

# moderncv – v2.1.0

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January 21, 2021

## Abstract

**moderncv** provides a document class for typesetting modern curriculum vitae and corresponding cover letters for applications in various styles. Five predefined styles are available and each of the styles can be adjusted through options adjusting headings and colors. It is fairly customizable, allowing the user to adjust the look and feel of each style to their liking. **[TODO: add mention of skill matrix feature once it is accepted]**

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# 1 Getting started

## 1.1 How to read this manual

This manual is organized as follows. The present section contains information on how to get started with the `moderncv` package, i.e. how to install required packages to your system. Section 2 provides a step by step guide of the `moderncv` template file and how to work with it. Section 3 discusses details of the customizations that can be done by the user: The different styles, their options, colors and tips and tricks. Section 4 contains information about the packages being used by `moderncv`, known problems and possible solutions that have been found.

## 1.2 Installation instructions

If the `moderncv` package does not ship with your  $\text{\LaTeX}$  distribution, or the installed version is too old, grab the `moderncv` code from CTAN or GitHub:

<https://ctan.org/pkg/moderncv>  
<https://github.com/moderncv/moderncv>

**Note.** Depending on your  $\text{\LaTeX}$  distribution some additional packages might have to be installed. Section 4.1 lists all packages that `moderncv` requires to be installed on your system.

## 2 The `moderncv` template step by step.

This section is meant as a quick reference to the `moderncv` package and should contain enough information to get a first working curriculum vitae typeset. The easiest way to get started with `moderncv` is to adjust the template that comes with the package. In case the `moderncv` package is part of your  $\text{\LaTeX}$  distribution, search for the folder `moderncv` on your system containing all files of the package. In this folder, there should be a file called `template.tex`. In case you downloaded the package from GitHub or CTAN move into the folder of the newly downloaded (and possibly extracted) package to find the file `template.tex` there.

**Note.** If you downloaded `moderncv` from GitHub or CTAN and you move the `template.tex` to another folder make sure to adjust the `TEXINPUTS` variable to find the newly downloaded package. Otherwise either the old packages version gets used or  $\text{\LaTeX}$  throws an error.

Test your setup by compiling `template.tex` and have a look at the result.

**Note.** The `moderncv` packages should compile fine with `pdflatex`, `lualatex` and `xelatex`. However, when using `pdflatex` not all icons are available so using either `lualatex` or `xelatex` is *strongly recommended*.

## 2.1 Basic setup

A document using the `moderncv` document class gets set up as any other document class. We go through the template step by step.

### Configure document class options

The `moderncv` document class is loaded as per usual, by

```
\documentclass[<options>]{moderncv}
```

where up to one of each category of the following options

**paper:** a4paper, a5paper, b5paper, letterpaper, legalpaper, executivepaper, landscape  
**font family:** sans, roman  
**font size:** 10pt, 11pt, 12pt  
**draft/final:** draft, final









can be passed to the document class. By default, the `moderncv` document class uses a4paper, 11pt, final.

### Configure moderncv style and color

Choose a `moderncv` style and color by adjusting the commands

```
\moderncvstyle{<style>}  
\moderncvcolor{<color>}
```

where the possible options as explained in `template.tex` are

**style:** casual (default), classic, banking, oldstyle, fancy  
**color:** black , blue  (default), burgundy , green , grey , orange , purple , red 

**Note.** Some of the styles take additional options to fine tune their appearance. To keep this overview short, the description of these options is postponed to section 3.1.

### Font family and page numbering

```
\renewcommand{\familydefault}{<fontfamily>}  
%\nopagenumbers{}
```

The default font family is set by adjusting and uncommenting the line containing the command `\renewcommand{\familydefault}{\sfdefault}` in `template.tex`. Use `\sfdefault` for the default sans serif font, `\rmdefault` for the default roman one, or any Tex font name. Uncomment the line `%\nopagenumbers{}` to suppress automatic page numbering for CVs longer than one page.

## Adjust input encoding

In case you are not using xelatex or lualatex which use utf8 encoding by default uncommment the line containing `\usepackage[utf8]{inputenc}` and adjust the encoding to your needs.

```
%\usepackage[utf8]{inputenc}
%\usepackage{CJKutf8} % if you need to use CJK to typeset
    your resume in Chinese, Japanese or Korean
```

## 2.2 Edit personal data

Edit the the personal data section to reflect your personal information. This data will be inserted in the header of the first page of the curriculum vitae and/or in the footer of every page. This data will also appear on the cover letter. The default template settings are

```
\name{John}{Doe}
\title{Resum\'{e} title}
\address{street and number}{postcode city}{country}
\phone[mobile]{+1~(234)~567~890}
\phone[fixed]{+2~(345)~678~901}
\phone[fax]{+3~(456)~789~012}
\email{john@doe.org}
\homepage{www.johndoe.com}
% Social icons
\social[linkedin]{john.doe}
\social[xing]{john\_doe}
\social[twitter]{jdoe}
\social[github]{jdoe}
\social[gitlab]{jdoe}
\social[stackoverflow]{00000000/johndoe}
\social[bitbucket]{jdoe}
\social[skype]{jdoe}
\social[orcid]{0000-0000-000-000}
\social[researchgate]{jdoe}
\social[researcherid]{jdoe}
\social[telegram]{jdoe}
\social[googlescholar]{googlescholarid}

\extrainfo{additional information}
\photo[64pt][0.4pt]{picture}
\quote{Some quote}
```

In the actual template file, some information is maked as optional and can be commented out if one does not need it. The idea here is that there is options for those who need them. The commands are pretty self explanatory. Try out what you like and see what you need. **[TODO: Add note about how to cope with long names and long urls. is this handeled correctly?]**

**[TODO: include figures of the styles here? or in the styles section]**

**Bibliography.** In case BibTeX is used, the bibliography settings are adjusted in the lines

```
% to show numerical labels in the bibliography (default is
    to show no labels)
% \renewcommand*{\bibliographyitemlabel}{[\arabic{enumiv}]}
% \renewcommand{\refname}{Articles}
```

```
% bibliography with mutiple entries
%\usepackage{multibib}
%\newcites{book,misc}{{Books},{Others}}
```

By default no labels are shown for bibliography entries. Having the line `%\renewcommand*{\bibliographyitemlabel}{[\arabic{enumiv}]}` uncommented, allows to fine tune the labels. The line `%\renewcommand{\refname}{Articles}` allows to redefine the bibliography heading string (“Publications”) that is shown by default. Finally, adjustments using the multibib package can be done in the last two lines shown here.

**[TODO: check whether biber works or not]**

## 2.3 Modifying CV content

**[TODO: add short explanation explaining that sectioning can be used.]**

### 2.3.1 Structuring the CV

The command to open a new section is:

```
\section{<title>}
```

and every section can be divided into subsections:

```
\subsection{<title>}
```

If necessary, there is a command to close the section:

```
\closesection{}
```

and even one to create an empty section:

```
\emptysection{}
```

An example of their usage can be the next one:

```
\section{Section with your own content}\closesection
Your content here, inside the normal \LaTeX{} environment.
You can use any regular \LaTeX{} command, display mathematics
\[e = mc^2,\]
put some table or figure, \dots

\emptysection{}
\cvitem{Now}{Back to moderncv layout, without making a new section :-)}
```

whose results is shown in figure 1.

*Figure 1: Example of usage of section commands.*

### 2.3.2 moderncv macros

Inside sections, you can choose between different kind of items depending on the purpose:

- in the sections describing your education or your job experiences, you can use:

```
\cventry{years}{degree/job title}{institution/employer}  
{localization}{optional: grade/...}  
{optional: comment/job description}
```

where the last three arguments are optional

- inside ‘language’ cvsection environment, you can type every entry with:

```
\cvlanguage{name}{level}{comment}
```

- inside ‘computer skills’ cvsection environment, you can type every entry with:

```
\cvcomputer{category}{programs}{category}{programs}
```

- to typeset lines with a hint on the left:

```
\cvline{leftmark}{text}
```

- to typeset entry with a description on the left, but in two columns inside a cvsection:

```
\cvdoubleitem{subtitle}{text}{subtitle}{text}
```

- to typeset lists on one column inside a cvsection:

```
\cvlistitem{point1}
```

- to typeset lists on two columns inside a cvsection:

```
\cvlistdoubleitem{point1}{point2}
```

- to add a section listing all your publications stored in a BibTeX file:

```
\nocite{*}
\bibliographystyle{plain}
\bibliography{BibTeX_file}
```

where the name of the section title can be changed by redefining the refname with `\renewcommand{\refname}{<new_name>}`

## Example

Let's put all together and see in figure 2 what is the result:

```
... preamble ...
\begin{document}
\section{Education}
\cventry{year--year}{Degree}{Institution}{City}{\textit{Grade}}{Description}
\cventry{year--year}{Degree}{Institution}{City}{\textit{Grade}}{Description}
%
\section{Master thesis}
\cvline{title}{\emph{Title}}
\cvline{supervisors}{Supervisors}
\cvline{description}{\small Short thesis abstract}
%
\section{Experience}
\subsection{Vocational}
\cventry{year--year}{Job title}{Employer}{City}{}{Description}
\cventry{year--year}{Job title}{Employer}{City}{}{Description}
\subsection{Miscellaneous}
\cventry{year--year}{Job title}{Employer}{City}{}%
{Description line 1\newline{}Description line 2}
%
\section{Languages}
\cvlanguage{language 1}{Skill level}{Comment}
\cvlanguage{language 2}{Skill level}{Comment}
%
\section{Computer skills}
\cvcomputer{category 1}{XXX, YYY, ZZZ}{category 3}{XXX, YYY, ZZZ}
\cvcomputer{category 2}{XXX, YYY, ZZZ}{category 4}{XXX, YYY, ZZZ}
%
```

```

\section{Interests}
\cvline{hobby 1}{\small Description}
\cvline{hobby 2}{\small Description}
\cvline{hobby 3}{\small Description}
%
\closesection{}
\pagebreak
%
\section{Extra}
\cvlistitem{Item 1}
\cvlistitem{Item 2}
\cvlistitem{Item 3}
%
\section{Extra 2}
\cvlistdoubleitem{Item 1}{Item 4}
\cvlistdoubleitem{Item 2}{Item 5}
\cvlistdoubleitem{Item 3}{}
%
% Publications from a BibTeX file
\nocite{*}
\bibliographystyle{plain}
\bibliography{publications} % 'publications' is the name of a BibTeX file
%
\end{document}

```

Figure 2: Example of usage of items inside cvsections.

## 2.4 More customizations

You have some useful commands to personalize your CV further.

### Modifying the symbols

You can modify the symbols used for the personal data (phone number, the email, ...) redefining `phonesymbol` , `emailsymbolsymbol` , `addresssymbol` , `mobilesymbol` , `faxsymbol` .

For example: if you want to use the dingbat fonts, load the `pifont` package in the preamble, then substitute the default symbol ☎ with the dingbat symbol ☎ by:

```
\renewcommand{\phonesymbol}{\ding{38}}
```

You can change the symbol for lists in two way:

- redefining the command `listitemsymbol` : `\renewcommand{\listitemsymbol}{-}`



- adding a specification for the label in `cvlistitem` and `cvlistdoubleitem`

For example: the following code produces the result shown in figure 3.

```
\closesection{} % needed to renewcommands
\renewcommand{\listitemsymbol}{-} % change the symbol for lists

\section{Extra 1}
\cvlistitem{Item 1}
\cvlistitem{Item 2}
\cvlistitem[+]{Item 3} % optional other symbol

\section{Extra 2}
\cvlistdoubleitem[\Neutral]{Item 1}{Item 4}
\cvlistdoubleitem[\Neutral]{Item 2}{Item 5}
\cvlistdoubleitem[\Neutral]{Item 3}{}
```

Figure 3: Example of customization of the list labels.

## Adjusting lengths

The different lengths used by `moderncv` are customizable by

```
\setlength{<length>}{<new_dimensions>}
```

where `<length>` are `quote-width`, `sep-a-ra-tor-col-umn-width`, `main-col-umn-width`, `doub-le-i-tem-main-col-umn-width`, `list-i-tem-sym-bol-width`, `list-doub-le-i-tem-main-col-umn-width`,

In particular, the first column, can be set to any width. You can do that in two way:

- using `\sethintscolumnlength{<length>}`, where `<length>` is the desired length in a unit LaTeX understands
- using `\sethintscolumnwidth{<string>}`, where `<string>` is a string of the desired length (usually, the longest string that has to appear in the column)

## Additional commands

There are commands to manage hypertextual links:

- `\link[optional text]{URL}`
- `\httplink[optional text]{link}`
- `\emaillink[optional text]{link}`

There is a `\today` command, useful for example if you need to add the date the CV was produced.

## Putting things at the end of CV

Sometimes there is the need to add some lines at the end of the CV. For example, in Italy is necessary to add the permission to treat the personal data contained in the résumé. You can do that dropping out of the layout of `moderncv` and pushing the lines at the end by the command `\vfill`:

```
\emptysection{}\closesection
\vfill
\begin{center}
\textit{\small Ai sensi del D. Lgs. 196/2003 ...}
\end{center}
```

## 3 Customization

### 3.1 Styles and their options

### 3.2 Colors

### 3.3 Tweaks

## 4 Implementation details

### 4.1 Required packages

In addition to the packages that `moderncv` itself provides the following packages are loaded internally:

`etoolbox`, `ifthen`, `xcolor`, `ifxetex`, `ifluatex`, `fontenc`, `url`, `hyperref`, `graphicx`, `fancyhdr`, `tweaklist`, `calc`, `xparse`, `microtype`, `expl3`, `tikz`, `changepage`, `fontawesome` 5, `academicons`, `tgpagella`, `ebgaramond`, `kurier`.

Optionally `lmodern` gets loaded as well if the packages is installed. Note that the `tweaklist` package has been altered for the development of `moderncv` and ships with `moderncv`. **[TODO: Add required packages of `cvskillmatrix`]**

Most of the packages should be included in the  $\text{\LaTeX}$  distribution of your choice.

### 4.2 Known conflicts with other packages

### 4.3 Known bugs