Department of Materials Science & Engineering

University of Sheffield

House Style LaTeX Template

Pedro Juan Royo

March 2022

1 Introduction

This is the documentation for the **MSEHouseStyle** class for LaTeX. It is the first document class I have ever done in LaTeX so expect a lot of bugs and performance issues, so feel free to email me at **pjuan-royo1@sheffield.ac.uk** if you find any problems.

2 Setting the environment

I would recommend using Overleaf as it is an online LaTeX compiler and will save you the pain of having to back up your projects in case your computer decides to stop working. Once you have decided on what LaTeX environment you want to use, you may want to go and make sure you are using **XeLateX**[1] as compiler because it will let you easily set up Calibri as default font.

Calibri is not a font that can be set by default in Overleaf, you will have to download it. Once you download all the **.ttf** files, put them in the same folder with your **main.tex** file and add

```
\usepackage{fontspec}
\setmainfont{Calibri}[
    Path=./CalibriFontFiles/,
    Extension = .ttf,
    UprightFont=*-Regular,
    BoldFont=*-Bold,
    ItalicFont=*-Italic,
    BoldItalicFont=*-Bold-Italic
    ]
```

Replace `CalibriFontFiles` for whatever name your folder containing the **.ttf** files has, and make sure all the fienames begin with **Calibri** and are formatted as **Calibri-Regular.ttf**, **Calibri-Bold.ttf**, etc. And well congrats after doing all this you will have set Calibri as default font. If you dont want to do all this you can use

```
\usepackage{lmodern}
\fonfamily{lmss}
```

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[1] In Overleaf set it by going to **Menu > Settings > Compiler > XeLaTeX**.

To set Latin Modern Sans Serif as default font, which is the other font accepted in the House Style in case Calibri is not available.

Actually the first thing you will want to do is set the documentclass to **MSEHouseStyle**. The first line in your project should be `\documentclass{MSEHouseStyle}`. You can call the documentclass with the parameters `[headers1]` to `[headers4]` to set the distance between the header number and the header text (to make space if you have to go as far as using `\subsubsubsection{}`).

Once you have set the font and documentclass you have to load all the packages you want to use on your project. Some that I recommend are:

1) **biblatex** is a package to easily add references to your project. Load the package with the command `\usepackage[sorting=none]{biblatex}`. The `[sorting=none]` parameter makes sure the citations are printed in order of appearance in the text. Visit Biblatex to see how to use it in more detail. There is a problem with the references heading (my fault it's just that I don't know how to fix it for now) so when printing the references do it with `\section{References}` `\printbibliography[heading=none]`.

2) **graphicx** to easily add figures to the document. Use `\usepackage{graphicx}` to load the package.

3) **mhchem** is a must have if you need to add chemical equations. Add it with the command `\usepackage[version=4]{mhchem}` and you can read the documentation explaining how to use it here.

After loading all packages create the document by entering the document environment and create the title on the first page with `\maketitle`. Now start writing down your project!

3   Class commands

3.1   Sections

Use the commands
```
\section{}
\subsection{}
\subsubsection{}
\subsubsubsection{}
\subsubsubsubsection{}
```
To create sections. You should avoid getting down to the `\subsubsubsection{}`, but the command is there in case you need it. The house style says don't have to indent the first paragraphs, so in order to make sure a paragraph does not indent use `\noindent` before. The same way, if you want to force a paragraph to indent use `\indent`.

3.2   Figures

To add figures you will need the **graphicx** package and then use the **figure** environment. An example of how to call it would be like this

```
\begin{figure}[h]
    \centering
    \includegraphics[width=0.7\textwidth]{cat.jpg}
    \caption{Figure caption.}
    \label{fig:label1} %Use this to reference the figures in the text
\end{figure}
```

This code creates this figure

Figure 1: Figure caption.

And you can reference it in the text with `\ref{label}`, replacing `label` with the figure label (`fig:label1` in this example).

3.3   Tables

To add tables you can use the **table** environment. An example is

```
\begin{table}[h]
    \centering
    \caption{Table caption.}
    \begin{tabular}{l|c||r}
        \thickline
        \textbf{Left aligned} & \textbf{Centered} & \textbf{Right aligned} \\
        \thickline %Make it bold/thicker
        a & b & c \\
```

```
        \hline
        d & e & f \\
        \hline
        \hline
        g & h & i \\
        \thicklinec{0.4}{0.2} %use this to make a custom thick line
    \end{tabular}
    \label{tab:label1}
  \end{table}
```

This code creates this table

Table 1: Table caption.

Left aligned	Centered	Right aligned
a	b	c
d	e	f
g	h	i

And you can reference it the same way as you would reference figures. Make sure the caption goes before the tabular environment, because the House Style says table captions must go on top of the table.

3.4 Maths

To add equations you can use the **texteqn** and **nonumtexteqn** environments. The **nonumtexteqn** creates equations that are not numbered. Sometimes using \frac{}{} creates very small text that is difficult to read, use \ddfrac{}{} instead. Using \frac{}{}

$$\frac{dy}{dx} = nx^{n-1} \tag{1}$$

Using \ddfrac{}{}

$$\frac{dy}{dx} = nx^{n-1} \tag{2}$$

You can also add \label{} inside both environments to be able to reference the mathematical expressions in the text.

When you are writing quantities with units and you do not want that they get separated in two different lines you can use the command \data{}.

3.5 Lists

Lists must be numbered so use the **numlist** environment.