlant=0.15},
%% BoldItalicFont = *,
%% BoldItalicFeatures = {FakeBold=2.5, FakeSlant=0.15},
%%]{}
%%\tryoverridemathfont[Arial]{Arial}{}

%%Date defaults to today if not specified, input date via ISO format YYYY-MM-DD
\date{2026-08-19}

%% Year defaults to the current year, override with:
\year=2026

%% Specify academic year
\academicyear{2026--2027}

%% Set location, defaults to translated 'Ghent'
%%\location{Somewhere else}

%% Document data -----
%% Set title and subtitle
\title{<This is quite a long example document title with not much information>}
\subtitle{<This is your subtitle>}

%% Add title and subtitle in Dutch for an English dissertation
\titelf{<Dit is een vrij lange voorbeeldtitel met niet al te veel informatie>}
\subtitelf{<Dit is je subtitel>}

%% Specify a fancy photo for your cover page and its designer
\coverimage{Images/ugent-oehoe}
\coverdesigner{De Kat, Kroketje}

%% Change title colour if it clashes with your image
%% \letcolor{covertitlecolor}{black}

%% You can specify company logos. Height should be (at most) 2\gridunit
%% (or about 2.12cm), multiple logos should be spaced 1\gridunit
%%\frontcoverlogos{
%% \includegraphics[height=2\gridunit]{example-image-a}
%% \hspace{1\gridunit}
%% \includegraphics[height=2\gridunit]{example-image-b}
%%}

%% Add different publisher logo, e.g., University Press
\backcoverlogos{\includegraphics[height = 1\gridunit]{example-image-c}}

%% Specify your degree and doctype (dissertation-phd)
\degree{Doctor in Bioscience Engineering}
\doctype{dissertation-phd}

%% Optionally specify your funding if any
\grants{FWD PhD Fellowship strategic basic research 1SXXXXXXN}

%% Specify your DOI if applicable
\doi{10.1000/182}

%% Specify your ISBN
\isbn{978-92-95055-12-4}

%% If your manuscript is under an embargo, use the \embargo macro.
%% If the embargo is temporary (1, 2 or 5 years), please
%% specify (language agnostic) start and end date of the embargo period:
%%\embargo[start = 2027-05-21, end = 2032-05-20]

%% People -----
%% Specify the author and their title, and affiliation
\author{}{Callewaert, Gerrit}{\Ghent University\
Faculty of Bioscience Engineering\
Department of Biotechnology}

%% Specify your supervisors (NL: promotoren) and their affiliation
\supervisor{prof. dr. ir.}{Walput, Eddie}{, Ghent University, Belgium}
\supervisor{prof. dr. ir.}{Dhaese, Gaston}{, Ghent University, Belgium}

%% Specify the chair of the jury and their affiliation
\jurychair{prof. dr.}{Gooris, Willy}{, Universiteit Gent, Belgi\`e}

%% Specify the members of the jury and their affiliations
\jurymember{prof. dr.}{Opdenbosch, Lydia}{, Universiteit Gent, Belgi\`e}
\jurymember{prof. dr.}{Helsen, Rob}{, Butsel, N.V., Belgi\`e}
\jurymember{prof. dr.}{Beirnaert, Mia}{, H. Hart, Belgi\`e}

%% Specify the dean of the faculty and rector of Ghent University
\dean{prof. dr.}{Decaan, Nona}
\rector{prof. dr.}{De Sutter, Petra}

```

```

%% Contact -----
%% Set author's address
\address{Frieda Saeystraat 1, 9052 Gent, Belgi"e\\
M: gerrit.callewaert@ugent.be\\
T: +32 9 264 51 19
}

%% Document -----
\begin{document}

%% Create the cover and title pages
\maketitle

%% Creates a bookcover file \jobname-cover.tex
%% It currently assumes a 80 g/m² paper with a bulk of 1.25 cm³/g, resulting in
%% a caliper (paper thickness) of 0.1 mm:
%% Spine width = page count / 2 * grammage * bulk = page count / 2 * caliper
%% If you're using a different paper type, override the spine width
%% in the \jobname-cover.tex file using the formula above.
\generatebookcover

%% Frontmatter -----
%% Causes the first pages to be Roman numbered
\frontmatter

\chapter*{Acknowledgements}
\kant[1]

%% Sets the table of contents (automatically for you)
\tableofcontents

%% Mainmatter -----
%% Changes the numbering system to arabic and restart from 1
\mainmatter

\chapter*{Summary}
\makeatletter
\begin{multicols}{2}
[
\begin{center}
\textbf{\renewcommand{\l}[1][]{-}
\Large@title-\l[1ex]
\large @subtitle-\l[0.5ex]}
\printseq{authors}{- \&-}{,}{\translatekey{andlist}-}
\end{center}
]

\kant[2]

\kant[3]

\kant[4]

\end{multicols}
\makeatother

\chapter*{<An unnumbered chapter>}
\kant[5]

\chapter{Tutorial}
\section{\textrm{\LaTeX} 101}
\label{S:Tutorial}
\insettext{Tutorial}{
In this small example section (Section \ref{S:Tutorial}),
we will show some of the functionality you will need most often.
Online guides such as \href{https://www.overleaf.com/learn/latex/}{those from Overleaf}
are more complete and useful, or a simple internet search, Stack Overflow or
-- increasingly -- LLMs can be used to find answers to
``How do I do this in \textrm{\LaTeX}?''
}

Still, some basics may be helpful. Adding a new paragraph is as simple as pressing enter twice:

No need for multiple \verb!\l, \verb!\newline!, or \verb!\par!.
You can adjust the indentation and spacing of the paragraph using\\
\verb!\setlength{\parindent}{Opt}!\\
and\\
\verb!\setlength{\parskip}{0.75\baselineskip}!.

Citations are input using BibLaTeX, e.g.,\\
\verb!\textcite{sigfridsson}!: \textcite{sigfridsson}\\
\verb!\autocite{aristotle:physics}!: \autocite{aristotle:physics}.\\
The bibliography is printed at the end of this section using\\
\verb!\printbibliography!.

Figures such as Figure \ref{F:FigExample} are added as follows:

\begin{figure}[ht]
\centering
\includegraphics[width = 0.5\linewidth]{example-image-a} %% Your figure path
\caption[<short figure caption>]{<This is the long caption of your figure.>}
\label{F:FigExample}
\end{figure}

Tables such as Table \ref{T:TabExample} are added as follows:

\begin{table}[htbp]
\centering
\begin{threeparttable}
\caption[<Short table caption>]{<This is the long caption of your table.>}
\label{T:TabExample}
\begin{tabular}{lrl}
\toprule
\multirrow{2}{*}{Variable} & \multicolumn{2}{c}{Value}\\
\cmidrule{lr}{2-3}
& Number & \tnote{a} & Unit \\
\midrule
One & 1.01 & \unit{gram\per metre} & \\
Two & 52.4 & \unit{milli\gram\per cubic\metre\per hour} & \\
\bottomrule
\end{tabular}
\begin{tablenotes}
\footnotesize\raggedright
\item[a] This is a footnote over multiple columns and rows
\end{tablenotes}
\end{threeparttable}
\end{table}

You can use inline math such as \verb!\$X_{sludge}$! ( $X_{sludge}$ )
or have equations with a label, such as Equation \ref{E:EqExample}:

\begin{equation}
e^{-j\pi} + 1 = 0

```

```

\label{E:EqExample}
\end{equation}

Or multiple, aligned equations without label or number:

\begin{align}
f(t) &= \{\mathcal{L}\}^{-1}\{F(s)\}(t) \nonumber \\
&= \{\frac{1}{2\pi i}\} \lim_{T \rightarrow \infty} \int_{\gamma - iT}^{\gamma + iT} e^{-st} F(s) ds \nonumber
\end{align}

You can use different lists, such as description, itemize, or enumerate:

\begin{description}
\item[Term 1] A first description
\item[Term 2] A second description
\end{description}

\begin{itemize}
\item[\Box] A first item with custom bullet
\item[\CheckedBox] A second item with custom bullet
\end{itemize}

\begin{enumerate}
\item A first numbered item
\item A second numbered item
\end{enumerate}

You can use the \verb!siunitx! package for units and quantities, e.g.,\
\verb!\qty{1.2e5}{\metre}!: \qty{1.2e5}{\metre}\
\verb!\unit{\cubic\metre\per\second}!: \unit{\cubic\metre\per\second}.

Chemical equations can be easily typeset using \verb!mhchem!, e.g.,\
\verb!\ce{H2O + e- -> 1/2H2 + OH-}!: \ce{H2O + e- -> 1/2H2 + OH-}

For all else, we trust you can find what you need with a bit of decent searching.

\insetquote{Good luck!}{The ugentdocs devs}

\printbibliography
%% Fix underfull vbox messages for these \kant chapters, but
%% if you use this in your document the text will not fill the page fully
\raggedbottom

\chapter{<Second chapter>}
\kant[6]

\section{<A section>}
\kant[7]

\subsection{<A subsection>}
\kant[8]

%% Some dummy chapters to have enough spine width
\foreach \i in {A,B,C,D,E} {
  \chapter{Dummy chapter \i}
  \foreach \j in {1,...,50} {
    \kant[22-24]
  }
}

%% Appendix -----
%% Changes the chapter numbering to letters and uses 'Appendix' or
%% 'Bijlage' (in Dutch) as chapter name.
\appendix

\chapter{<First appendix>}
\chapter{<Second appendix>}

%% Typeset the final page (back cover)
\makefinalpage

\end{document}
\endinput
%%
%% End of file `example-ugentphd-2.tex'.

```

## 3.4 ugentarticle

```

%%
%% language          Options: ugent*, gugc, kortrijk
%%                   Sets the document main language. Determines, i.a., logo
%%                   and copyright text. Can be overridden locally for the text
%%                   using \selectlanguage or \foreignlanguage (babel package)
%%                   Options: english* / dutch
%%
%% localizedates      Localizes any dates using the current language,
%%                   provided the dates are supplied in ISO format YYYY-MM-DD
%%                   Options: true*/false
%%
%% nameformat         Format all names as "surname firstname"
%%                   or "firstname surname"
%%                   Options: surnamefirst, surnamelast*
%%
%% affiliationformat  Format affiliation indexes as "a,b,c" (alph)
%%                   or "1,2,3" (arabic)
%%                   Options: alph*, arabic
%%
%% xxpt              Sets the font size to e.g. 10pt or 11pt
%%
%% twoside            If you want a two-sided document, change to oneside if you
%%                   want a recto only document
%%
%% *default

%% This is just for some dummy text, please remove in your copy
\usepackage{kantlipsum}

%% This package allows to generate a PDF with clickable links
\usepackage[hyperindex=true]{hyperref}
%% You must load the hyperref package yourself, to allow putting it
%% in the correct order with the other packages you load!

%% Use this package if you want text spanning multiple columns in a table,
%% e.g., in a two-column summary at the start of your document.
\usepackage{multicol}

%% Use this package if you want multi-row tables
\usepackage{multirow}

%% Use these packages if you want prettier tables
\usepackage{booktabs}
\usepackage{threeparttable}

```

```

%% Use this package for exact float placements (e.g., in a multicols environment)
\usepackage{float}

%% Use biblatex for references
\usepackage[backend=biber, style=authoryear]{biblatex}
\addbibresource{biblatex-examples.bib} %% Change this to your own bibliography

%% Use this package if you want uniform and clean quantities and units
%% following SI conventions.
\usepackage{siunitx}
\setup{mode = text}

%% Use this package if you want to easily typeset chemical equations.
\usepackage[version=4]{mhchem}

%% Use this package if you want a CC license notice
\usepackage[type={CC},modifier={by-nc-nd},version={4.0},]{doclicense}

%% You may want to use common fonts such as Arial (still within house style)
%% Works with installed fonts, and with font files placed
%% next to the document or in a fonts/ folder (e.g., on Overleaf).
%% Use * to refer to the font itself in the options.
%% \trysetsansfont[Arial]{Arial}[
%% BoldFont          = *,
%% BoldFeatures       = {FakeBold=2.5},
%% ItalicFont         = *,
%% ItalicFeatures      = {FakeSlant=0.15},
%% BoldItalicFont     = *,
%% BoldItalicFeatures = {FakeBold=2.5, FakeSlant=0.15},
%% ]{}
%% \tryoverridemathfont[Arial]{Arial}{}

%% Optionally specify submission, acceptance, and publication date
\date[submitted]{2026-05-19}
\date[accepted]{2026-09-04}
\date[published]{2026-10-05}

%% Year defaults to the current year, override with:
\year=2026

%% Document data -----
%% Set title
\title{<This is the title of your article which is probably way too long
and you should generally avoid this>}

%% Add the graphical abstract
\graphicalabstract{
\begin{center}%
\includegraphics[width=0.5\textwidth]{example-image-a}%
\end{center}%
}

%% Optionally specify the journal
\journal{<The Journal>}

%% Optionally specify the keywords and highlights
\keywords{keyword one, keyword two, keyword three}
\highlights{
\item This is a first fine highlight
\item This is some finding highlighted
\item This is a key conclusion
\item Perhaps some perspective
}

%% Optionally specify your funding if any
\grants{FWO PhD Fellowship strategic basic research 1SXXXXXXN}

%% Specify your DOI if applicable
\doi{10.1000/182}

%% Print the notice from the doclicense package
\makeatletter
\newsavebox\cclogobox % Save CC image box with
\copyrightnotices{
\sbox\cclogobox{\doclicenseImage}% License box
\usebox\cclogobox\hspace{1em}%
\begin{minipage}[b]{\dimexpr\linewidth-\wd\cclogobox-1em\relax}
\raggedright
\textcopyright\ <publisher> \the\year.
The definitive peer-reviewed and edited version of this article
is published in \journal{} <issue information>,
\href{https://doi.org/\@doi}{DOI: \@doi}
and is available at \href{<publisherwebsite>.com}{<publisherwebsite>}
\end{minipage}
}
\makeatother

%% People -----
%% Specify the author and their title, and affiliation
\affiliation{
Technologies for a Resource Agile Society Laboratory (TRASLAB), %
Ghent University, %
Frieda Saeyssstraat 1, 9052 Ghent, %
East-Flanders, Belgium%
}
\affiliation{
Center for Advanced Process Technology for Urban Resource Recovery (CAPTURE), %
Frieda Saeyssstraat 1, 9052 Ghent, %
East-Flanders, Belgium
}
\author
[
email=Ludo.Poppe,
orcid=0000-00000-0000-0001
]{Poppe, Ludo}{a}
\author
[
email=Palmyra.VanCallenberghe,
orcid=0000-00000-0000-0002
]{Van Callenberghe, Palmyra}{a,b}
\author
[corresponding,
email=Cesar.VanHoebeecke,
orcid=0000-00000-0000-0003]
]{Van Hoebeecke, Cesar}{b}

%% Article abstract -----
\abstract{
\kant[1]
}
%% Document -----
\begin{document}

%% Create the cover and title pages

```

```

\maketitle

\begin{multicols}{2}
\raggedcolumns

\section*{<An unnumbered introduction>}
\kant[5]

\section{\texttrm{\LaTeX} 101}
\label{S:Tutorial}
In this small example section (Section \ref{S:Tutorial}),
we will show some of the functionality you will need most often.
Online guides such as \href{https://www.overleaf.com/learn/latex/}{those from Overleaf}
are more complete and useful, or a simple internet search, Stack Overflow or
-- increasingly -- LLMs can be used to find answers to
--How do I do this in \texttrm{\LaTeX}?''

Still, some basics may be helpful. Adding a new paragraph is as simple as pressing enter twice:

No need for multiple \verb!\!\!, \verb!\newline!, or \verb!\par!.
You can adjust the indentation and spacing of the paragraph using\\
\verb!\setlength{\parindent}{0pt}!\\\
and\\
\verb!\setlength{\parskip}{0.75\baselineskip}!.

Citations are input using BibLaTeX, e.g.,\\
\verb!\textcite{sigfridsson}!: \textcite{sigfridsson}\\
\verb!\autocite{aristotle:physics}!: \autocite{aristotle:physics}.\\\
The bibliography is printed at the end of this section using\\
\verb!\printbibliography!.

\newpage
Figures within a muticols column such as Figure \ref{F:FigExampleCol}
are added as follows:

\begin{figure}[H]
\centering
\includegraphics[width = \linewidth]{example-image-a} %% Your figure path
\caption[<short figure caption>]{<This is the long caption of your figure.>}
\label{F:FigExampleCol}
\end{figure}

\textcolor{lightgray}{\kant[9-11]}

Figures spanning the full width such as Figure \ref{F:FigExampleWdth}
are added as follows:

\end{multicols}
\begin{figure}[H]
\centering
\includegraphics[width = \linewidth,max height=5cm]{example-image-a} %% Your figure path
\caption[<short figure caption>]{<This is the long caption of your figure.>}
\label{F:FigExampleWdth}
\end{figure}
\begin{multicols}{2}

\textcolor{lightgray}{\kant[9-10]}

You can also specify a figure such as Figure \ref{F:FigExamplePage}
within the multicols environment, and place it at the top of the next page.
\begin{figure*}[t]
\centering
\includegraphics[width = \linewidth,max height=5cm]{example-image-a} %% Your figure path
\caption[<short figure caption>]{<This is the long caption of your figure.>}
\label{F:FigExamplePage}
\end{figure*}

Tables such as Table \ref{T:TabExInline} are added as follows:

\begin{table}[H]
\centering
\begin{threeparttable}
\caption[<Short table caption>]{<This is the long caption of your table.>}
\label{T:TabExInline}
\begin{tabular}{lrl}
\begin{tabular}{l}
\toprule
\multirow{2}{*}{(Variable) & \multicolumn{2}{c}{(Value)}}
\cmidrule{1r}{2-3}
& Number\tnote{a} & Unit \\
\midrule
One & 1.01 & \unit{gram\per metre} \\
Two & 52.4 & \unit{milli\gram\per cubic\metre\per hour} \\
\bottomrule
\end{tabular}
\end{tabular}
\begin{tablenotes}
\footnotesize\raggedright
\item[a] This is a footnote over multiple columns and rows
\end{tablenotes}
\end{threeparttable}
\end{table}

You can use inline math such as \verb!$X_{sludge}$! ($X_{sludge}$)
or have equations with a label, such as Equation \ref{E:EqExample}:

\begin{equation}
e^{-j\pi} + 1 = 0
\label{E:EqExample}
\end{equation}

Or multiple, aligned equations without label or number:

\begin{align}
f(t) &= \{\mathcal{L}\}^{-1}\{F(s)\}(t) \nonumber \\
&= \{\frac{1}{2\pi i}\} \lim_{T \rightarrow \infty} \int_{-\gamma - iT}^{-\gamma + iT} e^{-st} F(s) ds \nonumber
\end{align}

You can use different lists, such as description, itemize, or enumerate:

\begin{description}
\item[Term 1] A first description
\item[Term 2] A second description
\end{description}

\begin{itemize}
\item[$\Box$] A first item with custom bullet
\item[$\CheckedBox$] A second item with custom bullet
\end{itemize}

\begin{enumerate}
\item A first numbered item
\item A second numbered item
\end{enumerate}

```

```

You can use the \verb!siunitx! package for units and quantities, e.g.,\\
\verb!\qty{1.2e5}{\metre}!: \qty{1.2e5}{\metre}\\
\verb!\unit{\cubic\metre\per\second}!: \unit{\cubic\metre\per\second}.

Chemical equations can be easily typeset using \verb!mhchem!, e.g.,\\
\verb!\ce{H2O + e- -> 1/2H2 + OH-}!: \ce{H2O + e- -> 1/2H2 + OH-}

For all else, we trust you can find what you need with a bit of decent searching.

Good luck!

\printbibliography
\section{<A second section>}
\kant[6]

\section{<A third section>}
\kant[7]

\subsection{<A subsection>}
\kant[8]

\section*{Data availability}
Specify where you can find your data

\section*{Declaration of competing interests}
The authors declare that they have some interesting competitions.

\section*{Acknowledgements}
I'd like to thank\ldots

\section*{CRediT author statement}
\textbf{Poppe, L.:} Methodology, Software, Formal analysis, Data Curation, Writing - Original Draft, Visualization.
\textbf{Van Callenberghe, P.:} Writing - Original Draft.
\textbf{Van Hoebeecke, C.:} Conceptualization, Writing - Review & Editing, Supervision, Project administration, Funding acquisition.

\printbibliography
\end{multicols}
\end{document}
\endinput
%%
%% End of file `example-ugentarticle.tex'.

```

## 3.5 ugentreport

```

%% Options: ugent*, gugc, kortrijk
%% language Sets the document main language. Determines, i.a., logo
%% and copyright text. Can be overridden locally for the text
%% using \selectlanguage or \foreignlanguage (babel package)
%% Options: english* / dutch
%% localizedates Localizes any dates using the current language,
%% provided the dates are supplied in ISO format YYYY-MM-DD
%% Options: true*/false
%% nameformat Format all names as "surname firstname"
%% or "firstname surname"
%% Options: surnamefirst, surnamelast*
%% affiliationformat Format affiliation indexes as "a,b,c" (alph)
%% or "1,2,3" (arabic)
%% Options: alph*, arabic
%% rxpt Sets the font size to e.g. 10pt or 11pt
%% twoside If you want a two-sided document, change to oneside if you
%% want a recto only document
%% openright Causes you chapters to start on a right-hand page when
%% your document is two-sided
%% coverbg Adds a coloured background area to the cover page
%% Options: true, false*
%% *default

%% This is just for some dummy text, please remove in your copy
\usepackage{kantlipsum}

%% This package allows to generate a PDF with clickable links
\usepackage[hyperindex=true]{hyperref}
%% You must load the hyperref package yourself, to allow putting it
%% in the correct order with the other packages you load!

%% Use this package if you want text spanning multiple columns in a table,
%% e.g., in a two-column summary at the start of your document.
\usepackage{multicol}

%% Use this package if you want multi-row tables
\usepackage{multirow}

%% Use these packages if you want prettier tables
\usepackage{booktabs}
\usepackage{threeparttable}

%% Use this package for exact float placements (e.g., in a multicols environment)
\usepackage{float}

%% Use biblatex for references
\usepackage[backend=biber, style=authoryear]{biblatex}
\addbibresource{biblatex-examples.bib} %% Change this to your own bibliography

%% Use this package if you want uniform and clean quantities and units
%% following SI conventions.
\usepackage{siunitx}
\setup{mode = text}

%% Use this package if you want to easily typeset chemical equations.
\usepackage[version=4]{mhchem}

%% You may want to use common fonts such as Arial (still within house style)
%% Works with installed fonts, and with font files placed
%% next to the document or in a fonts/ folder (e.g., on Overleaf).
%% Use * to refer to the font itself in the options.
%%\trysetsansfont[Arial]{Arial}[
%% BoldFont = *,
%% BoldFeatures = {FakeBold=2.5},
%% ItalicFont = *,
%% ItalicFeatures = {FakeSlant=0.15},
%% BoldItalicFont = *,
%% BoldItalicFeatures = {FakeBold=2.5, FakeSlant=0.15},
%%]{}
%%\tryoverridemathfont[Arial]{Arial}{}

```

```

%% Year defaults to the current year, override with:
\year=2026

%% Specify academic year
\academicyear{2026--2027}

%% Document data -----
%% Set title, subtitle, and extra information
\title{<Titel>}
\subtitle{<Opdracht>}
\extra{<Vak>}

%% You can specify company logos. Height should be (at most) 2\gridunit
%% (or about 2.12cm), multiple logos should be spaced 1\gridunit
\frontcoverlogos{
  \includegraphics[height=2\gridunit]{example-image-a}
  \hspace{1\gridunit}
  \includegraphics[height=2\gridunit]{example-image-b}
}

%% Specify word count
\wordcount{2501}
%% You can also let wordcount be fetched automatically by using
\wordcount{\runwordcount}
%% To use this, you need to add --shell-escape to your latex build command.
%% !!See the docs for notes on accuracy and safety!!

%% You can skip copyright notices (replace all content with empty):
%% \copyrightnotices{}

%% You can specify additional copyright notices on the copyright page
\extranotices{
  De figuren in dit document zijn opgemaakt met \texttt{TikZ}.\
  Dit document werd ge-\texttt{TeX}-ed op een GNU/Linux desktop.
}

%% People -----
%% Specify the author and their title, and affiliation
\author{<Pope, Ludo>{<studentnr>}}
\author{<Van Callenberghe, Palmyra>{<studentnr>}}
\author{<Van Hoebeecke, Cesar>{<studentnr>}}

%% Mention who lectures the course
\lecturer{prof. dr.}<Gretarsson, Elma>{, Ghent University, Belgium}
\lecturer{prof. dr.}<Blum, Stephen>{, Ghent University, Belgium}

%% Document -----
\begin{document}

%% Create the cover and title pages
\maketitle

%% Frontmatter -----
%% Causes the first pages to be Roman numbered
\frontmatter

%% Sets the table of contents (automatically for you)
\tableofcontents

%% Mainmatter -----
%% Changes the numbering system to arabic and restart from 1
\mainmatter

\chapter*{Samenvatting}
\makeatletter
\begin{multicols}{2}
[
  \begin{center}
    \textbf{\renewcommand{\}{\}[1][{}]{-}}
    \Large@title-\[1ex]
    \large @subtitle-\[0.5ex]
    \printseq{authors}{-}&-{-}{-}{\translatekey{andlist}}-
  \end{center}
]

  \kant[2]

  \kant[3]

  \kant[4]

\end{multicols}
\makeatother

\chapter*{<An unnumbered chapter>}
\kant[5]

\chapter{Tutorial}
\section{\texttt{\LaTeX} 101}
\label{S:Tutorial}
\insettext{Tutorial}{
  In this small example section (Section \ref{S:Tutorial}),
  we will show some of the functionality you will need most often.
  Online guides such as \href{https://www.overleaf.com/learn/latex/}{those from Overleaf}
  are more complete and useful, or a simple internet search, Stack Overflow or
  -- increasingly -- LLMs can be used to find answers to
  ``How do I do this in \texttt{\LaTeX}?''
}

Still, some basics may be helpful. Adding a new paragraph is as simple as pressing enter twice:

No need for multiple \verb!\!, \verb!\newline!, or \verb!\par!.
You can adjust the indentation and spacing of the paragraph using\
\verb!\setlength{\parindent}{0pt}!\
and\
\verb!\setlength{\parskip}{0.75\baselineskip}!.

Citations are input using BibLaTeX, e.g.,\
\verb!\textcite{sigfridsson}!: \textcite{sigfridsson}\
\verb!\autocite{aristotle:physics}!: \autocite{aristotle:physics}.\
The bibliography is printed at the end of this section using\
\verb!\printbibliography!.

Figures such as Figure \ref{F:FigExample} are added as follows:

\begin{figure}[ht]
  \centering
  \includegraphics[width = 0.5\linewidth]{example-image-a} %% Your figure path
  \caption[<short figure caption>]{<This is the long caption of your figure.>}
  \label{F:FigExample}
\end{figure}

Tables such as Table \ref{T:TabExample} are added as follows:

```

```

\begin{table}[htbp]
\centering
\begin{threeparttable}
\caption{<Short table caption>}<This is the long caption of your table.>
\label{T:TabExample}
\begin{tabular}{lrl}
\toprule
\multirrow{2}{*}{(Variable)} & \multicolumn{2}{c}{(Value)}\\
\cmidrule{lr}{2-3}
& Number\tnote{a} & Unit \\
\midrule
One & 1.01 & \unit{\gram\per\metre} \\
Two & 52.4 & \unit{\milli\gram\per\cubic\metre\per\hour} \\
\bottomrule
\end{tabular}
\begin{tablenotes}
\footnotesize\raggedright
\item[a] This is a footnote over multiple columns and rows
\end{tablenotes}
\end{threeparttable}
\end{table}

You can use inline math such as \verb!$X_{sludge}$! ( $X_{sludge}$ )
or have equations with a label, such as Equation \ref{E:EqExample}:

\begin{equation}
e^{-j\pi} + 1 = 0
\label{E:EqExample}
\end{equation}

Or multiple, aligned equations without label or number:

\begin{align}
f(t) &= \mathcal{L}^{-1}\{F(s)\}(t) \nonumber \\
&= \frac{1}{2\pi i} \lim_{T \rightarrow \infty} \int_{-iT}^{iT} e^{-st} F(s) ds \nonumber
\end{align}

You can use different lists, such as description, itemize, or enumerate:

\begin{description}
\item[Term 1] A first description
\item[Term 2] A second description
\end{description}

\begin{itemize}
\item[\Box] A first item with custom bullet
\item[\CheckedBox] A second item with custom bullet
\end{itemize}

\begin{enumerate}
\item A first numbered item
\item A second numbered item
\end{enumerate}

You can use the \verb!siunitx! package for units and quantities, e.g.,\
\verb!\qty{1.2e5}{\metre}!: \qty{1.2e5}{\metre}\
\verb!\unit{\cubic\metre\per\second}!: \unit{\cubic\metre\per\second}.

Chemical equations can be easily typeset using \verb!mhchem!, e.g.,\
\verb!\ce{H2O + e- -> 1/2H2 + OH-}!: \ce{H2O + e- -> 1/2H2 + OH-}

For all else, we trust you can find what you need with a bit of decent searching.

\insetquote{Good luck!}{The ugentdocs devs}

\printbibliography
%% Fix underfull vbox messages for these \kant chapters, but
%% if you use this in your document the text will not fill the page fully
\raggedbottom

\chapter{<Second chapter>}
\kant[6]

\section{<A section>}
\kant[7]

\subsection{<A subsection>}
\kant[8]

%% Appendix -----
%% Changes the chapter numbering to letters and uses 'Appendix' or
%% 'Bijlage' (in Dutch) as chapter name.
\appendix

\chapter{<First appendix>}
\chapter{<Second appendix>}

\end{document}
\endinput
%%
%% End of file `example-ugentreport-1.tex'.

%%
%% Options: ugent*, gugc, kortrijk
%% language Sets the document main language. Determines, i.a., logo
%% and copyright text. Can be overridden locally for the text
%% using \selectlanguage or \foreignlanguage (babel package)
%% Options: english* / dutch
%% localizedates Localizes any dates using the current language,
%% provided the dates are supplied in ISO format YYYY-MM-DD
%% Options: true*/false
%% nameformat Format all names as "surname firstname"
%% or "firstname surname"
%% Options: surnamefirst, surnamelast*
%% affiliationformat Format affiliation indexes as "a,b,c" (alph)
%% or "1,2,3" (arabic)
%% Options: alph*, arabic
%% xxpt Sets the font size to e.g. 10pt or 11pt
%% twoside If you want a two-sided document, change to oneside if you
%% want a recto only document
%% openright Causes you chapters to start on a right-hand page when
%% your document is two-sided
%% coverbg Adds a coloured background area to the cover page
%% Options: true, false*
%% *default

%% This is just for some dummy text, please remove in your copy
\usepackage{kantlipsum}

%% This package allows to generate a PDF with clickable links
\usepackage[hyperindex=true]{hyperref}

```

```

%% You must load the hyperref package yourself, to allow putting it
%% in the correct order with the other packages you load!

%% Use this package if you want text spanning multiple columns in a table,
%% e.g., in a two-column summary at the start of your document.
\usepackage{multicol}

%% Use this package if you want multi-row tables
\usepackage{multirow}

%% Use these packages if you want prettier tables
\usepackage{booktabs}
\usepackage{threeparttable}

%% Use this package for exact float placements (e.g., in a multicols environment)
\usepackage{float}

%% Use biblatex for references
\usepackage[backend=biber, style=authoryear]{biblatex}
\addbibresource{biblatex-examples.bib} %% Change this to your own bibliography

%% Use this package if you want uniform and clean quantities and units
%% following SI conventions.
\usepackage{siunitx}
\sisetup{mode = text}

%% Use this package if you want to easily typeset chemical equations.
\usepackage[version=4]{mhchem}

%% You may want to use common fonts such as Arial (still within house style)
%% Works with installed fonts, and with font files placed
%% next to the document or in a fonts/ folder (e.g., on Overleaf).
%% Use * to refer to the font itself in the options.
\trysetsansfont[Arial]{Arial}[
  BoldFont          = *,
  BoldFeatures      = {FakeBold=2.5},
  ItalicFont        = *,
  ItalicFeatures    = {FakeSlant=0.15},
  BoldItalicFont    = *,
  BoldItalicFeatures = {FakeBold=2.5, FakeSlant=0.15},
]{}
\tryoverridemathfont[Arial]{Arial}{}

%% Year defaults to the current year, override with:
\year=2026

%% Specify academic year
%%\academicyear{2026--2027}

%% Document data -----
%% Set title and subtitle
\title{<This is quite a long example document title with not much information>}
\subtitle{<This is your subtitle>}

%% Set title, subtitle, and extra information
\title{<Title>}
\subtitle{<Subtitle or project number>}
\extra{<additional text to title>}

%% You can specify company logos. Height should be (at most) 2\gridunit
%% (or about 2.12cm), multiple logos should be spaced 1\gridunit
%%\frontcoverlogos{
%%  \includegraphics[height=2\gridunit]{example-image-a}
%%  \hspace{1\gridunit}
%%  \includegraphics[height=2\gridunit]{example-image-b}
%%}

%% Specify word count
%%\wordcount{2501}
%% You can also let wordcount be fetched automatically by using
%%\wordcount{\runwordcount}
%% To use this, you need to add --shell-escape to your latex build command.
%% !!See the docs for notes on accuracy and safety!!

%% You can skip copyright notices (replace all content with empty):
\copyrightnotices{}

%% You can specify additional copyright notices on the copyright page
\extranotices{
  De figuren in dit document zijn opgemaakt met \texttt{TikZ}.\!\!
  Dit document werd ge-\texttt{\TeX}-ed op een GNU/Linux desktop.
}

%% Contact -----
%% Set full contact info in address
\address{
  <Faculty \ldots>\!\!
  <Department or Office \ldots>\!\!\sisetup{
    reset-text-family = false,
    reset-text-series = false,
    reset-text-shape   = false,
  }
  <Research group \ldots>
  \vskip 1em
  \ifseqempty{emails}{}{E-\printseq{emails} \phantom{E-}\phantom{E-}\phantom{E-}\!\!\!}
  \ifseqempty{phones}{}{T-\printseq{phones} \phantom{T-}\phantom{T-}\phantom{T-}\!\!\!}
  \ifseqempty{mobiles}{}{M-\printseq{mobiles} \phantom{M-}\phantom{M-}\phantom{M-}\!\!\!}
  \vskip 1em
  <Campus \ldots, building \ldots>\!\!
  <Street 123 c >, <0000 City>
  \newline\newline
  \href{https://www.ugent.be}{www.ugent.be}
}

%% Set email, phone, and mobile (multiple of each possible).
\email{firstname.name}
\phone{+32 9 000 00 00}
\mobile{+32 400 00 00 00}

%% Document -----
\begin{document}

%% Create the cover and title pages
\maketitle

%% Frontmatter -----
%% Causes the first pages to be Roman numbered
\frontmatter

%% Report data page
\textcolor{titlecolor}{\uppercase{
  Date}}\!\!
\today

```

```

\textcolor{titlecolor}{\uppercase{%
  Location}}\
\makeatletter
\@location
\makeatother

\textcolor{titlecolor}{\uppercase{%
  Attendees}}\
< names separated by commas>

\textcolor{titlecolor}{\uppercase{%
  Excused}}\
< names separated by commas>

\textcolor{titlecolor}{\uppercase{%
  Chair}}\
< chair>

\textcolor{titlecolor}{\uppercase{%
  Minute taker}}\
< minute taker>

%% Sets the table of contents (automatically for you)
\tableofcontents

%% Mainmatter -----
%% Changes the numbering system to arabic and restart from 1
\mainmatter

\chapter*{Summary}
\makeatletter
\begin{multicols}{2}
[
  \begin{center}
    \textbf{\renewcommand{\l}[1][{}]{-}
      \Large@title-\l[lex]
      \Large@subtitle-\l[0.5ex]}
    \printseq{authors}{-~}{,}{\translatekey{andlist}-}
  \end{center}
]

\kant[2]

\kant[3]

\kant[4]

\end{multicols}
\makeatother

\chapter*{<An unnumbered chapter>}
\kant[5]

\chapter{Tutorial}
\section{\textrm{\LaTeX} 101}
\label{S:Tutorial}
\insettext{Tutorial}{
  In this small example section (Section \ref{S:Tutorial}),
  we will show some of the functionality you will need most often.
  Online guides such as \href{https://www.overleaf.com/learn/latex/}{those from Overleaf}
  are more complete and useful, or a simple internet search, Stack Overflow or
  -- increasingly -- LLMs can be used to find answers to
  ``How do I do this in \textrm{\LaTeX}?''.
}

Still, some basics may be helpful. Adding a new paragraph is as simple as pressing enter twice:

No need for multiple \verb!\!, \verb!\newline!, or \verb!\par!.
You can adjust the indentation and spacing of the paragraph using\
\verb!\setlength{\parindent}{Opt}!\
and\
\verb!\setlength{\parskip}{0.75\baselineskip}!.

Citations are input using BibLaTeX, e.g.,\
\verb!\textcite{sigfridsson}!: \textcite{sigfridsson}\
\verb!\autocite{aristotle:physics}!: \autocite{aristotle:physics}.\
The bibliography is printed at the end of this section using\
\verb!\printbibliography!.

Figures such as Figure \ref{F:FigExample} are added as follows:

\begin{figure}[ht]
\centering
\includegraphics[width = 0.5\linewidth]{example-image-a} %% Your figure path
\caption[<short figure caption>]{<This is the long caption of your figure.>}
\label{F:FigExample}
\end{figure}

Tables such as Table \ref{T:TabExample} are added as follows:

\begin{table}[htbp]
\centering
\begin{threeparttable}
\caption[<Short table caption>]{<This is the long caption of your table.>}
\label{T:TabExample}
\begin{tabular}{lrl}
\toprule
\multirow{2}{*}{(Variable) & \multicolumn{2}{c}{(Value)}\
\cmidrule{lr}{2-3}
& Number\tnote{a} & Unit \
\midrule
One & 1.01 & \unit{gram}{per}{metre} \
Two & 52.4 & \unit{milli}{gram}{per}{cubic}{metre}{per}{hour} \
\bottomrule
\end{tabular}
\begin{tablenotes}
\footnotesize\raggedright
\item[a] This is a footnote over multiple columns and rows
\end{tablenotes}
\end{threeparttable}
\end{table}

You can use inline math such as \verb!$X_{sludge}$! ( $X_{sludge}$ )
or have equations with a label, such as Equation \ref{E:EqExample}:

\begin{equation}
e^{-j\pi} + 1 = 0
\label{E:EqExample}
\end{equation}

Or multiple, aligned equations without label or number:

```

```

\begin{align}
f(t) &= \{\mathcal{L}\}^{-1}\{\mathcal{F}(s)\}(t) \nonumber \\
&= \{\frac{1}{2\pi i}\} \lim_{T \rightarrow \infty} \int_{\gamma - iT}^{\gamma + iT} e^{-st} \mathcal{F}(s) ds \nonumber
\end{align}

You can use different lists, such as description, itemize, or enumerate:

\begin{description}
\item[Term 1] A first description
\item[Term 2] A second description
\end{description}

\begin{itemize}
\item[\Box] A first item with custom bullet
\item[\CheckedBox] A second item with custom bullet
\end{itemize}

\begin{enumerate}
\item A first numbered item
\item A second numbered item
\end{enumerate}

You can use the \verb!siunitx! package for units and quantities, e.g.,\
\verb!\qty{1.2e5}{\metre}!: \qty{1.2e5}{\metre}\
\verb!\unit{cubic\metre\per\second}!: \unit{cubic\metre\per\second}.

Chemical equations can be easily typeset using \verb!mhchem!, e.g.,\
\verb!\ce{H2O + e- -> 1/2H2 + OH-}!: \ce{H2O + e- -> 1/2H2 + OH-}

For all else, we trust you can find what you need with a bit of decent searching.

\insetquote{Good luck!}{The ugentdocs devs}

\printbibliography
%% Fix underfull vbox messages for these \kant chapters, but
%% if you use this in your document the text will not fill the page fully
\raggedbottom

\chapter{<Second chapter>}
\kant[6]

\section{<A section>}
\kant[7]

\subsection{<A subsection>}
\kant[8]

%% Appendix -----
%% Changes the chapter numbering to letters and uses 'Appendix' or
%% 'Bijlage' (in Dutch) as chapter name.
\appendix

\chapter{<First appendix>}
\chapter{<Second appendix>}

\end{document}
\endinput
%%
%% End of file `example-ugentreport-2.tex'.

```

## 3.6 ugentletter

### Plain example

```

%% Options: ugent*, gUGC, kortrijk
%% language Sets the document main language. Determines, i.a., logo
%% and copyright text. Can be overridden locally for the text
%% using \selectlanguage or \foreignlanguage (babel package)
%% Options: english* / dutch
%% localizedates Localizes any dates using the current language,
%% provided the dates are supplied in ISO format YYYY-MM-DD
%% Options: true*/false
%% nameformat Format all names as "surname firstname"
%% or "firstname surname"
%% Options: surnamefirst, surnamefirst*
%% affiliationformat Format affiliation indexes as "a,b,c" (alph)
%% or "1,2,3" (arabic)
%% Options: alph*, arabic
%% xxpt Sets the font size to e.g. 10pt or 11pt
%% twoside If you want a two-sided document, change to oneside if you
%% want a recto only document
%% foldline Prints a fold line at 2/3 page height
%% Options: true*, false
%% *default

%% This is just for some dummy text, please remove in your copy
\usepackage{kantlipsum}

%% You may want to use common fonts such as Arial (still within house style)
%% Works with installed fonts, and with font files placed
%% next to the document or in a fonts/ folder (e.g., on Overleaf).
%% Use * to refer to the font itself in the options.
\trysetsansfont[Arial]{Arial}[
  BoldFont = *,
  BoldFeatures = {FakeBold=2.5},
  ItalicFont = *,
  ItalicFeatures = {FakeSlant=0.15},
  BoldItalicFont = *,
  BoldItalicFeatures = {FakeBold=2.5, FakeSlant=0.15},
]{}
\tryoverridemathfont[Arial]{Arial}{}

%% Override faculty name (if needed for e.g. UGent university services, GUGC, etc.)
%% \faculty{Directie ICT}
\team{TRASLAB}

%% Date defaults to today if not specified, input date via ISO format YYYY-MM-DD
\date{2026-08-19}

%% Contact -----
%% Set sender's address
\address{

```

```

CAPTURE building\\
Frieda Saeystraet 1\\
9052 Ghent\\
BELGIUM
}

%% Set email, phone, and mobile (multiple of each possible).
\email{seppe.ongena}
\phone{+32 9 000 00 00}
\mobile{+32 400 000 000}

%% Letter-specific preamble -----

%% Provide info on who sends the letter, you can put this in a
%% configuration file, see the documentation of the letter class!
\sender{ir.-Seppe Ongena}{PhD Student}

%% Set a return address
\returnaddress{UGent-CAPTURE -- Frieda Saeystraet 1, 9052 Ghent, BELGIUM}

%% provide some details on who you want to write to
\to{Sandy Claws}
\toorganization{Joulumaa University}
\toaddress{
  Tähtikuja 1,\\
  96930 Rovaniemi,\\
  Finland.
}

%% Add subject and reference
\subject{Incoherent ramblings}
\reference{2608001}

%% Document -----
\begin{document}

%% Create the cover and title pages
\maketitle

%% Be polite when starting a letter, and address your audience
\opening{Dear prof. Sandy Claws,}

%% Below, you can find a few dummy paragraphs to illustrate that
%% this class can generate multi-page letters.
\kant[1-3]

%% Time to say goodbye
\closing{Kind regards,}

%% You might want to insert a signature picture or text.
%% \signature{\includegraphics{signature.jpg}}

%% You can also remove the signature space altogether:
%% \signature{}

%% Mention who receives a copy of this letter if needed
\carboncopy{prof.-R.-Rudolph, Department of Flight and Product Design Engineering, Joulumaa University}

%% Specify what extras can be found in the envelope if needed
\enclosed{
  \begin{enumerate}
    \item list of research equipment I would like to receive this December (5pp)
    \item a technical drawing of an airborne horse-drawn carriage (1pp)
  \end{enumerate}
}
\end{document}
\endinput
%%
%% End of file `example-ugentletter.tex'.

```

## Example with configuration file

If you have to write many letters, you can avoid having to input the sender information by using a configuration file, e.g., `ugentletter.cfg`, which can then be loaded in the preamble of your letter using `\input{ugentletter.cfg}`:

```

%<!*e-cfg>
%% Configuration file for ugentletter class

%% Font setup
\trysetsansfont{Arial}{Arial}[
  BoldFont      = *,
  BoldFeatures  = {FakeBold=2.5},
  ItalicFont    = *,
  ItalicFeatures = {FakeSlant=0.15},
  BoldItalicFont = *,
  BoldItalicFeatures = {FakeBold=2.5, FakeSlant=0.15},
]{}
\tryoverridemathfont{Arial}{Arial}{}

%% Sender information
\sender{ir.-Seppe Ongena}{PhD Student}
\team{TRASLAB}
\address{
  CAPTURE building\\
  Frieda Saeystraet 1\\
  9052 Ghent\\
  BELGIUM
}
\email{seppe.ongena}
\phone{+32 9 000 00 00}
\mobile{+32 400 000 000}
\returnaddress{UGent-CAPTURE -- Frieda Saeystraet 1, 9052 Ghent, BELGIUM}
%</!e-cfg>

```

## 3.7 ugentexam

### Single column (single language)

```
%% Options: ugent*, gugc, kortrijk
%% language Sets the document main language. Determines, i.a., logo
%% and copyright text. Can be overridden locally for the text
%% using \selectlanguage or \foreignlanguage (babel package)
%% Options: english* / dutch
%% localizedates Localizes any dates using the current language,
%% provided the dates are supplied in ISO format YYYY-MM-DD
%% Options: true*/false
%% nameformat Format all names as "surname firstname"
%% or "firstname surname"
%% Options: surnamefirst, surnamelast*
%% affiliationformat Format affiliation indexes as "a,b,c" (alph)
%% or "1,2,3" (arabic)
%% Options: alph*, arabic
%% xxpt Sets the font size to e.g. 10pt or 11pt
%% coverbg Adds a coloured background area to the cover page
%% Options: true, false*
%% examiner Compiles an examiner version
%% with watermark and "examiner version" in the headers
%% Options: true, false*
%% *default

%% Use this package if you want uniform and clean quantities and units
%% following SI conventions.
\usepackage{siunitx}
\sisetup{mode = text}

%% Use this package if you want to easily typeset chemical equations.
\usepackage[version=4]{mhchem}

%% You may want to use common fonts such as Arial (still within house style)
%% Works with installed fonts, and with font files placed
%% next to the document or in a fonts/ folder (e.g., on Overleaf).
%% Use * to refer to the font itself in the options.
%%\trysetsansfont[Arial]{Arial}[
%% BoldFont = *,
%% BoldFeatures = {FakeBold=2.5},
%% ItalicFont = *,
%% ItalicFeatures = {FakeSlant=0.15},
%% BoldItalicFont = *,
%% BoldItalicFeatures = {FakeBold=2.5, FakeSlant=0.15},
%%]{}
%%\tryoverridemathfont[Arial]{Arial}{}

%%Date defaults to today if not specified, input date via ISO format YYYY-MM-DD
\date{2026-08-19}

%% Specify academic year
\academicyear{2026--2027}

%% Document data -----
%% Specify the degree(s):
\degree{Master of Science in Biology}

%% People -----
%% Authors
\author{}{Tupolev, Rudolf}{, Ghent University, Belgium}
\author{}{Tupolev, Adolf}{, Ghent University, Belgium}

%% Mention who lectures the course
\lecturer{prof. dr.}{Gretarsson, Elma}{, Ghent University, Belgium}
\lecturer{prof. dr.}{Blum, Stephen}{, Ghent University, Belgium}

%% Exam-specific preamble -----
%% Course information
\course{I009160}{Veldbiologie: Soortherkenning en Habitatbeoordeling}
\title{Veldbiologie: Soortherkenning en Habitatbeoordeling}

%% Specify the particular examination form
\exampart{Schriftelijk Examen}

%% Specify the group
\examseries{1 (eerste examenkans-inhaal)}

%% Specify important time-related info about the exam
\examduration{4h}
\examstart{08h30}
\examend{12h30}

%% Same for the room(s)
\room{LES A2.1}
\room{LES A2.2}

%% Set whatever multiple choice symbol you fancy
\mc symb{\bigcirc}

%% Exam rules text adapted from uantverpendocs v4.12, (C) Walter Daems, LPPL 1.3c
%% Instruct your students about important details.
\extrainfo{
  Belangrijke informatie:\par\medskip
  Het volledige Onderwijs- en Examenreglement (OER) is van toepassing
  op dit examen.
  Toch wil ik vooraf nog een aantal regels duidelijk stellen:
  \begin{enumerate}
    \item Mogen op je tafeltje aanwezig zijn:
    (1) schrijfgierief, los d.w.z. \emph{niet} in een pennenzak (geen
    papier; er zit examenpapier bij de opgaven),
    (2) je rekenmachine (zonder alfanumerieke data en zonder
    geheugenkaarten),
    (3) het formularium.
    \item Volledig \emph{verboden} te gebruiken: alle apparatuur met
    geheugen- of communicatiefunctie zoals GSM, smartphone,
    smartwatch, muziekspeler, \ldots
    Je tas staat vooraan in het lokaal. Hang je jas aan de kapstok of
    leg hem bij je tas.
    \item Schrijf je naam op het titelblad van de opgave in het daartoe
    voorziene vak. Op de andere bladen schrijf je je naam
    \emph{niet}. Je examenopgave heeft een uniek nummer dat toelaat het
    te identificeren.
    \item Op het einde van het examen geef je \emph{alle} bladen weer af
    aan de aanwezige docent.
  \end{enumerate}
  Succes!
```

```

}
%% Document -----
\begin{document}

%% Create the cover and title pages
\maketitle

%% Insert the point overview of the questions
\vspace{3em}
\pointoverview
\clearpage

%% Q1
\question[weight=6]{%
Beschrijf het twee-periodensysteem van de Kommomaan.%
}

\answerspacing{2\baselineskip}
\answerspace[lines=12,style=lines]

%% Q2
\question[weight=10]{%
Tijdens een populatieonderzoek werden 42 Kommomanen gevangen en gemerkt tijdens een A-periode.
Twee weken later, tijdens een tweede A-periode waarneming, werden 60 individuen gevangen,
waarvan er 15 reeds een merkteken droegen van de eerste vangst.
}
\subquestion[weight = 4]{%
Bereken, met behulp van de Lincoln-Petersen methode,
de geschatte totale Kommomaanpopulatie in het onderzoeksgebied.


$$\hat{N}$$


Berekeningsmethode:
}
\answerspacing{\baselineskip}
\answerspace[lines=6,style=grid]
\subquestion[weight=6]{
Bespreek één aanname van de merk-hervangstmethode die specifiek ondermijnd zou kunnen worden
door het twee-perioden-systeem van de Kommomaan, en verklaar waarom.
}
\answerspacing{2\baselineskip}
\answerspace[lines=15]

%% Q3
\question[weight=4]{%
De wetenschappelijke naam van de Kommomaan, \textit{Homo kommomanis},
suggereert een aparte soort binnen het genus \textit{Homo}.
De geobserveerde individuen zijn echter morfologisch volledig niet
te onderscheiden van gewone \textit{Homo sapiens}.
Waarom is de classificatie als aparte soort hierdoor problematisch?
}
%% This is how you specify the multiple choice answering options
\mc{
Een aparte soortnaam vereist aantoonbare reproductieve isolatie
of onderscheidende erfelijke kenmerken, en die ontbreken hier volledig.
}
\mc{Het genus \textit{Homo} mag geen fictieve of hypothetische soorten bevatten.}
\mc{Soortnamen mogen niet verwijzen naar menselijke eigenschappen of gedrag.}
\mc{De naam is grammaticaal incorrect volgens de regels van de binominale nomenclatuur.}

%% Special 'scrap' pages with a watermark on them: three in this case
\foreach \i in {1,...,3} {
\gridpage{Kladpapier}
}
\end{document}
\endinput
%%
%% End of file `example-ugentexam-1.tex'.

```

## Double column (bilingual EN-NL)

```

%%
%% language          Options: ugent*, gugc, kortrijk
%%                  Sets the document main language. Determines, i.a., logo
%%                  and copyright text. Can be overridden locally for the text
%%                  using \selectlanguage or \foreignlanguage (babel package)
%%
%% localizedates     Options: english* / dutch
%%                  Localizes any dates using the current language,
%%                  provided the dates are supplied in ISO format YYYY-MM-DD
%%
%%                   Options: true*/false
%%
%% nameformat        Format all names as "surname firstname"
%%                  or "firstname surname"
%%
%%                   Options: surnamefirst, surnamelast*
%%
%% affiliationformat Format affiliation indexes as "a,b,c" (alph)
%%                  or "1,2,3" (arabic)
%%
%%                   Options: alph*, arabic
%%
%% xxpt              Sets the font size to e.g. 10pt or 11pt
%%
%% coverbg           Adds a coloured background area to the cover page
%%
%%                   Options: true, false*
%%
%% examiner          Compiles an examiner version
%%
%%                   with watermark and "examiner version" in the headers
%%
%%                   Options: true, false*
%%
%% *default

%% Use this package if you want uniform and clean quantities and units
%% following SI conventions.
\usepackage{siunitx}
\sisetup{mode = text}

%% Use this package if you want to easily typeset chemical equations.
\usepackage[version=4]{mhchem}

%% You may want to use common fonts such as Arial (still within house style)
%% Works with installed fonts, and with font files placed
%% next to the document or in a fonts/ folder (e.g., on Overleaf).
%% Use * to refer to the font itself in the options.
\trysetsansfont[Arial]{Arial}[
BoldFont          = *,
BoldFeatures      = {FakeBold=2.5},
ItalicFont        = *,
ItalicFeatures    = {FakeSlant=0.15},
BoldItalicFont    = *,
BoldItalicFeatures = {FakeBold=2.5, FakeSlant=0.15},
]{}
\tryoverridemathfont[Arial]{Arial}{}

%%Date defaults to today if not specified, input date via ISO format YYYY-MM-DD

```

```

\date{2026-08-19}

%% Specify academic year
\academyyear{2026--2027}

%% Document data -----
%% Specify the degree(s):
\degree{Master of Science in Biology}

%% People -----
%% Mention who lectures the course
\lecturer{prof. dr. J. G. Retarsson, Elma}{, Ghent University, Belgium}
\lecturer{prof. dr. J. Blum, Stephen}{, Ghent University, Belgium}

%% Exam-specific preamble -----
%% Course information
\course{I009000}{Field Biology: Species Recognition and Habitat Assessment}
\title{Field Biology: Species Recognition and Habitat Assessment}

%% Specify the particular examination form
\exampart{Written Exam}

%% Specify the group
\examseries{1 (eerste examenkans-inhaal)}

%% Specify important time-related info about the exam
\examduration{4h}
\examstart{08h30}
\examend{12h30}

%% Same for the room(s)
\room{LES A2.1}
\room{LES A2.2}

%% Set whatever multiple choice symbol you fancy
%% \mcsymb{\bigcirc}

%% Exam rules text adapted from uantwerpendocs v4.12, (C) Walter Daems, LPPL 1.3c
%% Instruct your students about important details.
\extrainfo{
  %% The bilingual command allows you to specify a left column in English
  %% and right column in Dutch
  %% use multiple bilingual-environments to keep the page flow synchronized
  \bilingual{
    Important information:\par\medskip
    The Education and Examination Regulations (EER) hold for this
    examination in full.
    However, before starting, I'd like to set some rules straight:
  }{
    Belangrijke informatie:\par\medskip
    Het volledige Onderwijs- en Examenreglement (OER) is van toepassing
    op dit examen.
    Toch wil ik vooraf nog een aantal regels duidelijk stellen:
  }

  \bilingual{
    \begin{itemize}
      \item \emph{Can be used:} (1) writing gear (\emph{not} in a pencil
        case); you don't need paper; there's plenty of paper in your exam
        copy;
      (2) your calculator (without alphanumerical data and without memory
        cards); (3) the formula collection.
    \end{itemize}
  }{
    \begin{itemize}
      \item Mogen op je tafeltje aanwezig zijn:
      (1) schrijfgerei, los d.w.z. \emph{niet} in een pennenzak (geen
        papier; er zit examenpapier bij de opgaven),
      (2) je rekenmachine (zonder alfanumerieke data en zonder
        geheugenkaarten),
      (3) het formularium.
    \end{itemize}
  }

  \bilingual{
    \begin{itemize}
      \item \emph{May not be used:} all equipment with memory or
        communications facilities, like cell phones, smart phones, smart
        watches, music players, \ldots
      Your bag must be put in the front of the room. Put your coat on the
      hallstand or next to your bag.
    \end{itemize}
  }{
    \begin{itemize}
      \item Volledig \emph{verboden te gebruiken}: alle apparatuur met
        geheugen- of communicatiefunctie zoals GSM, smartphone,
        smartwatch, muziekspeler, \ldots
      Je tas staat vooraan in het lokaal. Hang je jas aan de kapstok of
      leg hem bij je tas.
    \end{itemize}
  }

  \bilingual{
    \begin{itemize}
      \item Write your name on the title page. Don't write your name on
        the subsequent pages. Your copy has a unique number to identify it
        as yours.
    \end{itemize}
  }{
    \begin{itemize}
      \item Schrijf je naam op het titelblad van de opgave in het daartoe
        voorziene vak. Op de andere bladen schrijf je je naam
        \emph{niet}. Je examenopgave heeft een uniek nummer dat toelaat het
        te identificeren.
    \end{itemize}
  }

  \bilingual{
    \begin{itemize}
      \item Take your time to \emph{answer all questions in writing}. The
        point weights are listed above every question. Be complete in your
        answer, but stick to the point. Take into account the available time.
    \end{itemize}
  }{
    \begin{itemize}
      \item Neem je tijd om \emph{alle vragen schriftelijk te}
        beantwoorden. Het puntengewicht van een vraag is bovenaan de vraag
        op de opgavebladen vermeld. Wees volledig in je antwoord, maar ter
        zake. Houd rekening met de beschikbare tijd.
    \end{itemize}
  }

  \bilingual{

```

```

\begin{itemize}
\item Hand in \emph{all} papers to the staff member on duty, at the
end of the examination.
\end{itemize}
}{
\begin{itemize}
\item Op het einde van het examen geef je \emph{alle} bladen weer af
aan de aanwezige docent.
\end{itemize}
}

\ bilingual{Succes!}{Succes!}
}

%% Adjust colours for better to print cover page with background
\colorlet{coverbgcolor}{ugent@faculty!10}
\colorlet{covertitlecolor}{ugent@main}
\colorlet{coverdatacolor}{black}

%% Document -----
\begin{document}

%% Create the cover and title pages
\maketitle

%% Insert the point overview of the questions
\vspace{3em}
\pointoverview
\clearpage

%% Q1
\question[weight=6]{\par
\ bilingual{
Describe the two-period system of the Homo Kommomanis.%
}{
Beschrijf het twee-periodensysteem van de Kommomaan.%
}
}
\answerspacing{2\baselineskip}
\answerspace[lines=12,style=lines]

%% Q2
\question[weight=10]{\par
\ bilingual{
During a population survey, researchers captured and tagged 42 \textit{Homo kommomanis} individuals
during an A-period. Two weeks later, during a second A-period survey,
they captured 60 individuals, of which 15 carried a tag from the first capture.
}{
Tijdens een populatieonderzoek werden 42 Kommomanen gevangen en gemerkt tijdens een A-periode.
Twee weken later, tijdens een tweede A-periode waarneming, werden 60 individuen gevangen,
waarvan er 15 reeds een merkteken droegen van de eerste vangst.
}
}
\subquestion[weight = 4]{\par
\ bilingual{
Using the Lincoln-Petersen method,
estimate the total \textit{Homo kommomanis} population size in the study area.
}{
Bereken, met behulp van de Lincoln-Petersen methode,
de geschatte totale Kommomaanpopulatie in het onderzoeksgebied.
}
}
\ bilingual{\$ \mathbf{\hat{N}} = \$}{\$}
\ bilingual{
Calculations:
}{
Berekeningsmethode:
}
}
\answerspacing{\baselineskip}
\answerspace[lines=6,style=grid]

\newpage
\subquestion[weight=6]{\par
\ bilingual{
Describe one assumption of the mark-recapture method that could specifically be undermined
by the Kommomaan's two-period system, and explain why.
}{
Bespreek één aanname van de merk-hervangstmethode die specifiek ondermijnd zou kunnen worden
door het twee-periodensysteem van de Kommomaan, en verklaar waarom.
}
}
\answerspacing{2\baselineskip}
\answerspace[lines=15]

%% Q3
\question[weight=4]{\par
\ bilingual{
The scientific name of the Komomaan, \textit{Homo kommomanis},
suggests a distinct species within the genus \textit{Homo}.
However, the observed individuals are morphologically completely
indistinguishable from ordinary \textit{Homo sapiens}.
Why is this classification as a separate species problematic?
}{
De wetenschappelijke naam van de Kommomaan, \textit{Homo kommomanis},
suggereert een aparte soort binnen het genus \textit{Homo}.
De geobserveerde individuen zijn echter morfologisch volledig niet
te onderscheiden van gewone \textit{Homo sapiens}.
Waarom is de classificatie als aparte soort hierdoor problematisch?
}
}
}
%% This is how you specify multiple choice answering options in two languages
\mc{
\ bilingual{
A separate species designation requires demonstrable reproductive isolation
or distinct hereditary traits, and these are entirely absent here.
}{
Een aparte soortnaam vereist aantoonbare reproductieve isolatie
of onderscheidende erfelijke kenmerken, en die ontbreken hier volledig.
}
}
\mc{
\ bilingual{
The genus \textit{Homo} may not contain fictional or hypothetical species.
}{
Het genus \textit{Homo} mag geen fictieve of hypothetische soorten bevatten.
}
}
}
\mc{
\ bilingual{
Species names may not refer to human traits or behavior.
}{
}
}

```

```

    Soortnamen mogen niet verwijzen naar menselijke eigenschappen of gedrag.
  }
}
\mc{
  \bilingual{
    The name is grammatically incorrect according to the rules of binomial nomenclature.
  }{
    De naam is grammaticaal incorrect volgens de regels van de binominale nomenclatuur.
  }
}

%% Special 'scrap' pages with a watermark on them: three in this case
\foreach \i in {1,...,3} {
  \gridpage{Scrap/Klad}
}
\end{document}
\endinput
%%
%% End of file `example-ugentexam-2.tex'.

```

## Part II

# The beamer theme

The user guide (adapted from uantwerpendocs v4.12, ©Walter Daems, LPPL 1.3c)

```
%<•barug>
\documentclass{beamer}
\usetheme[bw]{ugent}

%% The packages below are for demonstration purpose only.
%% They are not required for the template to work
\usepackage{metalogo} % For \XeLaTeX / \LuaLaTeX commands
\usepackage{kantlipsum}
\usepackage{pgfplots}
\pgfplotsset{compat=1.18}
\usepackage{booktabs}

%% Some stuff to typeset code, you can remove this if not needed
\newcommand*{\cmd}[1]{\texttt{\textbackslash #1}}
\NewEnviron{codesnippet}[1][0.8\textwidth]{%
  {\scriptsize
    \quad\framebox[#1][l]{%
      \begin{minipage}[0.9\dimexpr#1\relax]{%
        \ttfamily\raggedright
        \hyphenpenalty=10000 \exhyphenpenalty=10000
        \BODY
      }\end{minipage}%
    }}%
  \ignorespacesafterend
}
\newcommand*{\ind}[1][2ex]{\hspace*{#1}}
\newcommand*{\bframe}[1][]{\cmd{begin}\{#1frame\}}
\newcommand*{\eframe}[1][]{\cmd{end}\{#1frame\}}

\title{Beamer theme user guide}
\author{Seppe Ongena}

\begin{document}

\begin{frame}[title]
\maketitle
\end{frame}

%% -----
%% PUT THIS BEFORE YOUR \begin{document}
%% THIS WAS PUT HERE TO HAVE SEPARATE DATA FOR THE EXAMPLE TITLE SLIDES
%% BUT A CORRECT ONE FOR THE BEAMER USER GUIDE
\makeatletter\beamer@autopdfinfofalse\makeatother % REMOVE THIS LINE
\title{This is your \texttt{\textbackslash title{}}}
\subtitle{my short title}{This is your \texttt{\textbackslash subtitle{}}}
\date{This is your \texttt{\textbackslash date{}}}
\author{my short author}{This is your \texttt{\textbackslash author{}}}
\authorrole{This is your \texttt{\textbackslash authorrole{}}}
\department{Your department}
\team{Your team}
\phone{Your phone number}
\email{Your email address}
\mobile{Your cell phone number}

\titlelogos{%
  \includegraphics[height=2\gridunit]{example-image-a}%
  \hspace{\gridunit}%
  \includegraphics[height=2\gridunit]{example-image-b}%
  \hspace{\gridunit}%
  \includegraphics[height=2\gridunit]{example-image-c}%
}

%% -----

\begin{frame}[logo=false]
{in this guide}
\tableofcontents
\end{frame}

\section{Loading the theme and theme options}
\begin{frame}[section]
\sectionpage
\end{frame}

\begin{frame}
{Using the beamer theme}

The \texttt{ugent} beamer theme is distributed by CTAN. It
should be installed with your \textrm{\TeX{}} distribution by default.

You can load the package in your preamble as:

\begin{codesnippet}
\cmd{documentclass}\{beamer\}\{\}
\cmd{usetheme}[<theme options>]\{ugent\}
\end{codesnippet}

\heading{Remarks}
\begin{itemize}
\item The theme's default aspect ratio is $16\times 9$, but you might be able to override it by
re-loading the \texttt{beamerposter} package with custom width and height, and
redefining \cmd{@PW} (page width), \cmd{@PH} (page height), and \cmd{gridunit}.
This is not officially supported.
\item Only \texttt{dutch} and \texttt{english} are officially supported through the \texttt{language} option.
\end{itemize}
\end{frame}

\begin{graphicframe}[t,graphics=r,graphicproportion=0.2,graphic={
  \begin{minipage}[0.2\textwidth]
    \footnotesize
    \begin{center}
      \begin{tabular}{c}
        \toprule
        \bfseries faculties\\
        \midrule
      \end{tabular}
    \end{center}
  \end{minipage}
}]
```

```

\texttt{lw} \\\
\texttt{re} \\\
\texttt{we} \\\
\texttt{ge} \\\
\texttt{ea} \\\
\texttt{eb} \\\
\texttt{di} \\\
\texttt{pp} \\\
\texttt{bw} \\\
\texttt{fw} \\\
\texttt{ps} \\\
\bottomrule
\end{tabular}
\end{center}
\end{minipage}
}}
{Theme options}{}
The following theme options may come in handy --
see also the \texttt{ugentdocs} documentation:
\begin{description}
\item[\texttt{faculty}] to set your own faculty's colours and logos (can be empty)\
\item[\texttt{campus}] to set the campus for the UGent logo. One of \texttt{ugent},
\texttt{gugc}, or \texttt{kortrijk}.
\item[\texttt{neutralcolors}] to disable your faculty colours and use the
standard UGent colours
\item[\texttt{colormodel}] to set the colour model. Select \texttt{rgb}
colour encoding for projecting (default) or \texttt{cmk} for printing.
\item[\texttt{secnums}] to enable (\texttt{true}) or disable (\texttt{false})
displaying of section numbers in the frames or TOC.
\end{description}

\end{graphicframe}

\begin{frame}[t]
{Colours}
{What a wonderful world}

\heading{Standard colours}\
You can select the theme colours using:\
\textcolor{ugent@main}{Main colour}:
can be specified as \textrm{\LaTeX}-colour \emph{ugent@main}\
\textcolor{ugent@accent}{Accent colour}:
can be specified as \textrm{\LaTeX}-colour \emph{ugent@accent}\
\textcolor{ugent@faculty}{Faculty colour}:
can be specified as \textrm{\LaTeX}-colour
\emph{ugent@faculty}

\heading{Alert}\
You can use \alert{\cmd{alert}} to grab the attention of the
user. It will typeset your content in \alert{yellow}.
\end{frame}

\begin{graphicframe}[t,graphicproportion=0.38,graphicpos=r,logo=false,
graphic={
\begin{minipage}{0.38\textwidth}
\vspace{1.5cm}
\begin{tikzpicture}
\ugentlogo{2.8cm}{ugent@main}{0}
\end{tikzpicture}
\begin{tikzpicture}
\faclogo{2.1cm}{ugent@faculty}{0}
\end{tikzpicture}
\begin{tikzpicture}
\draw[fill] (0,0) rectangle (0,0) rectangle (3.5,2.8);
\ugentlogo{2.8cm}{white}{0}
\end{tikzpicture}
\begin{tikzpicture}
\draw[fill] (0,0) rectangle (6.3,2.1);
\faclogo{2.1cm}{white}{0}
\end{tikzpicture}
\begin{tikzpicture}
\foreignlanguage{dutch}{
\begin{tikzpicture}
\ugentlogo{2.8cm}{ugent@main}{0}
\end{tikzpicture}
\begin{tikzpicture}
\faclogo{2.1cm}{ugent@faculty}{0}
\end{tikzpicture}
}
}
\end{minipage}
}}
{Logo demo}

The logo's can be used as follows within a tikzpicture\ (arguments: height, colour, alignment):
\begin{itemize}
\item \cmd{ugentlogo\{2.8cm\}\{ugent@main\}\{0\}} and\
\cmd{faclogo\{2.1cm\}\{ugent@faculty\}\{0\}}\[2ex]
\item \cmd{ugentlogo\{2.8cm\}\{white\}\{0\}} and\
\cmd{faclogo\{2.1cm\}\{white\}\{0\}}\[2ex]
\item \cmd{ugentlogo\{2.8cm\}\{ugent@main\}\{0\}} and\
\cmd{faclogo\{2.1cm\}\{ugent@faculty\}\{0\}}\
within \cmd{foreignlanguage\{dutch\}\{\ldots\}}\
\end{itemize}

You can turn off the logo in the bottom left corner using the
\texttt{logo=false} frame option.
\end{graphicframe}

\begin{frame}[t]
{Compilers and fonts}

The logos require UGent Panno Text to be installed, and an UTF/TTF compatible compiler:
\begin{description}
\item[\textrm{\LaTeX} and \textrm{pdf\LaTeX}] --- Old compilers -
don't support UTF/TTF. \textbf{Don't use!}
\item[\textrm{\XeLaTeX} and \textrm{\LuaLaTeX}] --- more modern compilers -
either works\
\item[\textrm{\LaTeX{mk}}] --- A compiler script, not a compiler. Use with flags \texttt{-pdfxe} or \texttt{-pdflua}.
\end{description}

The default font is UGent Panno Text, but this can be overridden to Arial using:
\begin{codesnippet}
\cmd{setsansfont\{Arial\}}\
\ind BoldFont = \{Arial\},\
\ind BoldFeatures = \{FakeBold=2.5\},\
\ind ItalicFont = \{Arial\},\
\ind ItalicFeatures = \{FakeSlant=0.15\},\
\ind BoldItalicFont = \{Arial\},\
\ind BoldItalicFeatures = \{FakeBold=2.5, FakeSlant=0.15\},\
}
\cmd{overridemathfont\{Arial\}}
\end{codesnippet}
\end{frame}

```

```

\section{Structural slides}
\subsection{Title slides}
\begin{frame}[section]
  \sectionpage
\end{frame}

\begin{frame}[t,logo=false]
  {Title slides}
  \heading{Contents}\
  \begin{itemize}
    \item The contents of the title slide can be set in your preamble
      using the \texttt{\LaTeX} commands:
      \cmd{title}\{\}, \cmd{subtitle}\{\}, \cmd{author}\{\}, and \cmd{date}\{\}
    \item Some UGent-specific content can be added,
      such as \cmd{department}\{\}, \cmd{team}\{\}, and \cmd{titlelogos}\{\}
  \end{itemize}

  \heading{Code} --- The title slide is easily typeset as:\
  \begin{codesnippet}
    \bframe[] [title=<background image>, <options>]\
    \ind\cmd{maketitle}\
    \eframe
  \end{codesnippet}\
  The options are \texttt{graphicproportion} (0--1, default 0.5) and
  the \texttt{inversetext} (true/false).\
  The next slides use:
  \begin{itemize}
    \item Plain \texttt{title}, no image
    \item An image: \texttt{title}=\cmd{includegraphics}\{example-image-a\}
    \item A darkened image (see later) with \texttt{graphicproportion=1}
    \item A lightened image with \texttt{graphicproportion=1}
      and \texttt{inversetext=false}
  \end{itemize}
\end{frame}

\begin{frame}[title]
  \maketitle
\end{frame}

\begin{frame}[title=
  {\includegraphics[width=0.6\paperwidth]{example-image-a}}]
  \maketitle
\end{frame}

\begin{frame}[title=
  {\brightness[-0.5]{\includegraphics[width=\paperwidth]{example-image-a}}},
  graphicproportion=1]
  \maketitle
\end{frame}

\begin{frame}[title=
  {\brightness[0.75]{\includegraphics[width=\paperwidth]{example-image-a}}},
  graphicproportion=1,
  inversetext=false]
  \maketitle
\end{frame}

\subsection{Section slides}
\begin{frame}[t]
  {Section slides}

  The section slides work quite similar to the title slide,
  although the \texttt{section} or \texttt{subsection} option is used instead of the \texttt{title} option,
  and \cmd{sectionpage} and \cmd{subsectionpage} are used instead of \cmd{maketitle}.
  The title slides support the same graphics options.

  Example:\[1ex]
  \begin{codesnippet}[0.8\textwidth]
    \bframe[] [section]\
    \ind \cmd{sectionpage}\
    \eframe\[\baselineskip]
    \bframe[] [subsection]\
    \ind \cmd{subsectionpage}\
    \eframe
  \end{codesnippet}\[1ex]
  (the subsection slide is how the next slide was generated)
\end{frame}

\subsection{Closing slides}
\begin{frame}[subsection]
  \subsectionpage
\end{frame}

\begin{frame}[t]
  {Closing slides}

  The closing slide at the end of a presentation is inserted using:\

  \begin{codesnippet}[0.8\textwidth]
    \bframe[] [title]\
    \ind \cmd{closingpage}\
    \eframe
  \end{codesnippet}\[1ex]

  An example can be found in the next slide.

  You can customize the content
  by renewing the \cmd{closingpage} macro, e.g.:\
  \begin{codesnippet}[0.8\textwidth]
    \cmd{renewcommand}\{\cmd{closingpage}\}\{\f\}
    \ind \cmd{begin}\{\tikzpicture\}\
    \ind\ind \texttt{[]}\overlay,remember picture, shift=\{(current page.south west)\}\texttt{[]}\
    \ind\ind \cmd{clip} (0,0) rectangle (\cmd{@FW},\cmd{@PH});\
    \ind\ind <CLOSING PAGE CONTENT>\
    \ind \cmd{end}\{\tikzpicture\}\
    \}
  \end{codesnippet}\[1ex]
\end{frame}

\begin{frame}[title]
  \closingpage
\end{frame}

\section{Regular slides}

\subsection{Bare}
\begin{frame}[subsection]
  \subsectionpage
\end{frame}

\begin{frame}[t]

```

```

{Frame titles}
{And subtitles}
\heading{How to specify them}\\
Titles are specified using \cmd{frametitle\{}} or
\cmd{framesubtitle\{}} or even easier as first and second argument
to the \texttt{frame} environment (or their derived versions).

\begin{codesnippet}
\bframe[] [options go here, comma separated]\\
\ind\{first argument\}\\
\ind\{second argument\}\\
\ind frame contents \\
\eframe
\end{codesnippet}
\bigskip

\heading{Don't need them?}\\
If you need a slide without titles: just don't specify them
\end{frame}

\begin{frame}[t]
{The canvas}

\heading{Flavours} --- The canvas of the slide has five flavours:
\begin{description}
\item[normal (default)]
the ordinary white background slide
\item[plain]
a slide without footer or UGent logo
\item[shaded]
a slide on a light background (in \texttt{ugent@main!10})
\item[negative]
a reverse video slide on a background (in \texttt{ugent@main}) with white
text
\item[graphic] a graphic canvas (graphic can be anything)
\end{description}
They are specified as options to the frame environment (or its
derivatives).

\heading{Remarks}
\begin{itemize}
\item In handout mode the shaded and negative canvas will be
typeset as normal canvas (to allow for easy printing).
\item The graphic option has many variants that we will discuss later.
\end{itemize}
\end{frame}

\begin{frame}[shaded]
{A shaded slide}
{with a subtitle}
\kant[1]
\end{frame}

\begin{frame}[negative,t]
{A negative slide}
{with a subtle subtitle}
\kant[2]
\end{frame}

\begin{frame}[t]
{Vertical alignment}

You can easily specify the vertical alignment of your frame
contents, using the options
\begin{description}
\item[\texttt{t}] for top
\item[\texttt{c}] for centre
\item[\texttt{b}] for bottom
\end{description}

Example:\\[1ex]
\begin{codesnippet}
\bframe[] [t]\\
\ind\{Title\}\\
\ind\{Subtitle\}\\
\ind frame contents\\
\eframe
\end{codesnippet}
\end{frame}

\subsection{The graphic frame}
\begin{frame}[subsection]
\subsectionpage
\end{frame}

\begin{frame}[t]
{Basic idea}

\heading{The idea} --- put support material (photo or graph) on the
slide next to the frame content.
This is done by specifying the \texttt{graphicframe} environment and choosing
the appropriate options:
\begin{itemize}
\item \texttt{graphic=<your graphic content>}
\item \texttt{graphicpos=<t/l/r/b>}: the side of the slide your graphic is on.
If none is specified, the graphic fills the slide similar to a section slide.
\item \texttt{graphicproportion=<0-1>}: the proportion of the slide your graphic fills
\item \texttt{fill=true/false}: if the graphic should fill the whole slide, with no margins
\end{itemize}

Some examples are shown in the next seven slides. The next two slides are typeset as:

\begin{codesnippet}
\bframe[graphicframe][graphic,logo=false]\\
\ind \{\}\{\}\\
\eframe[graphicframe]
\\[baselineskip]
\bframe[graphicframe][graphic,fill=true,logo=false]\\
\ind \{\}\{\}\\
\eframe[graphicframe]
\end{codesnippet}
\end{frame}

\begin{frame}[graphicframe][graphic,logo=false]
{\}{}
\end{frame}

\begin{frame}[graphicframe][graphic,fill=true,logo=false]
{\}{}
\end{frame}

\begin{frame}[graphicframe]

```

```

[graphic={\includegraphics[width=0.25\paperwidth, min height=\paperheight-2\gridunit]{example-image-a}},
graphicpos=r,graphicproportion=0.25,
logo=false]
{Some Random Title}
{Please, adapt!}

\small
The slide has been typeset as:\
\begin{codesnippet}\textwidth]
\begin{graphicframe}
\texttt{[graphic={\load photo here>}\},\
graphicpos=r,graphicproportion=0.25,\
logo=false}\
\ind\{Title\}\
\ind\{Subtitle\}\
\ind frame contents\
\eframe[graphicframe]
\end{codesnippet}
\smallskip

\subheading{Remarks}
\begin{itemize}
\item Load photo as:\
\cmd{\includegraphics[width=0.25\cmd{paperwidth}, min height=\cmd{paperheight}-2\cmd{gridunit}]
\{example-image-a\}}
\item If \texttt{[graphic]} is specified without argument, an example image is loaded.
\end{itemize}
\end{graphicframe}

\begin{graphicframe}
[graphic={\includegraphics[width=0.5\paperwidth, min height=\paperheight-2\gridunit]{example-image-a}},
graphicpos=r,logo=false]
{Some Random Title}

\small
The slide has been typeset as:\
\begin{codesnippet}\textwidth]
\begin{graphicframe}
\texttt{[graphic={\load photo here>}\},\
graphicpos=r,\
logo=false}\
\ind\{Title\}\
\ind\{Subtitle\}\
\ind frame contents\
\eframe[graphicframe]
\end{codesnippet}
\smallskip

\subheading{Remarks}
\begin{itemize}
\item Load photo as:\
\cmd{\includegraphics[min
width=0.5\cmd{paperwidth}, min height=\cmd{paperheight}-2\cmd{gridunit}]
\{example-image-a\}}
\item If \texttt{[graphic]} is specified without argument, an example image is loaded.
\end{itemize}
\end{graphicframe}

\begin{graphicframe}
[graphic={\includegraphics[width=0.5\paperwidth, min height=\paperheight-2\gridunit]{example-image-a}},
graphicpos=l,logo=false]
{Some Random Title}

\small
The slide has been typeset as:\
\begin{codesnippet}\textwidth]
\begin{graphicframe}
\texttt{[graphic={\load photo here>}\},\
graphicpos=l,\
logo=false}\
\ind\{Title\}\
\ind\{Subtitle\}\
\ind frame contents\
\eframe[graphicframe]
\end{codesnippet}
\smallskip

\subheading{Remarks}
\begin{itemize}
\item Load photo as:\
\cmd{\includegraphics[min
width=0.5\cmd{paperwidth}, min height=\cmd{paperheight}-2\cmd{gridunit}]
\{example-image-a\}}
\item If \texttt{[graphic]} is specified without argument, an example image is loaded.
\end{itemize}
\end{graphicframe}

\begin{graphicframe}
[graphic={\includegraphics[width=\textwidth, min height=0.5\textheight]{example-image-a}},
graphicpos=t,logo=false,b]
{Some Random Title}{Please, adapt!}

\small
The slide has been typeset as:\
\begin{codesnippet}\textwidth]
\begin{graphicframe}\texttt{[graphic={\load photo here>}\}, graphicpos=t, logo=false,b]\
\ind\{Title\}\
\ind\{Subtitle\}\
\ind frame contents\
\eframe[graphicframe]
\end{codesnippet}
\end{graphicframe}

\begin{graphicframe}
[graphic={\includegraphics[width=\textwidth, min height=0.5\textheight]{example-image-a}},
graphicpos=b,logo=false,t]
{Some Random Title}{Please, adapt!}

\small
The slide has been typeset as:\
\begin{codesnippet}\textwidth]
\begin{graphicframe}\texttt{[graphic={\load photo here>}\}, graphicpos=b, logo=false,t]\
\ind\{Title\}\
\ind\{Subtitle\}\
\ind frame contents\
\eframe[graphicframe]
\end{codesnippet}
\end{graphicframe}

\subsection{Place, brightness, and textbox}
\begin{frame}[subsection]
\subsectionpage
\end{frame}

\begin{frame}[logo=false,t]

```

```

{Place}

You can place any graphic material on the slide using\[[lex]
\quad\cmd{place[node options] at (x,y) \{\<graphic material>\}}\[[lex]
with
\begin{itemize}
\item $(x,y)$ the coordinates to insert the content, with the bottom left as origin $(0,0)$.
The coordinates can be relative (0--1) to the slide dimensions if unit-less,
or absolute in cm, pt,\ldots
\item \texttt{node options} any options you want to hand over to the
tikz node that is used to position the material, e.g., \texttt{anchor = south east}.
\end{itemize}
\medskip

The next slide was created using:\[[lex]
\begin{codesnippet}[0.8\textwidth]
\begin{frame}[plain,logo=false]\
\ind\cmd{place} at (0.5,0.5) \{\
\ind\ind\cmd{begin\{tikzpicture\}}\
\ind\ind\cmd{ugentlogo\{12\cmd{gridunit}\}\{ugent@main\}\{0\}}\
\ind\ind\cmd{end\{tikzpicture\}}\
\ind\}\
\eframe
\end{codesnippet}
\end{frame}

\begin{frame}[logo=false,plain]{\}
\place at (0.5,0.5){
\begin{tikzpicture}
\ugentlogo{12\gridunit}{ugent@main}{0}
\end{tikzpicture}
}
\end{frame}

\begin{graphicframe}[graphicpos=r,graphicproportion=0.25,t,
graphic={
\brightness[-0.5]{\includegraphics[width=0.2\paperwidth]{example-image-a}}\
\brightness[0]{\includegraphics[width=0.2\paperwidth]{example-image-a}}\
\brightness[+0.5]{\includegraphics[width=0.2\paperwidth]{example-image-a}}
}
]{Brightness}

You can lighten or darken a photograph using the following command\[[lex]
\quad\cmd{brightness[s]\{\<graphic material>\}}\[[lex]
with $$s$ a value between -1 and 1 to specify the level of lightening ($>0$)
or darkening ($<0$).

To the right, you can see an image with brightness\
$-0.5$ (top), $0$ (middle), and $+0.5$ (bottom).
\end{graphicframe}

\begin{frame}[logo=false,t]
{Textbox}

You can insert a text box using:\[[lex]
\quad\cmd{textbox[options]\{width\}\{height\}\{contents\}}

Where the supported options are
\begin{itemize}
\item \texttt{fill = <colour>}: textbox colour
\item \texttt{fill opacity = <0-1>}
\item \texttt{text = <colour>}: text colour
\item \texttt{text opacity = <0-1>}
\item \texttt{align = <left/right/center/justify>}: text alignment
\end{itemize}

Some examples can be found in the next slides. E.g., the next one is created using:\[[lex]
\begin{codesnippet}[0.8\textwidth]
\begin{frame}[graphic,logo=false]\
\ind\cmd{place[anchor = south east]} at (\cmd{paperwidth}-\cmd{gridunit},\cmd{gridunit}) \{\
\ind\ind\cmd{textbox}\{16cm\}\{10cm\}\{Some example text\}\
\ind\}\
\eframe
\end{codesnippet}
\end{frame}

\begin{graphicframe}[framenumber=false,graphic]{\}
\place [anchor=south east] at (\paperwidth-\gridunit,\gridunit) {
\textrbox{16cm}{10cm}{Some example text}
}
\end{graphicframe}
\begin{graphicframe}[logo=false,framenumber=false,graphic]{\}
\place [anchor=north west] at (\gridunit,\paperheight-\gridunit) {
\textrbox[fill=white,text=ugent@main]{10cm}{6cm}{\textbf{All}}
}
\place [anchor=north east] at (\paperwidth-\gridunit,\paperheight-\gridunit) {
\textrbox[fill=ugent@main!10!white,text=ugent@main]{10cm}{6cm}{\textbf{the}}
}
\place [anchor=center] at (0.5,0.5) {
\textrbox[fill=ugent@main, fill opacity=0.2,text=ugent@main]{10cm}{6cm}{\textbf{colours}}
}
\place [anchor=south west] at (\gridunit,\gridunit) {
\textrbox[fill=ugent@accent]{10cm}{6cm}{of}
}
\place [anchor=south east] at (\paperwidth-\gridunit,\gridunit) {
\textrbox[fill=ugent@main]{10cm}{6cm}{UGent}
}
\end{graphicframe}

\section{Demo of some inner theme parts}
\begin{frame}[section]
\sectionpage
\end{frame}

\begin{frame}[logo=false,t]
{Headings}
{on two levels}
You can set headings on two levels, by using
\begin{itemize}
\item\cmd{heading\{}}
\item\cmd{subheading\{}}
\end{itemize}
\heading{Main subject}-\
blabla
\subheading{Subtopic 1}-\
blabla
\subheading{Subtopic 2}-\
blabla
\heading{Next main subject}-\
blabla
\end{frame}

```

```

\newcommand\listdemo[1][itemize]{
\begin{#1}
\item First level
\begin{#1}
\item Second level
\begin{#1}
\item Third level
\end{#1}
\end{#1}
\end{#1}
}

\begin{frame}[t]
{Itemize / enumerations}
{Different styles}
Usage:\\
Set them (in your preamble) using: \cmd{setbeamertemplate\{itemize items\}[circle]}\
The default of the \texttt{ugent} beamer template is set to \cmd{textendash} following the Office
templates.
\medskip

\begin{columns}
\column[T]{0.3\textwidth}
\alert{\cmd{textendash} (default)}
\setbeamertemplate{itemize items}{\textendash}
\listdemo
\column[T]{0.3\textwidth}
\alert{triangle}
\setbeamertemplate{itemize items}{triangle}
\listdemo
\column[T]{0.3\textwidth}
\alert{circle}
\setbeamertemplate{itemize items}{circle}
\listdemo
\end{columns}-\\
\bigskip

\begin{columns}
\column[T]{0.3\textwidth}
\alert{ball}
\setbeamertemplate{itemize items}{ball}
\listdemo
\column[T]{0.3\textwidth}
\alert{square}
\setbeamertemplate{itemize items}{square}
\listdemo
\column[T]{0.3\textwidth}
\alert{enumeration}
\setbeamertemplate{itemize items}{circle}
\listdemo[enumerate]
\end{columns}
\end{frame}

\begin{frame}[t]
{Block material}
{Nothing special}

\vfill
\begin{block}{This is a block}
Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi ac
arcu est, vel posuere velit. In congue erat vel lorem ornare pretium.
\end{block}
\vfill
\begin{exampleblock}{This is an example block}
Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi ac
arcu est, vel posuere velit. In congue erat vel lorem ornare pretium.
\end{exampleblock}
\vfill
\begin{alertblock}{This is an alert block}
Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi ac
arcu est, vel posuere velit. In congue erat vel lorem ornare pretium.
\end{alertblock}
\vfill
\end{frame}

\renewcommand{\closingpage}{
That's all, folks!
}

\begin{frame}[title]
\closingpage
\end{frame}

\end{document}
%</bmrug>

```

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