Your Institution

Elegant Research Notebook

A Professional LaTeX Template for Academic Writing

Your Name

your.email@example.com

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A beautifully crafted notebook template for academic and research work

Created with LaTeX using the Elegant Notebook Template

Contents

1 Introduction

Welcome to the Elegant Notebook LaTeX template. This template is designed to create beautiful, professional-looking documents with minimal effort. It features consistent styling, thoughtful typography, and useful environments for academic and technical writing.

This section demonstrates the basic typography and layout of the template, including:

- Regular paragraphs with optimised line spacing and margins
- **Bold text** for emphasis and *italic text* for foreign terms
- Hyperlinks like LaTeX Project
- Mathematical expressions: $E = mc^2$ and $\sum_{i=1}^{n} i = \frac{n(n+1)}{2}$

1.1 Objectives

- Organise notes in a professional and structured format
- Include mathematical equations, code, and references seamlessly
- Provide reusable environments for notes and examples

2 Getting Started

To use this template effectively:

1. Edit `config/metadata.tex` to customise your document title, author, institution, etc.
2. Choose a colour theme in `config/colours.tex` or use the default
3. Select a font theme by changing the `fonttheme` value in `config/settings.tex`
4. Start writing your content in this file, using the provided environments and styles
5. Compile using the included scripts (see Section 2.1)

2.1 Compilation

For basic compilation without bibliography processing:

```
./simple-compile.sh
```

For full compilation with bibliography support (requires `biber`):

```
./compile.sh
```

3 Template Features

The template includes several features to make your document look professional:

- **Consistent styling** for headings, lists, and other elements

- **Custom colour schemes** that you can easily modify
- **Font themes** with professionally curated typography pairings
- **Styled boxes** for notes, examples, and other content
- **Code listings** with syntax highlighting
- **Mathematical support** through AMS-LaTeX
- **Bibliography management** with BibLaTeX

3.1 Custom Box Environments

The template provides several custom box environments for different purposes:

3.1.1 Note Boxes

Note boxes can be used to highlight important information:

Note

Important information goes here.
Multiple paragraphs are supported. Note boxes are perfect for emphasising key points, warnings, or special instructions.

3.1.2 Example Boxes

Example boxes are meant for demonstrating concepts:

Example

This is an example box.
It uses the accent colour from your selected theme.
You can include mathematics: $E = mc^2$

3.2 Mathematics Support

The template provides excellent support for mathematical notation:

$$f(x) = x^2 - 2x + 1 \tag{1}$$

$$f'(x) = 2x - 2 \tag{2}$$

Inline equations like $\sum_{i=1}^{n} x_i^2 = x_1^2 + x_2^2 + \cdots + x_n^2$ are also well-supported.

Note

The summation formula above is useful for calculating the sum of squares in statistical analyses.
Note how mathematical expressions are rendered clearly both inline and in displayed form.

3.3 Code Listings

The template provides support for code listings with syntax highlighting:

```python
def factorial(n):
    """Calculate the factorial of n."""
    if n == 0 or n == 1:
        return 1
    else:
        return n * factorial(n-1)

# Calculate factorial of 5
result = factorial(5)
print(f"Factorial of 5 is {result}")
```

Listing 1: Simple Python function

You can also use `inline code` for short snippets within text.
For data analysis examples:

```python
import numpy as np

# Generate random data
def generate_data(size=100):
    data = np.random.randn(size) # Generate random data
    mean_val = np.mean(data)
    print(f"Mean: {mean_val:.2f}") # Print the mean
    return data

my_data = generate_data()
string_example = "This is a string in Python."
```

Listing 2: Python script for data generation

Example

The above code (Listing 2) demonstrates random data generation using `numpy`.
Adjust the sample size as needed. The styling of the code box is automatically determined by the active colour theme.

4 Typography Examples

This section showcases the typography of the template, demonstrating the different elements and their styling.

4.1 Available Font Themes

The template includes seven professionally designed font themes that you can select by changing the `fonttheme` value in `config/settings.tex`:

Current Font Theme: modern

- **modern** - Contemporary look with Charter and Bera Sans (default)
- **classic** - Traditional academic style with Palatino and TeX Gyre Heros
- **elegant** - Refined style with EB Garamond and Source Sans Pro
- **academic** - Cohesive Libertinus family for academic papers
- **scientific** - STIX Two and Cabin optimised for scientific content
- **professional** - Enhanced Palatino clone with Source Sans Pro for a business look
- **contemporary** - Modern Fira Sans with matching mathematics support

You can preview different themes by changing the `fonttheme` value in `config/settings.tex` and recompiling.

4.2 Text Formatting

Here are examples of text formatting available in the template:

- Normal text in the main body font
- **Bold text** for emphasis
- *Italic text* for foreign terms or titles
- `Monospace text` for code or technical terms
- Sans-serif text for UI elements or headings
- Coloured text using the accent colour
- Highlighted text using the highlight colour

5 Custom Themes

The template comes with several built-in colour themes, and you can also create your own.

5.1 Built-in Themes

The template includes the following themes:

- **Cambridge Blue** (default) - The official University of Cambridge blue (Pantone 557 C)
- **Cambridge** variants:
  - **Cambridge Classic** - Cambridge blue with dark blue and gold accents
  - **Cambridge Forest** - Cambridge blue with forest green and autumn gold accents
  - **Cambridge Sunset** - Cambridge blue with sunset orange and golden accents

  - **Cambridge River** - Cambridge blue with river blue and mist accents
- **Oxford** themes:
  - **Oxford Blue** - Deep Oxford blue with Oxford red and gold accents
  - **Oxford Mist** - Oxford blue with dusty blue and mist lavender
  - **Oxford Monochrome** - Oxford blue with charcoal and subtle violet tones
- **Sky** themes:
  - **Summer Skies** - Bright sky blue with sunshine yellow accents
  - **Twilight Skies** - Twilight blue with purple and sunset gold
  - **Midnight Skies** - Deep midnight blue with starlight accents
  - **Aurora Skies** - Northern blue with aurora green and purple
- **Other themes**:
  - **Vintage Rose** - Dusty rose with muted berry and peach highlights
  - **Emerald** - Rich emerald green with ocean blue and golden accents
  - **Royal Purple** - Royal purple with gold and crimson accents
  - **Arctic** - Arctic blue with ice blue highlights
  - **Autumn** - Warm sienna and burnt orange tones with cream backgrounds

5.2 One-Step Theme Switching

The template now features a simplified theme switching system. To change both font and colour themes at once, use the `usetheme` command near the top of your main document:

```
% Select your theme - first parameter is font theme, second is color
    theme
\usetheme{font-theme}{color-theme}

% Example: Modern fonts with Oxford Blue theme
\usetheme{modern}{oxford-blue}

% Example: Elegant fonts with Vintage Rose theme
\usetheme{elegant}{vintage-rose}
```

Listing 3: Using the theme switcher command

The available font themes are:

- **modern** - Contemporary look with Charter and Bera Sans (default)
- **classic** - Traditional academic style with Palatino and TeX Gyre Heros
- **elegant** - Refined style with EB Garamond and Source Sans Pro
- **academic** - Cohesive Libertinus family for academic papers

- **scientific** - STIX Two and Cabin optimised for scientific content
- **professional** - Enhanced Palatino clone with Source Sans Pro for a business look
- **contemporary** - Modern Fira Sans with matching mathematics support

The available colour themes are:

- Cambridge family: **cambridge-blue** (default), **cambridge-classic**, **cambridge-forest**, **cambridge-sunset**, **cambridge-river**
- Oxford family: **oxford-blue**, **oxford-mist**, **oxford-monochrome**
- Sky family: **summer-skies**, **aurora-skies**, **twilight-skies**, **midnight-skies**
- Other themes: **vintage-rose**, **emerald**, **royal-purple**, **arctic**, **autumn**

5.3 Creating Custom Themes

You can create your own theme by defining a new theme in `config/colours.tex`:

Note

To add a custom colour theme, locate the "CUSTOM THEME" section in `config/colours.tex` and add your theme using the provided template pattern.

- Choose a unique theme name like `my-theme-name`
- Define all the required colours
- Use it with `usetheme{font-theme}{my-theme-name}`

```
% In config/colours.tex:
\ifdefstring{\activetheme}{my-custom-theme}{%
    \definecolor{maincolor}{RGB}{76,40,130}       % Royal Purple
    \definecolor{accentcolor}{RGB}{212,175,55}    % Gold
    \definecolor{highlightcolor}{RGB}{220,20,60}  % Crimson
    \definecolor{codebg}{RGB}{245,240,255}        % Light purple
        background
    \definecolor{codefg}{RGB}{50,30,80}           % Dark purple
        foreground
    \definecolor{softgray}{RGB}{200,190,210}      % Purple-tinted grey
    \definecolor{titlepagebg}{RGB}{240,235,250}   % Soft purple
        background
    \definecolor{inlinecodebg}{RGB}{235,230,250}  % Richer purple for
        inline code
    \definecolor{inlinecodefg}{RGB}{90,50,150}    % Deeper royal purple
         for inline code
}{}

% Then in elegant-notebook.tex:
\usetheme{modern}{my-custom-theme}
```

Listing 4: Custom theme definition in config/colours.tex

5.4 Colour Selection Principles

When choosing colours for your academic document, consider these research-supported principles:

- Blue tones convey professionalism, trustworthiness and clarity—suitable for scientific and technical content
- Green shades suggest growth, balance and environmental themes—effective for sustainability research
- Purple hues represent creativity, wisdom and quality—appropriate for arts and humanities
- Red accents can emphasise critical information, but should be used sparingly in academic contexts

Aim for a balanced colour palette with sufficient contrast between text and background to maintain readability while reflecting your document's subject matter appropriately.

6 Tables and Figures

The template provides elegant styling for tables and figures.

6.1 Tables

Tables are styled with the `booktabs` package for professional appearance:

Table 1: Sample Results with Enhanced Styling

Metric	Value	Uncertainty
Mean	0.12	±0.03
Std. Dev.	1.05	±0.02
Skewness	0.05	±0.01

6.2 Figures and Diagrams

The template includes support for TikZ diagrams:

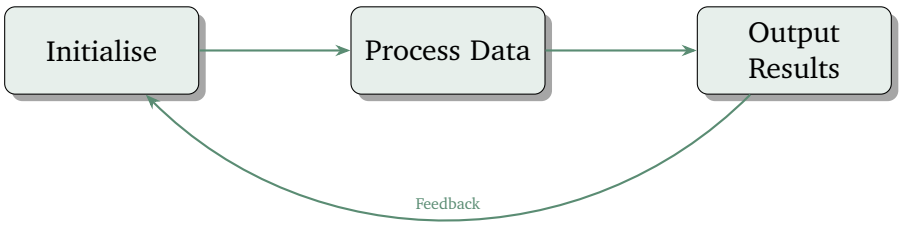

Figure 1: A styled diagram created with TikZ, showing a simple workflow.

7 Citations and References

The template includes support for citations and references using BibLaTeX.

You can cite references from the bibliography, such as [**Smith2020**] or [**Lamport1994**].

Note

To use citations, ensure you have the `biber` package installed and run the full compilation process with:

```
./compile.sh
```

Or manually:

```
pdflatex elegant-notebook
biber elegant-notebook
pdflatex elegant-notebook
pdflatex elegant-notebook
```

7.1 Adding References

Edit the `references.bib` file to add your own references. The template uses the author-year citation style by default.

```
@article{Smith2020,
  author  = {Smith, John and Johnson, Sarah},
  title   = {Recent Advances in Document Preparation Systems},
  journal = {Journal of Documentation},
  year    = {2020},
  volume  = {76},
  number  = {3},
  pages   = {710--725},
  doi     = {10.1000/example.doi}
}
```

Listing 5: Example reference entry

8 Customisation

The template is designed to be highly customisable.

8.1 Creating Custom Box Types

You can create your own custom box types in `config/settings.tex`:

```
\newtcolorbox{warningbox}{
    enhanced,
    colback=red!10,
    colframe=red!80!black,
```

```
    fonttitle=\sffamily\bfseries,
    coltitle=white,
    title=Warning,
    left=2mm, right=2mm, top=2mm, bottom=2mm,
    arc=2mm,
    drop shadow,
    breakable
}
```

Listing 6: Creating a custom box type

8.2 Metadata Customisation

Edit `config/metadata.tex` to personalise your document:

- Document title and subtitle
- Author information
- Institution
- Email
- Date

8.3 Project Structure

The template has a well-organised file structure:

```
elegant-notebook.tex    # Main document (this file)
references.bib          # Bibliography file
README.md               # Documentation
compile.sh              # Full compilation script
simple-compile.sh       # Basic compilation script
LICENSE                 # MIT Licence
config/                 # Configuration files
    colours.tex         # Colour themes
    metadata.tex        # Document metadata
    settings.tex        # Package imports and settings
    title-page.tex      # Title page layout
```

Listing 7: Project directory structure

9 Best Practices

Here are some recommendations for using this template effectively:

- Keep your document structure organised with clear section hierarchy
- Use the provided environments consistently for better visual coherence
- Choose a colour and font theme that matches the tone of your document

- Compile with `./compile.sh` for the best results, especially when using references
- For collaborative work, consider using version control for your LaTeX files

Note

Remember that consistency is key to professional-looking documents. Stick to the same style choices throughout your document.

10 Conclusion

This template provides a flexible, professional-looking document format for academic and research work. Key benefits include:

- **Consistency**: Uniform styling throughout your document
- **Flexibility**: Easy customisation options
- **Professional look**: Clean, modern design with enhanced readability
- **Structured environments**: Ready-to-use boxes for notes, examples, and code
- **British English**: Consistent use of British spelling and conventions

We hope this template helps you create beautiful, professional documents for your academic and research needs.

11 References