

# Custom fonts with xelatex

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Can we format fonts for the entire document?

## 1 Specify YAML

We need to specify xelatex as latex\_engine.

### 1.1 Option 1

Set the font, and specify xelatex as latex\_engine.

```
mainfont: Times New Roman
output:
  pdf_document:
    latex_engine: xelatex
```

### 1.2 Option 2

Does the option 1 not work? Add another line to specify fontspec package and use the format as shown below.

```
header-includes:
  - \usepackage{fontspec}
  - \setmainfont{Times New Roman}
output:
  pdf_document:
    latex_engine: xelatex
```

## 2 Tested fonts

Times New Roman, Calibri Light, Tahoma, Palatino Linotype, Source Sans Pro (does not work with SourceSansPro and sourcesanspro), Open Sans, Lato

## 3 Troubleshoot

### 3.1 Won't compile

It is important to place the output argument at the end of YAML if this is the **first time** you are attempting to test a particular font for a resulting PDF file.

```
output:
  pdf_document:
    latex_engine: xelatex
```

By doing so, *tinytex* in RStudio will attempt to install any additional LaTeX packages needed for a particular Rmarkdown file before compiling as a PDF document.

Once this is successful, you may move the `output:` arguments before the `header-includes:` arguments. This is to make the resulting document immediately apparent.

## 3.2 Font not printed as intended

Check the YAML settings for any mistakes or typo. Due to the typo, the following will not work, and set the font as default.

```
- \setmainfont: {Calibri Light}
```

## 3.3 Another approach using fontenc

This involves more complexity; if you test with other fonts, you'll notice that it seems not so straightforward! Hence, using the `fontspec` package is recommended.

```
header-includes:
  - \usepackage[default]{sourcesanspro}
  - \usepackage[T1]{fontenc}
mainfont: sourcesanspro
output: pdf_document
```

Note that with `fontenc` package, there is no need to set a *latex\_engine*, as the RStudio's (Sweave) default, *pdfLaTeX* is used.

See details here [Cecina Babich Morrow's page] <https://babichmorrowc.github.io/post/changing-fonts-in-rmarkdown-pdfs/>

For a discussion on `fontenc` and the usage of `pdfLaTeX`, see [A discussion on `fontenc`], <https://tex.stackexchange.com/questions/664/why-should-i-use-usepackage{fontenc}>

## 3.4 Other errors

Remove emoticons.